THE 11TH INTERNATIONAL MULTI-DISCIPLINARY CONFERENCE OF GLOBAL EDUCATION NETWORK (GEN)

IN COLLABORATION WITH

BA ISAGO UNIVERSITY BOTSWANA

2022

BOOK OF PROCEEDINGS

THEME:

EDUCATION FOR SUSTAINABLE DEVELOPMENT IN THE POST COVID-19 ERA

EDITORS:
Emmanuel O. Adu
Martins Fabunmi

DATE: MONDAY, 24TH – WEDNESDAY, 26TH OCTOBER, 2022

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BOTSWANA NATIONAL ANTHEM

Blessed be this noble land,
Gift to us from God's strong hand,
Heritage our fathers left to us
May it always be at peace.

Awake, awake, O men awake!
And women close beside them stand,
Together we'll work and serve
This land, this happy land!

Word of beauty and of fame,
The name Botswana to us came.
Through our unity and harmony,
We'll remain at peace as one.

Fatshe leno la rona,
Ke mpho ya Modimo,
Ke boswa jwa borraetsho;
A le nne ka kagiso.

Tsogang, tsogang! Banna, tsogang!
Emang, basadi, emang tlhagafalang!
Re kopaneleng go direla
Lefatshe la rona.

Ina lentel la tumo
La chaba ya Botswana,
Ka kutlwano le kagisano,
E bopagantswe mmogo.

SOUTH AFRICA'S NATIONAL ANTHEM

Lord bless Africa
May her glory be lifted high,

Hear our petitions
Lord bless us, your children.

Lord we ask You to protect our nation,
Intervene and end all conflicts,
Protect us, protect our nation,
Protect South Africa, South Africa

Out of the blues of our heavens,
From the depths of our seas,
Over everlasting mountains,
Where the echoing crags resound,

Sound the call to come together,
And united we shall stand,
Let us live and strive for freedom
In South Africa our land.

Nkosi sikelel' Afrika
Maluphakanyisw' uphondo Iwayo
Yizwa imithandazo
Yethu
Nkosi sikelela
Thina
Lusapho Iwayo

Morena boloko setjhaba sa heso
O fedise dintwa la matshwenyeh
O se boloke (Ntate)
O se boloke
Setjhaba sa
South Afrika
(South Africa)

Uit die blou van onse hemel
Uit die diepte van ons see
Oor ons ewige gebergtes
Waar die kranse antwoord gee

NIGERIA'S NATIONAL ANTHEM

Arise, O compatriots
Nigeria's call obey
To serve our fatherland
With love and strength and faith.
The labour of our heroes past
Shall never be in vain,
To serve with heart and might
One nation bound in freedom
Peace and unity.

O God of creation,
Direct our noble cause
Guide thou our leaders right
Help our youth the truth to know
In love and honesty to grow
And living just and true
Great lofty heights attain
To build a nation where peace
And justice shall reign

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Review Process

A total of 96 manuscripts were received in different fields of studies out of which 68 are full papers. All the full papers were subjected to a thorough process of double-blind peer review. The professional team of GEN's Reviewers were drawn from different countries and strictly guided by the GEN's Review Criteria. They were also requested to look at the manuscripts with the view to assisting authors to produce best quality articles.

Following the review process, the editorial committee considered the reviewers' comments and 5 articles were found to be unsuitable for publication. The suitably qualified ones were given the reviewers' reports and asked to use the suggestions to strengthen their papers. After the receipt of the corrected manuscripts, the editorial committee finally accepted 63 articles for inclusion in the Conference Proceedings. This means that the acceptance rate was about 95%; 69% of the papers are published in the Proceedings.

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EDUCATIONAL ADMINISTRATION

DIGITAL LEADERSHIP AND DECISION-MAKING STYLES AS DETERMINANTS OF PUBLIC PRIMARY SCHOOL TEACHERS' JOB PERFORMANCE FOR SUSTAINABLE EDUCATION IN OYO STATE

[1]Chinenye C. Obadimeji & [2]Afolakemi O. Oredein
[1&2]Department of Educational Management
Faculty of Arts and Education
Lead City University, Ibadan, Nigeria

Abstract
Teachers' job performance is being determined by so many factors. Researchers have worked on some factors, but much work has not been done on digital leadership and decision-making styles. Thus, a bid to determine public primary school teachers' job performance in Oyo State led to this study. A descriptive design alongside a Multi-stage sampling procedure using a basic random sampling technique was employed to select the respondents. A total of six hundred and forty-three (643) respondents from the three senatorial districts participated. Structured Teachers' Questionnaire (TQ) was validated and Cronbach's Alpha was used to determine the reliability of the instrument (0.793). Frequency counts, percentages, and linear multiple regression (ANOVA) were employed to analyse the data collected. Findings showed that the level of teachers' job performance in Oyo State public primary schools at all times is high, except for the use of instructional material. The most adopted decision-making style is the directive decision-making style. Test of Hypotheses reveals that there is a combined influence of digital leadership and decision-making styles on public primary school teachers' job performance in Oyo State ($F_{(3,640)}=4526.293$; $P<0.05$). It is recommended that school administrators should not rely solely on a particular decision-making style.

Keywords: Digital Leadership, Decision-making styles, Teachers, Job Performance, and Sustainable Education

Introduction

A teacher's job performance has direct impact on learners' academic performance, and maybe a critical factor in ensuring a sustainable education. Thus, in order to provide sustainable education, teachers' job performance must be improved. Motowidlo and Kell (2012) define performance as the total of the desired value to an organisation of the specific behavioural pattern an individual carries out over a specific duration. This analogy simply means that job performance is dependent on the behavioural pattern of the employee in an organisation at a given period. According to Shiqian (2018), it is the degree to which a company or organisation anticipates employees' expectations in terms of excellence and quality. Jones (2019) believes that an individual's education, experience, skills, abilities, awareness, values, motives, and needs all play a role in job performance.

Who then can we say is knowledgeable, well versatile with diversified skills, and the abilities to impart knowledge to learners in the teaching field for sustainable education? A teacher is! A teacher is a person who transfers knowledge to the learners. Sobakh (2017) defines a teacher as an individual who is competent and has acquired certification in Nigeria Certificate in Education (NCE) and Bachelor degree in Education (B.Ed.), among others. Thus, professional teachers should have a number of competencies, first among which is professional competence. It simply means that teachers should have a broad knowledge of the subject matter that will be taught. He or she should know the theoretical concept, be able to choose the appropriate teaching method, and use various teaching methods in the learning process. Again, teachers should have pedagogic competence. Pedagogical competence is the ability to manage the teaching-learning process.

Teachers' job performance plays an essential role in the overall commitment and productivity of a school. Adeyemo, Sehoole and Cueno (2015) ascertain that educational background, qualification and experience are vital factors in determining teachers' job performance. It has been observed over time that teachers' job performance is dwindling. In the 80s, teachers were ready to go the extra mile with low Intelligent Quotient pupils. Nowadays, some teachers seem to be leaving junk classwork for private lesson teachers or parents to handle. More so, now that the world is globalized, teachers need to be technologically inclined to give relevant and recent information to students. However, people learn by example. If teachers have to be technologically inclined then, the school administrators have to be as well. To increase teachers' job performance for sustainable education, school administrators as leaders should improve themselves digitally.

Digitalization is the process of transformation using computer technology and the internet to access information and transform business operations in an organisation. It implies turning the business operations into digital form. According to Nantermu (2020), digitalization is the use of Microsoft programs to innovate or rebrand the output of an organisation and value-producing opportunities. These value-producing opportunities bring about changes that society is yeaning. Digitalization is beyond the use of computers in an organisation but rather the use of Microsoft programs in increasing the value of the product. In an educational setting, it is a term that connotes the use of digital technology and Microsoft programs between the teachers and the pupils in other to impact learning to the learners either within or outside an institution. It is then vital that school administrators take a look at the value-producing opportunities for sustainable education to develop teachers' job performance through one of their managerial functions known as decision-making.

Decision-making is regarded as the cognitive process resulting in the best selection or a course of action among several alternative possibilities, which could be based on the information at the disposal of the leader. It is a fundamental function in management that reflects the success and failure of an organisation. Specifically, Bryson (2006) explains the decision-making styles inventory that has been employed in this study, which is based

on four driving forces and situations confronting the decision-makers. It categorizes a decision-maker into four basic decision styles namely: directive decision-making style, conceptual decision-making style, analytical decision-making style, and behavioural decision-making style. A directive decision-making style is a style that relies on an autocratic model where the person in charge uses their knowledge and experience to choose the best course of action. Hodgetts and Legar (2005) believe that autocratic leaders are more directive, and leaders who use such a directive decision-making style are quite rational, efficient, and logical yet they have a "low tolerance for ambiguity and low cognitive complexity. Onley (2019), views behavioural decision-making style as a style made from the impressions of the subordinates' suggestions and focuses on communication. Leaders mainly have a strong concern for people and are open to suggestions. Conceptual decision-making style is a decision-making style that seems to have in-depth on a situation. Leaders make use of updated information and intuition in considering many alternatives when making decisions. Antonie (2015), believes that they solve problems through creativity and are risk-takers. The analytical decision-making style is characterized by leaders who have a greater tolerance for ambiguity. However, Mahmoud, Ghazi and Wang (2016) believe that they are not fast in deciding but enjoy having different written reports.

Many studies have been carried out to verify how leadership styles affect teachers' job performance in a school. For instance, a study was carried out by Imhangbe, Okecha and Obozuwa (2018) on the influence of principal leadership styles on teachers' job performance in public senior secondary schools in Edo State Central Senatorial District, Nigeria. From the study, a school administrator who uses a participatory or laisser-faire leadership style has a more direct positive impact on teachers' job performance.

To buttress this, Kerrigan (2020) studied a postulated theory known as the Vroom-Yetton-Jago Normative Decision-making style. It suggests that there is no best decision-making style but rather a good decision-making style can be determined by the situation at hand. Every individual seeks to advance in all endeavours. Teachers also desire to improve their job performance which could be through training and re-training (seminars, workshops, and conferences among all others). In other words, digital leadership and decision-making styles with the conscious effort of teachers would improve teachers' job performance for sustainable education.

In the outbreak of COVID-19 in Nigeria (2020), many leaders, especially educational leaders, found it difficult to achieve educational set goals. This was probably because one of the basic functions of public primary school administrators known as decision-making was done mostly using a directive decision-making style when the need arises and also, public primary school teachers were not digitalized. In Oyo State, educational institutions were closed down to avoid the rapid spread of the COVID-19 virus. This act did not only affect teachers' job performance but also altered the academic performance of both students and pupils in the State.

Statement of the Problem

In achieving the goals and objectives of Primary Education in Oyo State as stated in the National Policy of Education, it is cogent that school administrators become digitalized. From experience as a primary school teacher, it has been observed that the public primary school teachers' job performance seems to be diminishing and not encouraging, especially in the area of digitalization which has introduced a new paradigm shift in education. Many teachers' are not digitally inclined which somehow has been reflecting on their job performance and invariably seems to be affecting pupils' academic performance. This could be due to many reasons, one of which could be that the school leaders are not also digitally inclined. This thought was mirrored during the Covid-19 pandemic when all things were put to halt, and schools were shut for more than five months in other to curb the spread of the virus. This ought not to be if the educational leaders, especially at the primary school level which happens to be the foundation of education, have been proactive towards being digitalized. The primary level of education received much impact of the negative effects of the new paradigm shift where most pupils could not access education. Rather, they resorted to watching cartoons and playing within the neighbourhoods. Later, some private primary schools started using Zoom, WhatsApp and Jisti applications for teaching-learning activities. The pandemic met almost everyone especially in Nigeria unprepared unlike other nations such as Japan, China, the USA, Germany, and United Kingdom among others where education was not much affected. It becomes a concern for school leaders to make an appropriate decision towards developing and improving public primary school teachers' job performance for sustainable education and to achieve the educational stated objectives. Research works have been carried out on some studies but among them are leadership decision-making styles (Kerrigan, 2020). Much work has not been done on digital leadership and decision-making styles on public primary school teachers' job performance for sustainable education in Oyo State which is much more applicable in our present world. To this end, this study investigated the influence of digital leadership and decision-making styles on public primary school teachers' job performance for sustainable education in Oyo State.

Aim and Objectives of the Study

This study aimed to investigate the influence of digital leadership and decision-making styles on public primary school teachers' job performance for sustainable education in Oyo State. The specific objectives are to:

i. identify the level of public primary school teachers' job performance for sustainable education in Oyo State primary schools;

ii. identify the most adopted decision-making style by the public primary school leaders (school administrators) for sustainable education in Oyo State public primary schools;

iii. ascertain the extent to which public primary school leaders (school administrators) are digitalized for sustainable education in Oyo State;

iv. examine the combined influence of public primary school digital leadership (school administrators) and decision-making styles (directive decision-making style, analytical decision-making style, behavioural decision-making style, and conceptual decision-making style) on public primary school teachers' job performance for sustainable education in Oyo State;

v. examine the relative influence of public primary school digital leadership (school administrators) decision-making styles (directive decision-making style, analytical decision-making style, behavioural decision-making style, and conceptual decision-making style) on public primary school teachers' job performance for sustainable education in Oyo State.

Research Questions

In the light of the above objectives, the study seeks to answer the following questions:

1. What is the level of teachers' job performance for sustainable education in Oyo State public primary schools?

2. What is the most adopted decision-making style by the public primary school leaders (school administrators) for sustainable education in Oyo State public primary schools?

3. To what extent is public primary school leaders (school administrators) digitalized for sustainable education in Oyo State?

Hypotheses

These hypotheses were formulated to be tested.

Ho1: There will be no significant combined influence of digital leadership and decision-making styles (directive decision-making style, analytical decision-making style, behavioural decision-making style, and conceptual decision-making style) on public primary school teachers' job performance for sustainable education in Oyo State.

Ho2: There will be no significant relative influence of digital leadership and decision-making styles (directive decision-making style, analytical decision-making style, behavioural decision-making style, and conceptual decision-making style) on public primary school teachers' job performance for sustainable education in Oyo State.

Methodology

Design

This study used a descriptive survey design, aimed at collecting data on, and describing systematically, the characteristics, features, or facts about public primary school teachers' job performance for sustainable education in Oyo State.

Selection of Participants

Multi-stage, simple random sampling and purposive sampling techniques were used to get the exact sample from the target population of two thousand four hundred and fifty-four (2,454) public primary school teachers in the State. Sampling techniques were used to arrive at the sample of seven hundred and twenty-three (723) from the selected schools in the seven local governments of the State representing the three senatorial districts in Oyo State.

Procedure for Data Analysis

The mixed-method (Structured interview and questionnaire) was used to elicit information from the respondents. A self-structured Teachers' Questionnaire (TQ) was created, whose items were generated from the content of the study to give answers to the research questions and either to accept or reject the stated hypotheses in the study. A pilot survey was purposely conducted on different respondents who also had the attributes or characteristics of the sampled population. However, the structured questionnaire and interview guide was subjected to both content validity and face validity and the reliability index obtained was 0.793. The structured interview guide was used among school administrators while the questionnaire was used on public primary school teachers in Oyo State. The structured interview guide was used to ascertain the comparison on the filled questionnaire by the public primary school teachers from each sampled school in Oyo State. The questionnaire titled Teachers' Questionnaire (TQ) was in three sections: sections A, B, and C. Section A contained respondents' demographic data, where respondents filled in their bio-data such as sex, qualification, and years of experience among others. Section B comprised items of Likert-type scale questions which were derived from the content to give answers to research questions raised. Section C contained items of fixed response type. This section determined the acceptance or rejection of each hypothesis.

Ethical Consideration

Ethical guideline relating to data collection, analysis, and interpretation of research as specified by Lead City University was followed.

Analysis of Data

Discourse analysis was used on the structured interview, where data generated from public primary school administrators were compared alongside with filled questionnaire of the public primary school teachers in each public primary school. Descriptive statistics like frequency, mean, standard deviation, and percentage were employed to measure sections A and B of the structured questionnaire. The inferential statistical tool known as Linear Multiple Regression Analysis (ANOVA) was employed to determine the significant influence of the independent variables on the dependent variable at a 5% level of significance.

Results

Presentation of Demographic Data

Table 3.1: Demographic of the respondents

Gender	Frequency	Percentage
Female	468	72.7
Male	176	27.3
Total	644	100.0
Highest Qualification		
NCE	272	42.2
B. Ed	300	46.6
M. Ed	72	11.2
Total	644	100.0
Years of Experience		
0-10	368	57.1
11v-20	212	32.9
21-30	64	9.9
Total	644	100.0

(Field Survey, 2021)

Table 3.1 shows the demographic data of the respondents. It is sub-divided into different sections: gender, qualification, and years of experience. The gender section depicts that the female gender has higher percentage of the male counterpart. The female gender has a percentage of 72.7% over the male counterpart with 27.3%. This implies that in Oyo State public primary schools, there are more female-gendered teachers than the male counterpart. This could be that at the primary level, pupils still need tender care from their mothers, especially in the first three classes in public primary school (primary one-primary three) and this care can be gotten from a female gender who can take the place of a mother in the school setting.

The qualification section depicts the highest qualification of the respondents. It indicates that Bachelor of Education (B.Ed.)/B.Sc. (Ed)/B.A (Ed) has the most used qualification with the highest percentage of 46.6%, followed by the Nigeria Certificate in Education (NCE) of 42.2% and the least is Master of Education (M.Ed.) with the percentage of 11.2%. This implies that most qualification obtained by public primary school teachers in Oyo State public primary school is B.Ed. Gone are the days when Nigeria Certificate in Education (NCE) was the main requirement for teachers at the primary levels. With the improvement to teachers' job qualifications at the public primary schools, it is believed that there will be invariably improvement in public primary school pupils' academic achievement.

The years of experience depict public primary school teachers' years of experience. The years of experience of individual teachers differ. From the 0-10 years of experience has the highest frequency of 57.1%, followed by 11-20 years of experience at 32.9% and the least is 21-30 years of experience at 9.9%. From the above, the implication of this is that there is the possibility of recent recruitment from the Oyo State government that has led to a sharp increase in the number of years of experience (0-10 years) of the individual public primary school teacher in the State. Invariably, there is more youth among the public primary school teachers in Oyo State. This could also mean that there is a tendency that most of the teaching personnel recruited by the State government in the public primary schools to have B.Ed. /B.Sc. (Ed)/ B.A (Ed). It can also be deduced that the number of years of experience (21-30years of experience) has the least percentage of 9.9%. This could be due to age, retrenchment, retirement, falsification of certificates, and death among others.

Presentation of Research Questions

1. What is the level of teachers' job performance for sustainable education in Oyo State public primary schools?

Table 3.2 reveals that the level of public primary school teachers' job performance for sustainable education in Oyo State is high (3.50). The table reveals that at all times, 76.4% of teachers commence teaching from known to unknown. The least is the use of instructional material(s) when teaching with the lowest percent of 43.5%. This means that public primary school teachers often use instructional material when teaching in the classroom.

Table 3.2: Level of Public Primary School Teachers' Job Performance for Sustainable Education in Oyo State

S/N	Items 'I'	(AT) Freq	(%)	(OF) Freq	(%)	(ST) Freq	(%)	(NA) Freq	(%)	Mean	SD
1	attend school regularly	404	62.7	208	32.3	32	5.0	0	0	3.58	0.59
2	resume school before 7.30am	328	50.9	288	4.7	28	4.3	0	0	3.40	0.58
3	carry out any assigned duties without grudges	344	53.4	244	37.9	44	6.8	12	1.9	3.43	0.70
4	carry out duties assigned to me with best of my ability	336	52.2	280	43.5	24	3.7	4	0.6	3.40	0.60
5	know my pupils by their names	364	56.5	224	34.8	48	7.5	8	1.2	3.47	0.69
6	interact with my pupils regularly	328	50.9	280	43.5	32	5.0	4	0.6	3.45	0.62

7	use instructional material(s) when teaching	280	43.5	316	49.1	48	7.5	0	0	3.36	0.62
	Weighted Mean									**3.50**	

2. What are the most adopted decision-making styles by the public primary school leaders (school administrators) for sustainable education in Oyo State public primary schools?

Table 3.3: Adopted Decision-making Styles by the Public Primary School Leaders (School Administrators) for Sustainable Education in Oyo State Public Primary Schools.

S/N	Items 'I'	(AT) Freq	(%)	(OF) Freq	(%)	(ST) Freq	(%)	(NA) Freq	(%)
1	Directive decision-making style	264	41	236	36.6	140	21.7	4	0.6
2	Behavioral decision-making style	132	20.5	256	39.8	240	37.3	16	2.5
3	Analytical decision-making style	144	22.4	292	45.3	208	32.3	0	0
4	Conceptual decision-making style	156	24.2	388	60.2	96	14.9	4	0.6

Field Survey, 2021

Table 3.3 shows the decision-making style of public primary school administrators for sustainable education in Oyo State. The most adopted decision-making style by the public primary school leaders (school administrators) for sustainable education in Oyo State public primary schools is the directive decision-making style.

3. To what extent is public primary school leaders (school administrators) digitalized for sustainable education in Oyo State?

Table 3.4: Showing the extent of Digitalization of Public Primary School Leaders for Sustainable Education in Oyo State

S/N	Items 'I'	(AT) Freq	(%)	(OF) Freq	(%)	(ST) Freq	(%)	(NA) Freq	(%)	Mean	SD
"My School Administrator"											
1	Is an inventor with divers creativity at any given time	48	7.5	396	61.5	164	25.5	36	5.6	2.71	0.68
2	as a dynamic nature and strives to achieve the school set goals	96	14.9	300	46.6	196	30.4	52	8.1	2.68	0.82
3	Communicates and receives feedback from subordinates	228	35.4	200	31.1	168	26.1	48	7.5	2.94	0.96
4	Participates in a global vision to	80	12.4	296	46.0	228	35.4	40	6.2	2.65	0.78

	derive change										
5	Invents connectivity with others	60	9.3	132	20.5	216	33.5	26	36.6	2.02	0.97
6	Implements digital technology to create strong domestic and global network	32	5.0	164	25.5	200	31.1	248	38.5	1.97	0.92
	Weighted Mean									**2.50**	

Decision Rule: Weighted mean < 2.50 means ***Low***; 2.50 to 2.99 means ***Moderate***; ≥ 3.00 mean ***High***

Table 3.4 answers the above research question. From the table, the calculated weighted mean of 2.50 is the same as the calculated weight mean of the Likert scale. This implies that the public primary school leaders are moderately digitalized for sustainable education in Oyo State.

Presentation of Test of Hypotheses

The two known hypotheses were formulated in this study and tested at a 0.05 level of significance. Multiple linear regression was the statistical tool used to test the hypotheses.

Ho1*:* There will be no significant combined influence of digital leadership and decision-making styles on public teachers' job performance for sustainable education in Oyo State.

Table 3.5: Showing the Combined Influence of Digital Leadership and Decision-making Styles on Public Primary Teachers' Job Performance for Sustainable Education in Oyo State

	Digital Leadership	**Decision-making Styles**	**Public Primary School Teachers' job performance**	
Digital Leadership	1	0.84	0.85	
Decision-making Styles	0.84	1	0.96	
Public Primary Schools Teachers' Job Performance	0.85	0.96	1	
	ANOVA			
Model	Sum of Squares	Mean	F	Sig
Regression	205178. 283	102589.142	4526.293	0.000
Residual	14528.367	22.665		
Total	219706.651			

R=0.966, R2= 0.934, Adjusted R2=0.934

Field survey, 2021

Table 3.5 reveals the combined influence of digital leadership and decision-making styles on public primary teachers' job performance for sustainable education in Oyo State. From the table, it was deducted that F-test is significant (p-value < 0.05). This implies that there exists a very strong positive correlation (R= 0.966) between the independent variables and the dependent variable. From the table, the adjusted R2 (0.934) indicates that approximately 93.4% of the public primary school teachers' job performance for

sustainable education in Oyo State is determined by the combination of digital leadership and decision-making styles.

Ho2*:* There will be no significant relative influence of digital leadership and decision-making styles on public teachers' job performance for sustainable education in Oyo State.

Table 3.6 Significant Relative Influence of Digital Leadership and Decision-making Styles on Public Primary Teachers' Job Performance for sustainable education in Oyo State

		Coefficient			
Unstandardized Coefficient				**Standardized Coefficient**	
Model	**B**	**Std. Error**	**Beta**	**t-test**	**Sig**
Constant	23. 346	0.297	0.000	78.547	0.000
Digital Leadership	6.198E-05	0.000	0.143	7.722	0.000
Decision-making Styles	0.000	0.000	0.844	45.699	0.000
Dependent Variable: Public Primary School Teachers Job Performance					

Field survey, 2021

Table 3.3.2 depicts the significant relative influence of digital leadership and decision-making styles on public primary school teachers' job performance for sustainable education in Oyo State.

Discussion

Recall that a mixed method was used for data collection that is, a structured interview guide and questionnaire. The structured interview guide was used among school administrators while the questionnaire was used on public primary school teachers in Oyo State. The structured interview guide was used to ascertain the comparison on the filled questionnaire by the public primary school teachers from each sampled school in Oyo State. Findings reveal that there is a comparison between the structured filled interview guide by school administrators and the filled teachers' questionnaire from each of the sampled schools in Oyo State.

Table 3.1 shows the gender demographic data, highest qualification used, and years of experience of respondents. From the table, the female gender has the highest percentage of 72.7% against the male gender of 27.3%. The most qualification used by the respondents is Bachelor of Education (B.Ed.) /B.Sc.(Ed) / B.A (Ed) with 46.6% followed by Nigeria Certificate in Education (NCE) with a percentage of 42.2% and the least is Master of Education (M.Ed.) having a percentage of 11.2%. It also reveals the highest number of years of experience in the teaching field. It reveals that 0-10 years of experience in the teaching field has the highest percentage of 57.1%. This is in support of Sobakh (2017) and Adeyemo, Sehoole, and Cueno (2015) who states that a qualified

public primary school teacher is expected to have a Bachelor of Education (B.Ed.) as the minimum basic requirement in the teaching field which is a vital factor in determining teachers' job performance for sustainable education in the public primary school.

Teaching is an occupation. It is an act of imparting knowledge from the knowledgeable to the unknowledgeable. It is an engagement with learners to able them to understand the concept, application of knowledge, and processes. Those who impart knowledge to the pupils in government public primary schools are known as teachers. A teacher is an individual who is employed to render the service of teaching. A teacher is an individual who has professional development in the practices of teaching. The ability to commence teaching from known to unknown by the public primary school teachers in Oyo State implies that such a person is a certified individual. Sobakh (2017) believes that teaching from the known to the unknown is one of the teaching techniques which could enhance learning. This is followed by regular attendance of the public primary school teachers in Oyo State with 62.7%. This means that public primary school teachers in Oyo State attend school regularly. The regular attendance of teachers enables the teachers to identify their pupils by their names with 56%. Knowing pupils by their names is a determinant of teachers' job performance for sustainable education. The least here is the use of instructional material by the public primary school teachers in Oyo State with 43.5%. It shows that some teachers do not use instructional material in the course of teaching-learning activities. This could be based on the subject type, subject topic, availability of the instructional material, safety use, or precaution of the use of instructional material among others. However, the table (3.2), reveals that the weighted mean of teachers' job performance for sustainable education is 3.50 as against the ordinal mean of 2.50. This table shows that teachers' job performance is high, except for the use of instructional material and the likely reasons have been spotted earlier. In other words, the level of public primary school teachers' job performance for sustainable education in Oyo State is high.

In a school setting, the dynamic nature of the school administrator determines the decision-making style. From table (3.3), the most adopted decision-making style in Oyo State public primary schools for sustainable education is the directive decision-making style with 41%. This is, in accord with Hodgetts and Legar (2005), a directive decision-making style is a style that relies on an autocratic model where the person in charge uses his or her knowledge and experience to choose the best course of action. He focuses on facts and makes quick decisions but is not necessarily optimal. This type of decision-making style could be used by the leaders or school administrators who are in the early stage of their careers to studying organisational behaviour. It could be used when the task is unstructured and the subordinates are inexperienced. Using such a decision-making style, school administrators still strive to achieve the organisational set goals timely. From the subordinates' perspective, this type of decision-making style provides role clarity, clear expectations, satisfaction with work and supervision, satisfaction with the school, lower stress, and increased job performance. The directive decision-making style is followed by the conceptual decision-making style with 24.2%. This is a decision-

making style that seems to have in-depth on a situation. In agreement with Antonie (2015), leaders who use conceptual decision-making styles are thinking people. They take their time before making any decision. This type of decision-making style can be used for long-term projects and planning. The least decision-making style is the behavioural decision-making style with 20.5%. Conforming to Onley (2019), this is a decision-making style made from the impressions of the subordinates' suggestions and focuses on communication. They mainly have a strong concern for people and are open to suggestions.

Decision-making is not simple intellectual reasoning, it is an act of making or selecting the most suitable choice from two or more alternatives in solving a particular problem. The outcome of this recent study negates the study carried out by Imhangbe, Okecha and Obozuwa (2018), on the effect of principal leadership style of teachers' job performance. Imhangbe, Okecha and Obozuwa's findings show that the directive leadership decision-making style was least used. The study reveals that the directive leadership style in decision-making has a low tolerance for complexity and ambiguity, which gives rise to a negative relationship between the school administrator and teachers' job performance. But from this present study, the implication of this is that the most decision-making style of public primary school administrators for sustainable education in Oyo State is the directive decision-making style. This means that majority of the public primary school administrator uses a directive decision-making style. Hence, just as Hodgetts and Legar (2005), they are autocratic. Nevertheless, because in making a decision, every school administrator needs to consider factors such as the type, nature of the problem, age group affected by the problem, and environment where the problem is situated among others. This means that there is no best decision-making style as most school administrators use a directive decision-making style and may sometimes use a conceptual decision-making style. The behavioural decision-making style is the least decision-making style used by school administrators in Oyo State primary school.

Table 3.4 shows that the school leaders are moderately digitalized for sustainable education in Oyo State. The implication is that some school leaders are within reasonable limits with the use of technology in communication and decision-making. This is following Nantermu (2020), who states that digitalization is the use of Microsoft programs to innovate or rebrand the output of an organisation and value-producing opportunities. This simply means that digitalization is beyond the use of computers in an organisation but rather the use of Microsoft programs in increasing the value of the product. Covid-19 exposes the lapses of some leaders in decision-making towards achieving the stated educational goals not only in Oyo State but also in Nigeria as a country. Oyo State school administrators experience some level of limitations in digital inventions, and they are also not dynamic. For sustainable education in Oyo State, both school administrators and public primary school teachers need to be digitalised.

The null hypothesis that states that there will be no significant combined influence of digital leadership and decision-making styles on public primary teachers' job

performance for sustainable education in Oyo State were rejected. There is a significant combined influence of digital leadership and decision-making styles on public primary teachers' job performance for sustainable education in Oyo State. This shows that school administrators becoming digital leaders can use decision-making style to influence positively teachers' job performance in the State. This is in line with Nantermu (2020) who believes that digitalization has been powerful enough to have implications on current and future leadership practices. Similarly, digital leaders can also use a particular decision-making style (directive decision-making style, conceptual decision-making style, behavioural decision-making style, analytical decision-making style) in any decision-making. It calls for school administrators being creative, dynamic, and inventive.

The null hypothesis that states that there will be no significant relative influence of digital leadership and decision-making styles on public primary school teachers' job performance for sustainable education in Oyo State were also rejected. There is a significant relative influence of digital leadership and decision-making styles on public primary school teachers' job performance for sustainable education in Oyo State. This simply means that there exists a significant relative influence of digital leadership and decision-making styles on public primary school teachers' job performance for sustainable education in Oyo State. From table 3.6, only the analytical decision-making style is insignificant. This means that a public primary school leader (school administrator) can make use of either of the decision-making styles to influence public primary school teachers' job performance for sustainable education. This also means that there is no best decision-making style, rather, school leaders (school administrators) can consider factors or circumstances before choosing a decision-making style. In agreement with Bryson (2006), appropriate decision-making style by public primary school leaders (school administrators) can have a significant relative influence on public primary school teachers' job performance for sustainable education in the State. This means that school administrators can combine knowledge and application of digital leadership in decision-making for effective public primary school teachers' job performance in Oyo State.

Conclusion

The findings of this study suggest that there are more female public primary school teachers at the public primary school than their male counterparts. Most of the teachers in public primary schools have a Bachelor of Education (B.Ed)/B.Sc. (Ed)/ B.A (Ed) is the highest qualification used and 0-10 years of experience is the highest number of years of experience in the teaching field. To determine the level of teachers' job performance for sustainable education in the State, teachers' job performance in Oyo State public primary schools at all times is higher except for the use of instructional material. Instructional materials are often used based on the topic, availability of the instructional material, and age of the learners among others.

Again, this study also reveals that the most adopted decision-making style in Oyo State public primary schools for a sustainable education is the directive decision-making style.

In this era, this study has unveiled the truth on the extent of public primary school leaders' digitalization in Oyo State. It also shows that public primary school leaders are moderately digitalized. The ability to find answers to the independent variables (digital leadership and decision-making styles) on the dependent variable (public primary school teachers' job performance) implies that there is a combined influence of digital leadership and decision-making styles on public primary school teachers' job performance for sustainable education in Oyo State. The study reveals that there is a relative influence of digital leadership and decision-making styles on teachers' job performance for sustainable education in Oyo State.

Recommendations

Based on the findings of this study, the following are recommended:

1. Public primary schools teachers should ensure to use of appropriate instructional materials at all times during teaching and learning activities to foster learning in the learners for sustainable education.

2. School administrators should not rely on a specific decision-making style rather, should depend on the situation that is being handled.

3. For sustainable education, the government needs to reappraise rules and regulations made to govern the teaching profession and equip the educational sector with improved technology, especially in the primary schools to boost the teaching and learning process in Oyo State. She should create seminars for the school administrator on the effective use of technology in decision-making.

4. There should be self-development of the school administrator on the use of software programs, and applications, among others. Public primary school teachers also need self-development on the effective use of digital devices in improving their job performance and likewise improve pupils' academic achievement. Pupils should be encouraged to install educational applications which will facilitate learning.

5. In this digital era, school administrators should incorporate digital leadership and decision-making styles in other to improve public primary school teachers' job performance for sustainable education in the State.

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SCHOOL CLIMATE AND ORGANISATIONAL COMMITMENT AMONG SECONDARY SCHOOL TEACHERS FOR SUSTAINABLE DEVELOPMENT IN OYO STATE, NIGERIA

[1]Afolakemi O. Oredein & [2]Elizabeth O. Bello

[1]Department of Educational Management
Faculty of Arts & Education
Lead City University, Ibadan
Oyo State, Nigeria

[2]Department of Educational Foundations
Federal College of Education (Special)
Oyo, Oyo State, Nigeria

Abstract

Education and sustainable development are interrelated as the former can propel the latter. Teachers play a role in-between the two; they sow the seed of sustainable development into learners, depending on their commitment to education. This paper examined the relationship between school climate and Oyo State teachers' organisational commitment in relation to its importance for Nigeria's sustainable development. A descriptive research design survey type was adopted in this study. One research question and hypothesis were formulated and tested in the study. The population is comprised 604 principals and 14,508 teachers from secondary schools in Oyo State, Nigeria. A multistage sampling procedure was used to select 2,960 teachers. One structured questionnaire (r = 0.87) was used for data collection. Descriptive statistics and inferential statistics were used for data analysis. The result revealed that there is a significant relative and combined relationship between school climate and organisational commitment. Based on the findings, the study concludes that school climate can influence teachers' organisational commitment. However, based on the findings, recommendations were made to improve and make the school climate conducive to teaching-learning and enhance more teachers' organisational commitment to sustainable development.

Keywords: Organisational commitments, School climate, Sustainable development

Introduction

Employees' emotional attachment to the workplace is referred to as organisational commitment. It is an explicit action or behaviour that reflects the degree to which employees are committed to the fulfillment of the workplace's goals and objectives. Igbal, Tufal and Lodhi (2015) posited that organisational commitment is a state in which an employee identifies with a particular organisation and its goals, and wishes to maintain membership in the organisation. School is an educational organisation and teachers are one of the employees in a school. Teachers are employed to help learners in a classroom situation to achieve set educational goals. Teachers are the most important components of any educational system. They play the most crucial role in the development of the education system as a whole and in imparting and maintaining the standards of higher

education (Nagoba & Mantri, 2015). Ayeni (2017) opined that in a school, teachers carry out responsibilities such as planning lesson notes, delivering lessons, utilising, and improvising instructional materials, keeping records and disciplining students, and monitoring, evaluating, and providing regular feedback on students' academic performance. However, when teachers are not committed to the school organisation, the possibility of effectively performing the responsibilities to the school might be nil.

According to Peretomode and Bello (2018), the organisational commitment of teachers is the relative strength of teachers' identification with and involvement in a school that is characterised by three factors: a strong belief in and acceptance of the school's organisation's goals and values; a willingness to exert considerable effort on behalf of the school and a strong desire to maintain membership in the school. Feeling this way, teachers believe that any danger to the school may impact teachers' job performance as well. Attainment of quality education in today's global world and achieving sustainable development demands a higher level of commitment in teaching. Organisational commitment among teachers is thus needed if there would be an achievement of educational goals and objectives as this may be impossible without committed teachers (Peretomode & Bello, 2018).

Sustainable development refers to the continuous improvement in the living standard of citizens and the structural transformation changes in the productive and distributive input and output systems of the economy (Ojobo, 2015). Mohammed (2013) sees sustainable development as the ability to preserve the existing resources of the state for the collective use of citizens while conscious efforts are made to conserve the resources for the future generation. Education plays a vital role in economic development and sustainable development is, therefore, likely to manifest in a country where education is seen as an instrument par excellence to improve the lives of the citizen. Education catalyses sustainable development, in any society, therefore, school climate is a vital factor without which any nation cannot experience sustainable development for the benefit of the citizens.

In secondary schools, teachers' organisational commitment is a critical aspect in determining the success of educational reforms and effectiveness because only committed teachers would be willing to contribute extra effort to achieving school vision and goals and also highly perform their duties as if the school belongs to them. In a school system, the achievement of educational goals and objectives may be impossible without committed teachers who are the main facilitators of teaching and learning. Teaching as a life-building profession requires individuals who will go beyond official expectations to help the school and students to achieve the set goals.

The multidimensional functions of teachers as facilitators, role models, mentors, fathers, and mothers cannot be effectively carried out without a high level of passion, love, sacrifice, and attachment to students, schools, and teaching as a profession (Akinwale & Okotoni, 2019). Teachers with powerful job commitment find it easy to be interested in whatever is being carried out in schools and such teachers can get involved wholeheartedly without strict supervision. Akinwale and Okotoni (2019) posited that the organisational commitment of teachers can be conceptualised as a three-dimensional

domain, with each dimension describing a core aspect of organisational commitment. They include affective, normative, and continuance organisational commitment. The authors also noted that affective commitment is teachers' affective attachment to the profession or occupation, which is associated with personal identification and satisfaction as a teacher (Mclerney et al., 2015). Affective commitment is also seen as the teacher's emotional connection with the school. Teachers who are committed on an emotional level to staying with the organisation are doing so because their working relationships and values are consistent with the school's values, mission, and ethics Singh and Gupta, (2015). Furthermore, affective commitment refers to teachers' willingness to stay within an organisation because of the belief that their role and job goals are clearly defined and receive management support (Al-Jabari & Ghazzawi, 2019). Teachers in schools who are affectively committed to their schools may show their commitment because of extrinsic factors such as good working relationships, good working environment, fairness in the workplace, organisational policies and administration, supervision, and the rest (Chordiya, Sabharwal & Goodman, 2017). However, being a teacher and lecturer, it has been observed in Oyo State that some teachers seem no longer identified and involved with school activities, rather business has taken their attention from their primary assignment. This has somehow increased absenteeism, turnover, support to school administrative heads, and excitement to deliver instructions amongst teachers which often results in classroom ineffectiveness.

Normative commitment derives from a perceived obligation to maintain membership, which is grounded in a sense of morality. In this context, the teacher thinks that they ought to remain with a particular school organisation because they believe it is morally right to do so (Alsiewi, 2016). It, however, seems that some teachers especially those in Oyo state are not normatively committed, and thus, they feel a very low obligation to stay regardless of the investment the school may have made in them. They seem to be morally disconnected from their school. They come to school late, miss their lesson periods, and give students their work to do.

Continuance organisational commitment refers to the benefits of remaining within the organisation because of the fewer work opportunities that exist outside the organisation and the perceived costs of leaving the current organisation would be higher (Singh & Gupta, 2015). Teachers with continuance commitment may consider costs such as economic costs (such as pension accruals, gratuity, the present salary, or the fear of getting another job if they leave the teaching job), social costs (friendship ties with co-workers, prestige/recognition associated with the work (Akinwale & Okotoni, 2019). It is also being observed that teachers are underestimating the associated costs of leaving the school and some of the school teachers remain in the teaching profession not out of commitment but because of a lack of job opportunities in other sectors.

In recent times, teachers' organisational commitment to schools has been an issue of discussion the reason that the expected results from education or schools are not effectively produced. Most teachers especially in secondary schools have been portrayed to generally have poor attitudes and commitment to work. They provide erratic and increasingly ineffective services to the school organisation. These erratic and ineffective services provided by teachers who are partially or not committed to their duty lead to the

downward trend in students' academic performance in both internal and external examination which negatively disrupts the realisation of educational goals, objectives, and sustainable development in Nigeria (Al-Jabari & Ghazzawi, 2019). Teachers are expected to be committed to teaching in terms of punctuality to class, writing adequate lesson notes, proper usage of instructional materials, adequate methodology, and maintaining classroom control in the course of teaching in the classroom but this seems not to be the case, as most of them appear not to be committed to the school organisation. This low commitment among teachers in the school organisation has raised several questions from management experts and researchers. Mukti and George (2018) have attributed the decline in teachers' organisational commitment to personal variables such as age, gender, experience, and educational background. Others stated motivational factors, leadership, and job satisfaction (Cilek, 2019). However, though the variables are possibilities but may not fully explain the problems inherent in teachers' organisational commitment. Another probable factor is school climate.

School climate is the quality of the school surrounding or the school environment that is familiarised by the members of the school. It may be described as an aggregate measure of a school's characteristics, such as relationships between parents, teachers and administrators, as well as the physical facilities on ground. These characteristics differentiate one school from another and affect the behaviour of the members of the school. School climate is based on patterns of people's experiences of school life and reflects norms, goals, values, interpersonal relationships, teaching and learning practices, and organisational structures. Aspects of school climate have been identified to include: trust, respect, mutual obligation, and concern for others' welfare which usually have powerful effects on educators' and learners' interpersonal relationships as well as learners' academic achievement and overall school progress (Cohen & Thapa, 2017). School climate may also be viewed as a school social environment in respect of safety within the school; the relationship among teachers, teacher-student relationship, teachers–principal relationship, and basic infrastructures in the school. This means that School climate plays an important role in influencing the behaviour, learning, productivity, effectiveness, and achievement of the community in the school (Emu & Nwannunu, 2018).

> There are different dimensions of school climate. They include safety, academic climate, relationships, and school environment (physical facilities). This study will however focus on safety, principal-teacher relationship, and basic school infrastructures. In literature, it was noted that safety refers to physical safety (for example, reduced violence and aggression), social and emotional safety (for instance, lack of instances of bullying or cyberbullying), and the fairness and consistency of school rules.

All humans need to feel safe socially, mentally, and physically. Some teachers are not necessarily exposed to physical violence, and social, emotional, and intellectual violence but risky situations that can likewise negatively affect their level of teaching-learning capacity. Teachers in unsafe school situations will probably be harmed, be involved in gang battles as well as encounter enthusiastic anxiety (Côté-Lussier & Fitzpatrick, 2016). A positive school climate, therefore, means feeling physically and emotionally safe and having clear and consistent rules to maintain order and discipline (Huang et al., 2016). Omodan, Kolawole and Fakunle (2016) stated that physical safety for teachers is the

degree to which violence, aggression, and physical bullying are absent. It also refers to the strategies used to eliminate violence (for example, security guards and metal detectors) to protect teachers in secondary schools. Emotionally safe refers to feeling sufficiently comfortable with teachers' internal feelings, thoughts, and impulses. Feeling emotionally safe supports teachers to reach their academic potential and goals. It includes available school-based mental-health services, an absence of verbal bullying, and positive attitudes about individual differences. However, it has also been observed by the researcher that some secondary Schools in Oyo state seem to have dilapidated classrooms which may make the school environment not to be safe for both the students and teachers.

> Principal-teacher relationship, which is another dimension of school climate, refers to the quality and consistency of relationships between teachers and principals. It has to do with how much teachers and school heads support, trust, respect and care for each other. It also includes connectedness in the school (Omodan, Kolawole & Fakunle, 2016). Connectedness refers to teachers' perceptions that school heads in the school care about Students learning, and development and about teachers as individuals. It also refers to teachers feeling of attachment and belonging toward the school. Feeling accepted and included by the other members of the school will contribute to a positive school climate (Lampinen, Suutala & Konu, 2017). Connectedness is measured in terms of how much/often teachers feel close to the principal and other individuals at school are happy to be at school, feel a part of the school, feel that school heads treat them fairly, and feel safe at school (Omodan et al., 2016). In a relationship, there is respect for diversity. Respect for diversity refers to treating teachers of any ethnicity, gender, sexual orientation, or religious affiliation equally. It also means cultivating awareness and appreciation for other cultures in school, shared decision-making; common planning opportunities, and diversity

Basic school infrastructures refer to the availability of resources, physical facilities, and the quality of the physical environment, such as the adequacy of technology, laboratories, types of equipment and instructional materials (including textbooks), cleanliness, lighting and temperature, sound control, building maintenance, and quality, and class size that could influence the effectiveness of teaching and learn in a school (Epstein et al, 2018; Mayowa-Adebara & Aina, 2016). Basic school infrastructures include the adequacy of the school facilities, the maintenance and infrastructure of the building, and the accessibility and allocation of educational resources. Adequacy of physical facility refers to the availability of resource materials that all affect teaching and learning in school (Lowell & Rey, 2017).

Thus, the teaching profession, daily, becomes more demanding and dynamic in nature and reflects the current expectations of all the stakeholders in education such as the students, parents, colleagues, community, and government. Teacher commitment is a crucial factor if education is to continue to be the common yardstick to determine individuals' sources of human capital development and to achieve sustainable development. Hence, the present study tries to find out the organisational commitment among teachers as influenced by school climate in secondary schools in Oyo State, Nigeria.

Statement of the Problem

It has been espoused that the most important component of the educational system for sustainable development is the teacher. As observed in the southwest region of Nigeria, especially in Oyo state, there seem to be teachers who are non-participative in school activities. They sell goods and other products in the school and oftentimes send their students to collect payments for the sold goods or other errands. Teaching somehow becomes secondary or sideline. Hence, one may begin to ask questions about 'why the organizational commitment of teachers could be questionable?'. This issue could be due to so many reasons, like, school climate, family issues, a conflict between school administrators and teachers, and among teachers themselves often not resolved. However, a thorough search from literature confirms that little work has been done on school climate on the organisational commitment of teachers. Also, many research studies have been done on the organisational commitment which have not categorized the different levels of commitment as it is in organisational commitment which this study will investigate. To this end, this study investigated the extent to which school climate can relate to organisational commitment among public junior secondary school teachers in Oyo state, Nigeria. In this regard, the objectives of the study are to:

1. identify the organisational commitment domains in to which teachers can be categorised in public secondary schools in Oyo State, Nigeria;
2. examine the relative relationship between the school climate (safety, principal-teacher relationship, and basic school infrastructures) and organisational commitment (affective, normative, and continuance) in public junior secondary schools in Oyo State, Nigeria;
3. ascertain the combined relationship between the school climate (safety, principal-teacher relationship, and basic school infrastructures) and organisational commitment (affective, normative, and continuance) in public junior secondary schools in Oyo State, Nigeria;

Research Question

i. What is the organisational commitment domain into which teachers can be categorised in public secondary schools in Oyo State, Nigeria?

Hypotheses

Ho1: There will be no significant relative relationship between the school climate (safety, principal-teacher relationship, and basic school infrastructures) and organizational commitment (affective, normative, and continuance) in public secondary schools in Oyo State, Nigeria.

Ho2: There will be no significant combined relationship between the school climate (safety, principal-teacher relationship, and basic school infrastructures) and organisational commitment (affective, normative, and continuance) in public secondary schools in Oyo State, Nigeria.

Methodology

A descriptive survey research design was adopted in the study. The population of this study comprised all teachers in the public secondary schools in Oyo state. Multistage sampling procedures were used to select the sample size of 316 public secondary schools, 2,960 public secondary school teachers, and 316 public secondary school principals. A single structured Questionnaire designed by the researcher, titled "School Climate and Organisational Commitment Questionnaire, was used to obtain the needed data for the research. The questionnaire (SCOCQ)" is divided into three (3) sections (A, B, and C) and consists of structured items. It was responded to by the teachers. Section A consists of 5 items eliciting information on relevant demographic characteristics of each respondent**.** It includes teachers' gender, age, the highest level of education, years of experience, and a number of transfers while Section B consists of 9 structured items measuring the status of organisational commitment of teachers in three dimensions which are: affective, continuance, and normative organisational commitments. Three items each for the three dimensions of organisational commitment. The rating technique is based on the following: Always (4), Often (3), Sometimes (2), and Not at all (1), and Section C consists of 19 structured items measuring the status of school climate in the schools. The school climate was assessed using three measures which are: safety, principal-teacher relationships, and basic school infrastructures). Four items were structured for school safety, basic infrastructures, and principal-teacher relationships measures of school climate respectively. The rating techniques is as follows: Strongly agree (SA)= 4, Agree (A)=3; Disagree (D) =2; Strongly Disagree (SD) =1

Participants' consents were obtained by explaining the significance of the study and asking for their willingness to participate. To thousand nine hundred and sixty (2,960) teachers were given a copy each of the structured questionnaire to fill out; the instrument was retrieved immediately to avoid a high level of non-respondent, and 2,795 (94%) copies of the questionnaire for teachers were retrieved. The descriptive statistics of mean and percentages were used to analyse the research questions while Pearson Product Moment Correlation was used for the hypotheses.

Results

Research Question One: What is the organisational commitment domain into which teachers can be categorised in public secondary schools in Oyo State, Nigeria?

Table 1: Descriptive Analysis Showing the Affective Organisational Commitment Domain among public secondary school teachers in Oyo State

A.	**Affective**	**Always(A)**		**Often(O)**		**Sometimes(S)**		**Not at all (NAA)**			
	Items (I)	**Freq**	**Per (%)**	**Freq**	**Per (%)**	**Freq**	**Per (%)**	**Freq**	**Per (%)**	**Mean**	**SD**
1.	Associate with the school.	2118.0	75.8	474.0	17.0	173.0	6.2	30.0	1.1	3.67	0.64

2.	Emotionally attached to the school	1047.0	37.5	1014.0	36.3	577.0	20.6	157.0	5.6	3.06	0.90
3.	Agree with all the goals and values of the school	1503.0	53.8	748.0	26.8	445.0	15.9	99.0	3.5	3.31	0.86
	Weighted Mean									3.35	

Source: *Field Survey 2021*

Decision Rule: Weighted mean<2.50 means **Low**: 2.50 to 2.99means **Moderate**: >3.00 means **High**

Table 1 reveals that affective organisational commitment among secondary school teachers in Oyo State is high with a weighted mean of (3. 35). The table revealed that teachers associate with the school, having the highest mean of ($\overline{x}$ = 3.67). This means that secondary teachers in Oyo State are attached to their profession which is associated with personal identification and satisfaction as a teacher. Also, teachers in secondary school agree with all the goals and a value of the school with a mean of ($\overline{x}$ = 3.31). This implies that secondary teachers in Oyo State are consistent with the schools' values and goals. Also, it is revealed that secondary school teachers are emotionally attached to the school with the lowest mean of ($\overline{x}$ = 3.36). Since the calculated mean from table 1 for the three items presented a weighted mean of (3.35). Hence, more secondary school teachers fall in the domain of affective organisational commitment.

Table 2: Descriptive Analysis Showing the Normative Organisational Commitment Domain among Public Secondary School Teachers in Oyo State.

B.	**Normative**	**Always(A)**		**Often(O)**		**Sometimes(S)**		**Not at all(NAA)**			
S/N	Items	**Freq**	**Per (%)**	**Freq**	**Per (%)**	**Freq**	**Per (%)**	**Freq**	**Per (%)**	**Mean**	**SD**
1	Remain in the school because it is morally right to do so	1064.0	38.1	735.0	26.3	498.0	17.8	498.0	17.8	2.85	1.12
2	Performs my duties out of a sense of obligation	658.0	23.5	544.0	19.5	590.0	21.1	1003.0	35.9	2.31	1.18
3	Finish my job first despite having other commitments,	615.0	22.0	387.0	13.8	466.0	16.7	1327.0	47.5	2.10	1.22
	Weighted Mean									2.42	

Source: *Field Survey 2021*

Table 2 reveals that the level of normative organisational commitment among public secondary school teachers in Oyo State is low with a weighted mean of (2.42) which is

measured with three items. The table reveals that teachers remain in the school because it is morally right to do so with the highest mean of (2.85) This demonstrates that some Oyo State secondary school teachers are morally connected to the school. Teachers in Oyo State perform their duties out of a sense of obligation as evidenced by the mean of (2.31) which indicates they carry out their primary assignment but are morally disconnected from the school. Teachers who finished their job first despite having other commitments yield the least mean of (2.10). Hence, normative organisational commitment among secondary school teachers in Oyo State is low.

Table 3: Descriptive Analysis Showing the Continuance Organisational Commitment Domain among Public Junior Secondary School Teachers in Oyo State

C.	Continuance	Always(A)		Often(O)		Sometimes(S)		Not at all(NAA)			
S/N	Items	Freq	Per (%)	Freq	Per (%)	Freq	Per (%)	Freq	Per (%)	Mean	SD
1	Remain in the school based on what the school offers	1402.0	50.2	636.0	22.8	337.0	12.1	420.0	15.0	3.08	1.10
2	Stay in school because of my needs	1454.0	52.0	673.0	24.1	257.0	9.2	411.0	14.7	3.13	1.09
3	Work as a teacher because there are no better opportunities outside	1903.0	68.1	568.0	20.3	234.0	8.4	90.0	3.2	3.53	0.78
	Weighted Mean									3.25	

Source: *Field Survey 2021*

Table 3 reveals the continuance organisational commitment among public secondary school teachers in Oyo State is high. The result shows that teachers in Oyo State Secondary School work as a teacher because there are no better opportunities available, with the highest mean of ($\bar{x}$ = 3.53). This implies that secondary school teachers in Oyo state remain in the profession not out of commitment but because of a lack of job opportunities in the sector. Also, the teacher stays in the school because of needs with a mean of ($\bar{x}$ = 3.13) which indicates that teachers carry out their primary assignment in order to satisfy their needs and standard of living. The least mean is ($\bar{x}$ =3.08) which reveal teachers in public junior secondary schools remain in the school because of what the school offers for example benefit of pension, scholarship, gratuity, among others which make them to stay out of commitment. With a weighted mean of ($\bar{x}$ = 3.35) the level of continuance organisational commitment among public junior secondary school teachers in Oyo State is high.

Public junior secondary school in Oyo State is moderate, and majority of them can be categorised under affective organisational commitment domain although continuance organisational commitment domain is high. This means that the majority of teachers in

Oyo State's public junior secondary schools are attached to the profession because of personal identification and regular payment of salary by the state government and they considered the benefits of remaining in the organisation because of the fewer job opportunities that exist outside the organisation. This justifies the moderate status of organisational commitment among the teachers.

Ho1: There will be no significant relative relationship between the school climate (safety, principal-teacher relationship, and basic school infrastructures) and organizational commitment (affective, normative and continuance) in public junior secondary schools in Oyo State, Nigeria.

Table 4a: Pearson Product Moment Correlation Analysis Between the School Climate and Organisational Commitment (Relative Correlation)

Correlations

	Safety	Principal-Teacher relationship	Basic school infrastructures	Affective	Normative	Continuance
Safety	1	0.788**	0.846**	0.660**	0.781**	0.764**
Principal-Teacher relationship	0.788**	1	0.904**	0.829**	0.842**	0.834**
Basic school infrastructures	0.846**	0.904**	1	0.815**	0.824**	0.815**
Affective	0.660**	0.829**	0.815**	1	0.793**	0.789**
Normative	0.781**	0.842**	0.824**	0.793**	1	0.889**
Continuance	0.764**	0.834**	0.815**	0.789**	0.889**	1

**. Correlation is significant at the 0.05 level (2-tailed).

Ho2: There will be no significant combined relationship between the school climate (safety, principal-teacher relationship, and basic school infrastructures) and organizational commitment (affective, normative and continuance) in public junior secondary schools in Oyo State, Nigeria.

Table 4b: Pearson Product Moment Correlation Analysis Between the School Climate and Organisational Commitment (Combined Correlation)

Correlations

	School climate in public secondary schools	Organisational commitment among teachers in public secondary school

School climate in public secondary schools	1	0.897**
Organisational commitment among teachers in public secondary school	0.897**	1

**. Correlation is significant at the 0.05 level (2-tailed).

Tables 4a and 4b above, respectively, revealed the relative and combined relationship between the school climate (safety, principal-teacher relationship, and basic school infrastructures) and organisational commitment (affective, normative and continuance) in public secondary schools in Oyo State, Nigeria. There is a significant combined relationship (r = 0.897*) between the school climate and organisational commitment in public secondary schools in Oyo State, Nigeria. Also, the highest relationship is the relationship between the Normative domain of organisational commitment and the principal-teacher relationship (r = 0.842), followed by the relationship between the Continuance domain of organisational commitment and the principal-teacher relationship (r = 0.834) while the least is the Affective domain of organisational commitment and Safety (r = 0.660). This implies that the principal-teacher relationship can relate to and enhance the organisational commitment of the teachers in public secondary schools for sustainable development in Oyo State, Nigeria.

Discussion of Findings

The finding from research question one shows that the status of organisational commitment among teachers in public secondary schools in Oyo state is moderate. Results obtained showed that the majority of teachers belong to the affective domain of organisational commitment, although the continuance domain of organisational commitment is high too; while normative organisational commitment is low among junior secondary school teachers in Oyo State. Since the overall weighted mean of the three domains of organisational commitment of the teachers is (2.82), it is implied that the majority of the junior secondary school teachers are moderately interested in associating with the school, emotionally attached to the school, agree with all the goals and value of the school, remain in the school because it is morally right to do so, perform duties out of a sense of obligation, and finish their job despite having other commitments. Similarly, the study found that that is a low level of normative organisational commitment among public junior secondary school teachers in Oyo State, this implies that some teachers remain in the school based on what the school offers, stay in the school because of their needs, and work as a teacher because there is no better opportunity outside. This corroborates with a study on teacher's job performance and organisational commitment among public secondary school teachers in Oyo State, carried out by Oredein and Ebo (2021) the study discovered that public secondary school teachers in Oyo State also have a high level of continuance organisational commitment, moderate affective organisational commitment, and low normative organisational commitment. Akinwale and Okotoni (2019) found out that teachers with a high level of affective commitment might always monitor the students' work, be able to control the

classroom, and be involved in extra-curricular activities because they tend to demonstrate organisational citizenship behaviour. The result also negates the work of a researcher on the level of teachers' job commitment to the teaching profession, teachers' commitment to teaching and learning, and teachers' commitment to the school in secondary schools in Osun State. According to the result, teachers' overall commitment to official tasks is quite strong, as is their commitment to each of the three domains of organisational commitment (Tadesse, 2019).

The hypothesis revealed there is a significant relative and combined relationship between the school climate and the organisational commitment of the public secondary school teachers in Oyo State, Nigeria. There was a quite high correlation between the principal-teacher relationship and the domains of the organizational commitment, that is the Normative and Continuance domains. A researcher found out that to promote effective instructional delivery and high teaching efficacy, the government should sufficiently supply classrooms and other equipment, as well as other educational facilities such as libraries, workshops, tools, furniture, fittings, and instructional materials (Omodan et al., 2016) Also, this is corroborated by a researcher that a positive school climate influenced teacher morale, resulting in a significantly high level of morale for teacher-principal rapport, teacher-teacher rapport, and commitment with teaching (Olukayode, 2019)

Conclusion

Based on the study's findings, it can be inferred that the status of the school organisational commitment in public junior secondary school is moderate; that the majority of the teachers are attached to the profession because of personal identification and regular payment of salary by the state government and they considered the benefits of remaining in the organisation because of the fewer job opportunities that exist outside the organisation. There is a relative and combined relationship between school climate and teachers' organisational commitment, and a strong principal-teacher relationship, indicating that the principal-teacher relationship is crucial to teachers' commitment and sustainable development.

Recommendations

Therefore, based on the findings of this research work and to ensure sustainable development, the following recommendations are made:

1. Senior teachers/principals should mentor the younger ones to enhance better performance on the job and boost their commitment to the school and model value cultivation in students
2. All educational stakeholders should create conducive school climate in terms of basic infrastructure and safety where individuals feel safe and supported physically, intellectually, psychologically, and socially to enhance teachers' organisational commitment to the protection and preservation of the environment and quality education to all is one of the dimensions of sustainable development.
3. The government and principals should encourage teachers to develop affective organisational commitment through a good school climate, prompt payment of wages and salaries, rewards and incentives, managerial style and condition of service to reduce high continuance commitment.

4. The principals should have a good relationship with teachers that can encourage the teachers to put in their best.

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MANAGEMENT MOTIVATION STRATEGIES AND ACADEMIC STAFF PRODUCTIVITY IN PUBLIC UNIVERSITIES IN LAGOS STATE, NIGERIA

[1]Shittu, Taofeek Olawale, [2]Yekinni, Nurudeen Lanre & [3]Ayoola, Iyabo Oyeyemi

[1,2&3]Department of Educational Management,
Lagos State University, Lagos, Nigeria

Abstract

This paper examined the management motivation strategies and academic staff productivity in public Universities in Lagos State, Nigeria. The study adopted correlation design. The population of the study comprised 2,459 academic staff in two public Universities in Lagos State, Nigeria. Two research hypotheses were tested at 0.05 level of significance. A sample size of 730 respondents was drawn through simple random sampling techniques. Two research instruments titled 'Management Motivational Strategies Questionnaire' (MMSQ) and 'Academic Staff Productivity Questionnaire' (ASPQ) were used for data collection. Content validity of the instruments was ensured by test experts and the reliability consistency of the instruments was 0.73 using Cronbach Alpha. The Kendall's tau-b correlation was used to analyse data collected through Statistical Package for Social Science (SPSS) version 23.0. The findings of hypotheses 1 and 2 showed that: a significant relationship existed between management intrinsic motivation and academic staff productivity in public universities in Lagos State, Nigeria (τ_b = .752; N=730; p<0.05); and a significant relationship existed between management extrinsic motivation and academic staff productivity in public universities in Lagos State, Nigeria (τ_b = .649; N=730; p<0.05). Based on the findings, the study concluded that intrinsic and extrinsic motivation enhanced lecturers' productivity in Lagos State public universities. Therefore, it is recommended amongst other that both federal and state government should provide adequate fund and implement the Memorandum of Understanding (MoU) signed with Academic Staff Union of Universities (ASUU) in order to improve academic staff welfare, training and development and conditions of service in Lagos State public universities.

Keywords: Management, Motivation, Academic Staff, Productivity

Introduction

Over the years, education has been observed to be an essential tool for knowledge acquisition toward human capital development. Perhaps, there are three major levels of education which include primary, secondary and tertiary education. The tertiary education is the apex level of educational system designed to produce high-level manpower and recognized as citadel of learning where training is not only acquired, but also disseminated to those who require it. Benedict (2016) posited that higher education is the education given after secondary education in Universities, Colleges of Education, Polytechnics and Monotechnic including those institutions offering correspondence courses. Such institutions award academic degrees, professional certificates and advanced/higher diploma; and as further step, Postgraduate programmes such as Masters'

and Doctorate degrees. Such institutions involve in teaching, research and social (community) service activities. The study looks at motivation strategies for motivating academic staff in public tertiary institutions in Nigeria. The word motivation originated from Latin word "movere" means *to move.* Motivation seems to be the driving force that propelled people to engaging in any activity. It as the process that arouses, energizes, directs, and sustains behaviour and performance (Luthans in Mawoli & Babadanko, 2011).

However, motivation is conceived as degree and direction of people behaviour, as well as the variables that encourage people to behave in certain ways. Maslow's Hierarchy of Needs (1943) model explained human motivation depends on meeting needs at different levels and proposed five hierarchy of need that include: Physiological needs; safety needs; love needs, esteem needs and self-actualization needs. Therefore, management motivating strategies could be intrinsic and extrinsic motivation. The extrinsic motivation comprises physiological needs, safety needs, and esteem needs may be met through wages and salary while love need, and self-actualization needs are intrinsic motivation that can be met through interpersonal relationship. The intrinsic motivation refers to all of the things that motivate you internally, such as self-improvement, self-esteem, self-fulfillment and self-determination. The intrinsic motivation is our innate desire to seek out and overcome problems as we pursue our passions and test our abilities. People don't need incentives or penalties when intrinsically motivated because the task is enjoyable in and of itself. However, extrinsic motivation refers to any incentive that is based on external benefits such as money or praise. These sorts of motivation are more widespread than intrinsic motivators, and they include attaining goals based on a monetary incentive, fear, or expectation, all of which are influenced by external variables. People, for example, desire a promotion because of the anticipated pay increase.

The extrinsic motivation requires reward as promotion, salary, remuneration, fringe benefits, allowance, housing scheme, health scheme, insurance and so on which motivate academic staff to perform well in teaching, research and community service obligation. Staff productivity is one big challenge that engaged the attention of government in public universities and designed appropriate mechanism for motivating academic staff in Nigeria. Productivity is the performance output of a particular given task. The challenge of productivity can be understood from the management's perception through the correlation between employee motivation and organization. For years, employers of labour have been experimenting with different strategies in an attempt to relate effectively, the motivation of workers to their work contribution (Haque, Haque & Isalam, 2014).

The theoretical anchorage of the study considers Maslow's Hierarchy of Need Theory. In 1943, Abraham Maslow, a psychologist, published his now famous need theory of motivation. Although the theory was based on clinical observation of few neurotic individuals, it has subsequently been used to explain the entire spectrum of human behaviour. The Need Theory of Motivation was developed by Abraham Maslow in (1954). Maslow recognised that human beings are wanting being: they want more and more. However, Maslow argued that a satisfied need does not act as a motivator, only unsatisfied needs motivate behaviour. Maslow further stated that human needs are

arranged in a series of levels- hierarchy of importance with basic needs at the bottom and higher needs at the top (Famade, 2003). Maslow proposed that motivation is a function of the basic needs.

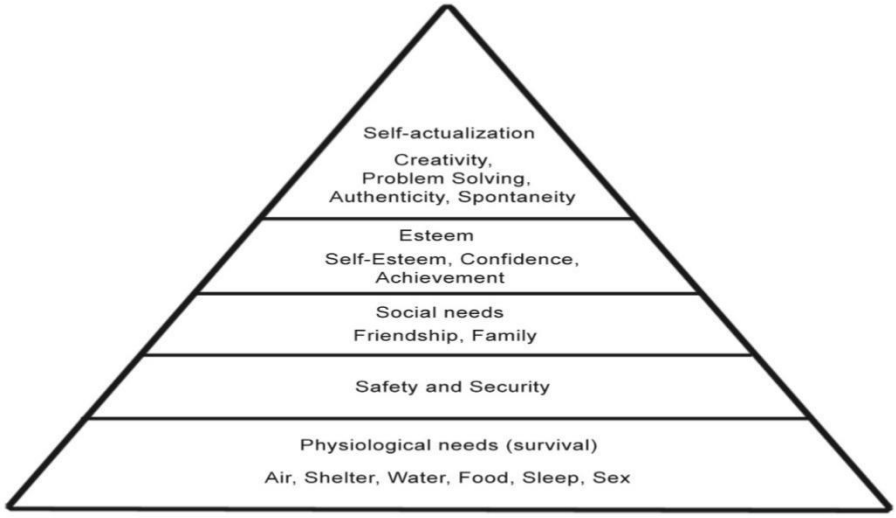

Fig.1: A Diagramatic Representation of Maslow's Hierarchy of Need (Famade, 2003)

Maslow's need hierarchy consists, in ascending order of:

1. **Physiological needs:** the basic needs for sustaining human life. It includes the needs for oxygen, food, water, air, clothing, shelter, sleep, health, sexual satisfaction, excretion and so on.
2. **Safety and Security needs:** the needs for protection against danger and threat, protection from illness, job security, freedom from fear, safe from physical and psychological harm and so on.
3. **Social or love needs:** The needs for belonging, for association, for affection from other people, and the need for acceptance by one's colleagues or peers. Social needs act as powerful motivators of human behaviour. It is actually the genesis of informal groupings in organisations.
4. **Esteem needs:** It includes both the needs for self-esteem and for the esteem of others. Self-esteem encompasses self-confidence, self-respect, prestige, knowledge recognition and so on.
5. **Self-Actualisation needs:** It includes the need to grow, for self-fulfillment and continued self-development, for being creative and original, and the need to realise one's potential. It is the desire to become what one is capable of becoming (Famade, 2003).

The theory states that when a lower need is satisfied, the next higher becomes dominant and the individual attention is tuned to satisfying this higher need. The need for self-

fulfillment however can never be satisfied. He said that "man is a wanting animal" only unsatisfied need can motivate behaviour and the dominant need is the prime motivation of behavior. One of the implications of Maslow's theory is that the higher order needs for esteem and self-fulfillment provide the greatest impetus to motivation. They grow in strength when they are satisfied, while the lower needs decline in strength on satisfaction. But the people do will not necessarily satisfy their needs, especially when they are routine. Therefore, this theory of motivation is relevant to the management of tertiary institution as useful tools for curbing indiscipline among the lecturers because, if their relevant needs are being catered for, they will be motivated, discipline and committed to their job.

Statement of the Problem

The productivity of the academic staff in public tertiary institutions is a critical issue that has piqued Lagos State government interest. Creating an enabling environment for training of academic staff and implementation of intrinsic and extrinsic motivation will serve as motivational tools for all academic staff toward productivity. Extrinsic benefits, in fact, can pique academic staff interest in a task or talent that they previously had little interest in. Praise, commissions, bonuses, grants, prizes and rewards can drive lecturers to develop new abilities or provide practical knowledge. Presently in Nigeria, the universities lecturers under the aegies of the Academic Staff Union of Universities (ASUU) are on strike due to ineptitude of government strategy to implement 2009 and 2013 agreement with the union. The challenges of the study hinge on motivation strategies adopted by government to cater for academic staff welfare in Nigeria. Over the years, Academic Staff Union of Universities (ASUU) has been at loggerhead with federal government of Nigeria on the issue of staff bonus and entitlement; introduction of Treasury Single Account (TSA); decrease in budgetary allocation to education; revitalization of universities; and implementation of 2009 and 3013 agreement. The failure of Federal Government of Nigeria to implement 2009 and 2013 Memorandum of Understanding (MoU) agreement led to incessant crisis. The reasons for the elongation of the strike action was due to inability of the federal government to keep part of its promise with ASUU which affected lecturers motivation and productivity in public universities.

Objectives of the Study

The objective of this study was to:

1. examine the relationship between management intrinsic motivation and academic staff productivity in public universities in Lagos State, Nigeria; and
2. investigate the relationship between management extrinsic motivation and academic staff productivity in public universities in Lagos State, Nigeria.

Research Hypotheses

The following Null hypotheses were raised:

H_{o1}: There is no significant relationship between management intrinsic motivation and academic staff productivity in public universities in Lagos State, Nigeria.

H_{o2}: There is no significant relationship management extrinsic motivation and academic staff productivity in public universities in Lagos State, Nigeria

Methodology

The research design adopted was correlation design. The study population comprised all 2,459 academic staff of University of Lagos (UNILAG), Akoka and Lagos State University (LASU), Ojo. The sample size comprised of 730 lecturers selected through simple random sampling technique. An instrument titled: Management Motivational Strategies Questionnaire' (MMSQ) and 'Academic Staff Productivity Questionnaire' (ASPQ) were designed by the researcher. The questionnaire was administered to all selected 730 lecturers from seven faculties includes: Faculty of Engineering, Faculty of Education, Faculty of Science, Faculty of Law, Faculty of Social Sciences, Faculty of Art, and Faculty of Management Science in both University of Lagos (UNILAG) and Lagos State University (LASU). In each faculty, five departments were selected and ten academic staff members were selected from each department. However, Dean and two Head of Department were selected from each faculty. Therefore, 53 lecturers were randomly selected from each faculty of selected public universities for the study in Lagos State. The questionnaire is divided into two sections: Section A and B. The section A contains the personal information of the respondents and section B contains 20 items statements relating to the research questions. Each statement is measured on a four-point Likert-type-rating scale, namely: "Strongly Agree (SA)", "Agree (A)", "Strongly Disagree (SD)" and "Disagree (D)". The data collected were analyzed using Kendall's tau-b correlation coefficient through SPSS version 21.0. The reliability of the instruments was persistently measured through Cronbach's alpha at 0.73 meaning that the instrument was reliable.

Analysis of Results

Table 1: Kendall's tau-b correlation analysis between management intrinsic motivation and academic staff productivity in public universities in Lagos State, Nigeria.

Correlations

Variables			Management _Intrinsic_Motivation	Academic_ Staff_Productivity
Kendall's tau_b	Management _Intrinsic _Motivation	Correlation Coefficient	1.000	.725
		Sig. (2-tailed)	.	.001
		N	730	730
	Academic_ Staff_Productivity	Correlation Coefficient	.725	1.000
		Sig. (2-tailed)	.001	.
		N	730	730

Source: Field Survey (2021) * Correlation was significant at the 0.05 level (2-tailed)*

A Kendall's tau-b correlation was run to investigate the relationship between management intrinsic motivation and academic staff productivity in public universities in Lagos State, Nigeria. The result indicated that there was a strong, positive correlation relationship between management intrinsic motivation and academic staff productivity which was statistically significant (τ_b = .725; N=730; p>0.05). Hence, the hypothesis which stated that "there is no significant relationship between management intrinsic motivation and academic staff productivity in UNILAG and LASU is rejected and alternate was

accepted. The p-value of 0.001 is less than 0.05 significant levels which indicated the rejection of the null hypothesis. This implied that statistically, significant relationship existed between management intrinsic motivation and academic staff productivity in the selected public universities. This finding is in line with Vandenabeele and Ban (2009) that Public Service Motivation is just one specific factor explaining work motivation and several other motivational factors do have an effect on work behaviour of public employees.

Table 2: Kendall's tau-b correlation analysis between management extrinsic motivation and academic staff productivity in public universities in Lagos State, Nigeria.

Correlations

Variables			**Management_Intrinsic_Motivation**	**Academic_Staff_Productivity**
Kendall's tau_b	Management_Extrinsic_Motivation	Correlation Coefficient	1.000	.649
		Sig. (2-tailed)	.	.001
		N	730	730
	Academic_Staff_productivity	Correlation Coefficient	.649	1.000
		Sig. (2-tailed)	.003	.
		N	730	730

Source: Field Survey (2021) * Correlation was significant at the 0.05 level (2-tailed)*

A Kendall's tau-b correlation was run to investigate the relationship between management extrinsic motivation and academic staff productivity in the selected universities. The result indicated that there was a strong, positive correlation relationship between management extrinsic motivation and academic staff productivity in UNILAG and LASU, which was statistically significant (τ_b = .651; N=550; p>0.05, 2-tailed). Hence, the hypothesis two which stated that "there is no significant relationship between management extrinsic motivation and academic staff productivity in public universities in Lagos State, Nigeria is rejected and alternate was accepted. The p-value of 0.003 is less than 0.05 significant level which indicated the rejection of the null hypothesis. This implied that statistically, significant relationship existed between management extrinsic motivation and academic staff productivity in public universities in Lagos State, Nigeria. This finding corroborated with Thomas and Holley (2012) summarized the findings of their study by stating that the ways to increase employee motivation include enriching the work experience, communicating effectively, offering appropriate incentives, and treating employees with dignity and respect.

Conclusion

The study concluded that motivation is one of the major factors that improve staff productivity in public universities. Motivation of academic staff can change the image of organization and delude tertiary institutions from incessant crisis by the labour union. Both intrinsic and extrinsic motivation enhanced lecturers' productivity in Lagos State public universities. Lecturers can be properly motivated if management of public universities caters for lecturers' welfare, prompt payment of salaries and earned academic

allowance and provide enabling environment for teaching, research and community services. The study concluded

Recommendations

Based on the findings, the following recommendations were made:

1. Government should provide adequate fund for the university authorities in order to cater for lecturers' welfare and payment of salaries as at when due.
2. Government implement the Memorandum of Understanding (MoU) and Memorandum of Action (MoA) signed with Academic Staff Union of Universities (ASUU) in order to improve lecturers' conditions of service and welfare package public universities in Lagos State.
3. The university authority should continue annual salary increment method which can help to retain good lecturers in the system since they are assured their salaries will be renewed at the end of every year.
4. Management of public universities need to concentrate more and balanced the intrinsic and extrinsic needs of academic staff in order to avoid issues of favoritism during promotions were identified.
5. University management should reward lecturers' through their performance sometimes motivate them with end of year bonuses for their hard work during the year.
6. Management should embrace motivation strategies such as wages, remuneration, good working conditions, Job security, Promotions, Carrier development programme and Full appreciation of work done to motivate academic staff for maximum performance.

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USING LEARNING-CENTRED LEADERSHIP IN DEVELOPING PRIMARY SCHOOL MATHEMATICS TEACHERS: IMPLICATIONS FOR SCHOOLS IN A SOUTH AFRICAN RURAL CONTEXT

Buhle Stella Nhlumayo

Department of Education Management,
Policy and Comparative Education
University of Free State

Abstract

This paper examines the use of learning-centred leadership to develop primary school mathematics teachers, within the context of rurality. Underpinned by the interpretive paradigm and using a case study as a mode of inquiry, this paper generated data through a focus group interview of seven participants who were teachers in one rural primary school, and a face-to-face interview with the school principal. Data was analyzed through thematic analysis. The findings revealed that teachers needed structured professional learning programmes to learn mathematical concepts and methods and that there was a lack of collaborative practices among the teachers. In light of the findings, the paper recommends specialised mathematics professional learning for teachers and for rural primary school teachers to undergo timeous and regular professional development programmes in order to build capacity in mathematics teaching. The paper advocates the provision of learning for teachers by school leadership to improve the teaching and learning of mathematics and enhance learners' academic outcomes in the subject.

Keywords: Learning-centred leadership; Rural primary schools; Professional development; Mathematics

Introduction

Learning-centred leadership is conceptualized as a practice where the school principal encourages, directs, and provides for the process of learning for teachers and learners in their schools. Learning-centred leadership is defined by Liu and Hallinger (2017) as a practice where school principals encourage, direct, and provide for the process of learning, for teachers and learners in their schools. It comprises four elements which are building a learning vision, providing learning support, managing the learning programme and modelling, as conceptualised by Hallinger, Liu and Piyaman (2019). According to Male and Palaiologou (2012), the aim of learner-centred leadership is to advance the standard of education and improve learner performance. Mathematics is a practical subject that requires teachers to be involved in the process of learning. Therefore, when teaching mathematics, teachers must ensure that the integrity of the methodological and theoretical approaches in solving problems in mathematics is taken into consideration (Ibrokhimovich & Mirzaxolmatovna, 2022). The authors further claim that elementary mathematics teaching requires specialized training for teachers. Roesken-Winter et al. (2021) assert that improving professional development for mathematics teachers requires

that the school principal prepares teachers for innovative teaching approaches, provides support for mathematics teachers through the provision of mathematical resources that provide impactful quality implementation, and cooperates with relevant stakeholders, particularly in rural contexts. One of the findings in Mukuba's (2021) study on the causes of poor performance in rural primary school mathematics performance was the lack of relevant teaching methods and skills from the teachers. Admiraal et al. (2019) list collaborative work and learning and learning-centred leadership as the most important interventions that can be employed by school principals in ensuring the professional learning of their teachers, particularly in mathematics. It is against this background that this paper examined the use of learning-centred leadership in developing mathematics primary school teachers.

Problem Statement

Among a plethora of contextual factors rural primary schools are generally faced with, a major one is underperformance, particularly in mathematics (Makhasane & Khanare, 2018; Mohale et al., 2021; Harris & Jones, 2022). Sa'ad, Adamu and Sadiq (2014) list inadequate qualified teachers, poor teaching methods and inadequate teaching materials as some of the causes of poor mathematics delivery in schools. This points to the lack of learning-centred leadership from the School Management Team members in general and the school principal, in particular. Harris and Jones (2022) state that when there is lack of learning-based leadership, a lack of focus on learning and poor collaborative practices among teachers, it leads to poor instruction delivery. According to Freeman and Randolph (2013), success in any educational environment begins at the top with school leadership. The authors further indicate that school leaders in rural communities are faced with delicate and distinctive challenges which require them to provide customized teacher professional development for the teaching of mathematics in their schools.

Research Question

This paper responded to the research question of: How can school leadership use learning-centred leadership to respond to the professional development needs of rural primary school mathematics teachers?

Review of Related Literature

This section provides the literature that was reviewed regarding the use of learning-centred leadership to develop primary school Mathematics teachers in rural schools. Three sections are discussed, and these are: challenges in the development of primary school mathematics teachers, teaching mathematics as an out-of-field subject and using learning-centred leadership to promote professional learning in schools.

Challenges in the Development of Primary School Mathematics Teachers

All teachers require continuing professional development. The need for continuing professional development intensifies with each type of subject, as mathematics requires specialized knowledge, skills and methods for effective instructional delivery (Watson, 2008). In a study on South African Grade 9 mathematics teachers' views on the teaching of problem solving, Chirinda and Barmby (2018) found that learners were under-prepared from primary school such that they were unable to do basic

mathematics problem-solving, and primary school teachers were unclear as to what mathematics problem-solving was. This underscores the need for the development of primary school mathematics teachers. Jojo (2019) suggests that all mathematics teachers need to undertake obligatory professional in-service training before they are permanently employed. Pointing out some of the challenges in primary school mathematics teaching, Adu and Gosa (2014) identify the inability of the teachers to explain and understand the mathematics curriculum as it is presented in the Curriculum Assessment and Policy Statement (CAPS) that is, Pedagogical Content Knowledge (PCK); Subject Matter Knowledge (SMK) and Pedagogic Knowledge (PK), unqualified and underqualified teachers teaching mathematics in primary schools, and lack of knowledge of mathematical concepts and skills from teachers. In a study on the mathematics curriculum policy in South Africa and the poor performance of learners in a primary school in the Gauteng province, Lambrianos (2019) found that two thirds of teachers were not specialists in mathematics, and they struggled with understanding the CAPS document and how to implement it. This means that they had not specialized in mathematics at tertiary study. These teachers teach mathematics as an out-of-field subject, which presents with its own challenges, as discussed in the subsequent section.

Teaching Mathematics as an Out-of-Field Subject

A phenomenon where teachers are appointed to areas, phases of learning or to teach classes and subjects for which they have no formal qualifications or have inadequate training and qualifications is known as out-of-field teaching (Ingersoll, 1999; Hobbs, 2013; Sharplin, 2014). The Procedure Manual for Staffing in schools for 2022 states that teachers in primary schools are expected to teach all subjects, except where a teacher is unable to teach in a specific language (Department of Basic Education, 2022). Teachers who have not specialized in mathematics are expected to teach it. Sharplin (2014) further indicates that due to teacher shortages, rural schools frequently appoint out-of-field teachers. This is a phenomenon that tends to negatively impact the educational experiences of both teachers and learners. The lack of qualifications and experience in the relevant appointment presents challenges within their teaching practice. Beswick and Alonzo (2022) assert that teachers without formal mathematics qualifications require extensive support to teach the subject more effectively. Owing to underdeveloped pedagogical content knowledge (PCK), these out-of-field mathematics teachers often require collaborative methods from in-field teachers as a support mechanism for PCK. To improve instructional capacity and overall efficacy of primary school mathematics teachers, Tenorio (2022) suggests capacity building mechanisms. Learning-centred leadership may be employed to improve the quality of mathematics teaching, in the form of continuous professional development (Ríordáin et al., 2017). The school is a learning organization (Easton, 2008), meaning that teachers engage in continuous professional learning and the school leadership, and the school culture promotes and supports professional learning, as discussed in the following section.

Using Learning-Centred Leadership to Promote Professional Learning in Schools

Learning-centred leaders are directly involved in the professional learning of teachers within the school and have a responsibility to promote collaborative learning to promote academic and social learning (Murphy, et al., 2006). The challenge for school principals

is how to create a school environment that enhances learning for teachers. Mathematics teaching requires constant learning and constant practice (Atnafu, 2016). In a study on mathematics success against the odds, Murphy (2021) found that learners from rural schools characterized by low socioeconomic backgrounds perform poorly in mathematics and are less likely to engage in advanced mathematics. This phenomenon may be circumvented by providing mathematics learning support and building mathematics teacher capacity within the school. According to Nhlumayo (2020), some of the responsibilities expected from the school principal as a learning-centred leader, is to support and take part in mathematics teacher learning and development, to share leadership and foster collaboration among mathematics teachers in the school, to encourage a collaborative inquiry among mathematics teachers in developing a learning-centred school culture. Learning-centred leaders have an overriding responsibility in demonstrating the importance of collaborating with the extended school community to facilitate the academic objectives of the school. Through learning-centred leadership, school leadership has the responsibility to develop their mathematics teachers in an effort to enhance learners' academic outcomes. Harvey and Teledahl (2022) assert that collaborative learning is one certain method that can be used to capacitate and develop mathematics teachers so that they enhance their understanding and teaching methods of mathematics. Learning-centred leaders provide a platform for collaborative learning in the school. In this context, school leadership is seen as empowering leadership, providing capacity for the improvement of mathematics learning and teaching (Hallinger, 2011) and therefore, creating continual and meaningful professional learning opportunities for all their teachers (Tulowitzki et al., 2021).

Theoretical Framework

This paper is underpinned by Liu and Hallinger's (2017) theory of learning-centred leadership (LCL). LCL argues that the school principal has a direct influence on teacher practices and learner achievement (Wright, 2020). Wright (2020) further states that LCL is based on two common principal strands of school leadership: leadership for learning (instructional leadership) and change-oriented leadership (transformational leadership). The main argument of LCL is that the leadership practices of school principals can considerably influence teachers' beliefs and practices related to teaching and learning activities in schools (Hallinger, 2003; Leithwood et al., 2008; Liu et al., 2020). For the purposes of this paper, LCL indicates that through their leadership, school principals have the responsibility to guide, direct, encourage, motivate, support, model and continually develop mathematics teachers for the improvement of learners' academic outcomes in the mathematics subject. School principals need to implement policies that promote learning for teachers to improve their content and pedagogical knowledge for mathematics. Through LCL, school principals display their ability and interest in the core tasks of the school, which are the teaching and learning of mathematics.

Methodology

Underpinned by the interpretive qualitative approach, this paper employed a case study method as a mode of inquiry. This was a case study of a selected rural school in KwaZulu-Natal. The aim of using a case study was to examine and investigate the actual phenomenon, while seeking an in-depth understanding into how school principals can

develop their primary school mathematics teachers in a selected rural school. Creswell (2014) asserts that case studies provide the researcher an opportunity to delve deeply into the phenomenon of the study. From one purposively selected rural primary school, I relied on the school principal, as a gatekeeper, to assemble a group of seven mathematics teachers to form a focus group. Data was generated through a focus group discussion (FGDs) of seven mathematics teachers using a semi-structured interview schedule and a face-to-face interview with the school principal as the leader of the school. The teachers were purposively selected because they all teach mathematics in different grades, ranging from Grade one to Grade seven. Data was analysed using thematic analysis as guided by Braun and Clarke (2006). Ethical considerations involved seeking permission from the gatekeeper and issuing consent forms to participants detailing that their participation was voluntary, without material benefits, monetary or otherwise, attached to their participation, that they could withdraw at any time and that no physical or psychological harm would be inflicted to them by the study in any way. It is worth noting that the following pseudonyms are used to indicate participants in the study, Sebenza Primary School (the research site), Participant 1 to Participant 7 = (P1 to P7) and School Principal (SP).

Table1: Profile of the participants

Name	Qualifications	Grades currently teaching	Years teaching Mathematics
Participant 1	B.Ed. F. Phase	1	2
Participant 2	B.Ed. F. Phase	2	3
Participant 3	B.Ed. F. Phase	3	5
Participant 4	B.A. + PGCE	4	8
Participant 5	B.A. + PGCE	5	8
Participant 6	B.Ed. Int. Phase (English and History)	6	10
Participant 7	B.A. + UED	7	11
School Principal	M.Ed.	-	-

B.Ed.=Bachelor of Education, F. Phase=Foundation Phase, B.A.=Bachelor of Arts, PGCE=Postgraduate Certificate in Education, Int. Phase=Intermediate Phase, UED=University Education Diploma, M.Ed. = Master of Education.

The information in Table 1 is crucial as it provides the demographic information for the teaching of mathematics in the researched site. According to the National Curriculum Statement Grade R - 12 of 2014, Foundation Phase refers to school Grades R to Grade 3, Intermediate Phase is Grade 4 to Grade 6, Senior Phase is Grade 7 to Grade 9 and Further Education and Training (FET) is Grade 10 to Grade 12 (DBE, 2014). The number of years indicates that all teachers were a little experienced in their respective grades, and that Foundation Phase teachers were appropriately qualified for their level of teaching. Two of the Intermediate phase teachers and the Senior Phase teachers did not have a basic teaching qualification but possess a postgraduate qualification that allowed them to become teachers. One Intermediate Phase teacher did not have mathematics as a major subject.

Findings

The findings revealed the following themes as they will be discussed using verbatim quotes from the participants: a need for professional learning for mathematics teachers, a lack of collaborative practices among teachers; and building bridges of communication through and for learning-centred leadership.

Professional Learning for Mathematics Teachers

In the focus group discussion with the participants from Sebenza Primary School, it emerged that the teachers themselves needed to be taught the mathematics that they were teaching to the learners. When asked about their confidence levels on the subject that they were teaching, the following were the teachers' views on the matter:

> I am not so confident because when we attended a workshop and we were first given a test to write, many of us did not pass the test, although it was embarrassing for me, we ended up laughing about it because there were so many of us. **P5**

> Mathematics was not my major at varsity so, I only agreed to teach it because I thought primary school Mathematics was not complicated but seemingly I was mistaken because right now it is not like that, though I am enjoying teaching it. **P6**

> I was never good at Mathematics, that is why I never did at school, I did not know that I was going to teach it and I welcome all the support I am given, right now I am using my experience to teach Mathematics to my learners. **P7**

> I guess for me at the Foundation phase, it is because we do not have a choice and we have to teach all subjects, I guess that is how I have learnt the subject and I am used to teaching it. **P3**

> I agree with my colleague, at the Foundation phase we must teach all subjects whether you are comfortable or not, so I am used to it and though it is not easy, I am hanging in there. **P2**

These data reveal the need for professional learning for primary school mathematics teachers. The group participants' views revealed a need for teachers to be continually taught and trained within their service. Owing to frequent curriculum changes which affect the delivery of content and pedagogical knowledge, mathematics teachers need continual development in the subject that they teach. Jenkins (2020) asserts that teacher effectiveness in implementing curriculum change depends on school leadership, teacher collaborations with leaders and colleagues, school operational practices and school culture, as well as personal motivation. LCL allows for school leadership to provide opportunities for teachers to learn so that they can function successfully in their teaching.

A Lack of Collaborative Practices among Teachers

Interschool and intraschool collaboration are enablers for effective teaching (Postholm, 2016; Svendsen, 2016). When the focus group participants were asked about the practices that they employ to enable effective mathematics teaching practices, it emerged from the

data that there was a lack of collaboration and that the school leadership did not provide opportunities for teachers to collaborate, learn from each other and develop, thus resulting in poor learner performance in Mathematics. In conversation with focus group, these were their perceptions regarding collaboration:

> Personally, I do not like to work with others, sometimes it feels like a waste of time because we all attend workshops, and when you have all the material that you need for teaching, then you are good to go. **P6**

> I have been teaching Mathematics for quite a while now and I feel like I am doing a great job on my own, if learners fail then I cannot be blamed because I give my all to this subject. **P7**

There were, however, dissenting voices on the collaborative practices from the Foundation Phase mathematics teachers. These participants concurred that they shared problem-solving skills, and other pedagogical skills in order to develop themselves, assist their learners and aid the delivery of mathematics to learners. These are the views they shared:

> Sometimes we meet as Foundation Phase teachers and deliberate on content and pedagogical issues in Mathematics, also our Departmental Head affords us the opportunity to meet and discuss what can help us. **P3**

> Collaborating with my colleagues really helps because the Grade 1 class is a very difficult to teach class especially if you are still new in the teaching field like myself, and I also found that most teachers do not want to teach the Grade 1 class, so I really need more development especially in teaching Mathematics. **P1**

> Although there are time constraints in terms of meeting with colleagues, but the little time we make to meet, I gain a lot. I just wish our SMT could do something about helping us because Mathematics is not easy for some of us, as teachers, imagine how it feels for learners. **P2**

P4 and P5 revealed that the lack of collaboration was because of some teachers being comfortable working on their own. Only when the input did not meet the output did teachers feel the need for collaboration.

> When you teach Mathematics, you develop your own style and methods that your learners get used to, and then some collaborations demand that you change your methods and your learners then get confused, maybe that is why for some of us working alone is just normal. But we do consult with colleagues from time to time. **P5**

> Yes, we do consult from time to time, but I think we are just not used to it; you just get into class and do your thing. **P4**

The above data revealed that teachers were not used to the culture of collaborative practice and leaned to the traditional practices of working in isolation. This points to the need for school leadership to design structured programmes that allow for collaboration in the teaching of mathematics. Bature and Atweh (2019) emphasise that collaboration is

an effective tool for mathematics classroom instruction and teachers need to be trained in using this tool. Although Kafyulilo (2013) indicates that collaboration among teachers must never be forced, Leithwood, Harris and Hopkins (2019) also counter-indicate that the school leader has a greater influence on the teachers' collaboration to enhance classroom delivery. The learning-centred leader has a responsibility to develop mathematics teachers through fostering collaborative practices as one of the strategies to improve learner attainment in mathematics. The implementation of teacher development programmes seems rather challenging in rural schools than in any type of context (Gardiner, 2008). However, a learning-centered leader will use any means necessary to ensure that mathematics teachers improve in skills and content delivery with an aim to achieve the intentions of the subject at hand.

Building Bridges of Development through and for Learning-Centred Leadership

Through leading, communication and partnering with others, the school principal can use their LCL skills to develop mathematics teachers in the school. When asked about forming professional school partnerships with mathematics subject advisors, the principal revealed that he has relied on generic workshops that are provided by the Department of Basic Education (DBE) for all mathematics teachers for the development of teachers in his school:

> Teachers are often called to attend workshops usually according to their phases or per grade and then come back and give feedback to their colleagues so that they are on the page regarding the work. **SP**

> I have not built any working relationships with the subject advisors because they do have workshops with teachers and Departmental Heads, and they also have meetings here at school to develop one another. **SP**

The school principal remains at the centre of ensuring that mathematics teachers receive the relevant professional development, as the school leader. Some of the responsibilities of the school principal as learning-centred leader is to form equitable and sustained partnerships (Smith et al., 2022), and build school capacity for teacher learning (Huang, Pang & Huang, 2022). Sodiya and Hajiyeva (2022) assert that school principals as learning-centred leaders build bridges of teacher development through establishing trust, creating structures that promote teacher learning, and intentionally connecting their teachers to external expertise. According to Montecinos, Bush and Aravena (2018), there is a demand placed on school principals to ensure that schools deliver on quality curriculum delivery with mathematics at the helm of the school's measure of performance. Therefore the school principal's leadership practices have a much great influence on how they create, use and maintain professional relationships and partnerships that provide professional learning and development for mathematics teachers, particularly in rural primary schools.

Discussion of the Findings

Mathematics teachers, just like any other subject teacher, require continuing professional learning and professional development. The goal is to have teachers who are reflective practitioners, who can make informed professional choices regarding their delivery of mathematics as a subject. The data reveals that primary school mathematics teachers in

rural schools require constant and continuing professional learning as part of their professional development. Easton (2008) indicates that professional learning of teachers succeeds when there is continuous evaluation which is fused into their everyday practice. This calls for the use of learning-centred leadership by the school principal to ensure professional learning and development of mathematics teachers. Schools in rural contexts are confronted with multiple deprivations such as illiteracy, lack of education and poverty and which impact negatively on the provision and execution of quality education (Myende and Chikoko, 2014). Therefore learning-centred leaders will provide time and other resources to support professional development of all mathematics teachers in the school. Learning-centred leaders ensure to make the school a learning organization, not only for learners, but for teachers as well.

The findings further revealed that there was a lack of collaborative practice among mathematics teachers. The lack of collaborative practices suggests that the school leadership did not provide structured programmes and procedures making the culture conducive for collaboration among mathematics teachers. This finding further reveals that the teachers in question did not utilise all the assets at their disposal towards their own development through collaborative practice. To develop teachers, the school principal as a learning-centred leader, has a role to play in inducing collaborative practices among mathematics teachers as a form of bringing about change to circumvent a high failure rate in mathematics, particularly in rural schools.

Evidence from the researched school indicates that the school principal has a responsibility to build and maintain professional relations with relevant external stakeholders that would provide professional development for teachers in the school. The external stakeholders refer to people such as subject advisors to provide appropriate, customised professional development, tailored to the needs of the teachers and the school they work in. The learning-centred leader cannot function in isolation; they need interactions with subject advisors, teachers, learners and the context to promote their own effective learning-centred leadership. It is therefore important to build bridges for professional relations with people who are able to provide development for mathematics teachers. The school is supposed to be a learning centre under the leadership of a learning-centred leader who is able to provide relevant resources for mathematics teachers in the school to improve their teaching and learning skills for the overall development of the school. School principals are tasked with a crucial role of creating learning environments that aim to bring about change that is much needed in rural primary schools. Owing to the relationship between the school principal's leadership practices and school performance, through LCL, the school principal needs to produce desired results in the performance of mathematics in rural primary schools.

Conclusion

The school principal as a practitioner for LCL can build, change, and transform the school to benefit mathematics teachers, learners, and whole school development by organizing in-house professional development sessions. Meyers and Darwin (2022) assert that the provision of LCL can bring about a much-needed turnaround in rural schools regarding the underperformance in mathematics. One of the important elements of teachers' professional learning is that it connects work-based learning and external

expertise (Easton, 2008), this implies that the learning-centred leader connects teachers to experts that will guide, direct, motivate and encourage teachers in content and pedagogical knowledge of mathematics teaching. It is important that the content of professional learning and development offered to teachers is linked to their rural context (Preston & Barnes, 2017). Using LCL, the school principal needs to cultivate procedures, approaches and structures that will afford mathematics teachers to respond positively in unpredictable environments. Developing teachers through continuous learning and development, to enhance their capabilities in teaching mathematics, the school principal continues to make an investment for the teachers, learners and the school. Schools, particularly in rural contexts need strong school leadership to guide and motivate teachers to learn to collaborate with one another to develop teachers and improve mathematics teaching and learning.

Recommendations

This paper recommends customised mathematics professional learning for teachers which is tailored to the needs of the school. This can be accomplished through learning-centred leadership by the school principal, by means of outsourcing expertise from external relevant stakeholders and creating an atmosphere that is conducive to collaboration. The teaching and learning of mathematics thrive with collaboration (Calder, Jafri & Guo, 2021). Therefore the school principal has to promote collaborative practices among mathematics teachers to learn from each other mathematical concepts and methods. This paper also recommends timeous, regular and appropriate professional learning for rural primary school teachers to compensate for a formal mathematics qualification, to enhance their content and pedagogical knowledge and to build capacity for their teaching of mathematics.

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TEACHERS' PERCEPTION ON LEADERSHIP STYLES USED TO IMPROVE TEACHING AND LEARNING IN SOUTH AFRICAN SCHOOLS

[1]Nana Agyeman & [2]Israel Kariyana

Walter Sisulu University,
[1]Queenstown Campus,
Department of Curriculum Studies

Abstract

The study investigated the perception of teachers about leadership styles used to improve teaching and learning. A case study design was used with selected participants from four schools. Four educators and four heads of the department were purposively selected. Semi-structured interviews were used to record interviews and data was thematically analysed. Permission to collect data was sought from schools and participants. Findings revealed how leadership style contributes to improved teaching and learning and that no one leadership style is effective for all situations. The study concluded that no leadership style is effective for all situations, but the leader's ability to adopt an appropriate leadership style is what matters. To improve teaching and learning leaders have to put in place measures that promote a positive climate. Therefore, this study recommended the use of a contingency leadership approach in dealing with school challenges and the involvement of other stakeholders in decision-making.

Keywords: Leadership style, Teacher's perception, Teaching, learning, Contingency theory

Introduction

Globally, there has been a noteworthy theoretical and empirical conceptualisation of leadership styles and organisational performance. In the past decades, studies on how leadership styles influence the performance and achievements of organisations have gained a heightened interest amongst scholars and practitioners in leadership (Akparep, Jengre, & Mogre, 2019). This study acknowledges that leadership is one of the fundamental driving forces for improving the quality of education, teaching and learning, and student performance. It is generally assumed that the type of leadership style used in schools, to a large extent, determines the impact of the achievement of educational goals and performance. Carswell (2021), in his study about school leadership, found that school principals play an instrumental role in influencing instructional activities, student achievement, and teaching and learning in schools. Strong leadership in schools serves as a catalyst for a ripple effect that ensures that improvement and intervention plans are initiated.

Leadership is described as an individual's ability to influence people to improve their performance and commitment which allow them to be the central point of transformation, value creation, transfer, and realisation of shared objectives (Chitiyo, Seo & Ogbonnayo,

2021). Egdie and Andala (2020) describe school leadership as a process of influencing the behaviour of teachers and learners as well as their activities towards achieving shared goals and objectives. In schools, teaching and learning are regarded as important aspects of education. As such, the leadership style and process are fundamental in ensuring that the vision and purpose of the school are achieved through the creation of the school leadership process (Egdie & Andala, 2020). In the context of schools, the quality of teaching and learning is influenced by the leadership style that is used to engage and interact with teachers and learners. Thus, how school leaders relate with teachers and students is a critical factor in determining the school climate, policy implementation, and teachers' and learners' motivation.

According to literature, school principals are expected to produce positive achievements, provide solutions to issues of followers, and ensure that instructional activities are managed effectively (Chitiyo, Seo, & Ogbonnaya, 2021; Kemetheofer, Helm & Warwas, 2022; Thabo & Makoetie, 2020). This is achieved through an effective leadership style with an effective mode of communication and shared expectations, and with a focused energy that ensures that individuals function and participate in decision-making. Leadership styles are usually adopted by school principals and leaders to improve educational outcomes in schools (Carswell, 2021). The ability of school principals to adopt the right leadership style in the right context to improve teaching and learning in schools is very critical. Leadership is one of the fundamental driving forces for improving the quality of education, teaching and learning, and student performance.

It is generally assumed that the type of leadership style used in schools, to a large extent, determines the impact of the achievement of educational goals and performance (Akparep, Jengre, & Mogre, 2019). There are various leadership styles that could be adopted by school leaders to turn around underperformance to high performance in schools. However, it is important to recognise that achieving a successful adaptation of a particular leadership style is not exclusive to the leadership style being used but is dependent on a number of factors. How successful a leadership style depends on factors like the effectiveness of the leaders, the context of the school, and the problem that it intends to address. School principals receive more commendations for taking decisions that enhance the quality delivery of education in schools (Kemetheofer, Helm, & Warwas, 2022). At the same time, they are also held responsible for improved performance, and underperformance of their students. As a result of this, some significant autonomy is given to the principals to act and take decisions that increase the fortunes of the school. Within their sphere of influence, they are expected, not only to be effective as administrators and managers but also to adopt the right leadership style that improves their instructional responsibilities.

The understanding of leadership styles in schools is influenced by how well the principal feels comfortable with it, as well as how it improves the school climate in a way that promotes teamwork and collaboration. Thabo and Makoetie (2020) argue that the context of the school plays an important role in the extent of the effectiveness of a particular leadership style. The study found that school leaders in performing schools were more likely to succeed than their counterparts in the underprivileged environment. More so, the exercise of the effectiveness of a leadership style is dependent on how the principal's

leadership style is accepted by teachers and students. There seems to be a clear indication that choosing the appropriate leadership style, to a large extent, determines the quality of instructional activities in the school. Thus, this study is of the view that effective leaders are able to adapt and vary leadership styles to improve teaching and learning schools when needed.

Though there have been significant literature and research works that focused on the role of leaders and leadership styles in schools, little attention has been given to leadership styles and how they improve teaching and learning in schools. The objective of the current study is to explore the perception of teachers on the school leadership styles that are employed to improve teaching and learning in schools in South Africa. This article will first examine the theoretical framework that underpins the study, and then, carry out a thorough review of literature guided by the research questions. The study will further attempt to show how leadership styles are used to improve teaching and learning in schools to an increase student performance.

Problem Statement

School leaders play an important role, not only in offering quality education but also in contributing to the improvement of teaching and learning in schools. Many scholars have, however, expressed concern about the quality of education offered in schools, the role of leaders in school, and more importantly, the leadership style that are used in addressing problems as well as improving teaching and learning. However, little attention has been given to leadership styles and how they improve teaching and learning in schools. Therefore, the goal of this study is to explore the perception of teachers on the school leadership styles that are employed to improve teaching and learning in schools in South Africa.

Research Questions

The overall aim of this study is to find out how teachers perceive school leadership styles and the impact they have on teaching and learning in schools. Within the scope of this purpose, the following research questions will guide the study:

a. What are the leadership styles used in schools to improve teaching and learning?
b. How has the application of the leadership style helped to improve teaching and learning in your school?

Literature Review

Leadership Styles Used in Schools

Leadership style plays a significant role in the improvement of teaching and learning in schools. Leadership has been described by Akparep, Jengre and Mogre (2019) as the lifeblood of any institution, and its significance cannot be over emphasised. According to this study, leadership style is the approach that leaders use to exercise their leadership responsibilities. Many research works conducted on school leadership clearly reveal that many leadership styles are used to improve the quality of education, as well as teaching and learning in schools. In the next section, this study will examine some of the school leadership styles.

Democratic Leadership Style

Democratic leadership, which is also known as participatory leadership, is a kind of leadership that allows the participation of its members in decision-making (Akparep, Jengre, & Mogre, 2019). This style of leadership primarily focuses on the performance of the followers and encourages them to participate in the organisation's decision process. School leaders find it crucial to get the involvement of all teachers for commitment and improved performance from teachers and learners. Pinninton and Tourish (2017) conceptualise democratic leadership to be completely different from power, authority, and positions. The study proffers democratic leadership to be the performance of three distinct functions. These include distributing responsibilities to followers, empowering team members, and supporting the decision-making process of the group. This ensures that there is synergy and effective group dynamics.

Harris and Chapman (2017) reveal that the use of democratic leadership approach can lead to sustained school improvement and transformation. However, Akparep, Jengre, and Mogre (2019) in their study argue that there is a high probability that decisions that are taken under this style maybe of poor quality. A study conducted by Makgato and Mudzaniani (2018) claim that the commonest leadership style used in schools is the democratic leadership style. This leadership style is characterised by the strategies of having a vision, facilitating group work, involving employees in decision-making and setting goals. These traits of the democratic leader are used to improve the quality of education. However, the study also found out that there is no direct relationship between a particular leadership style and student performance, especially as leaders may decide to adopt a variety of leadership styles to improve teaching and learning.

Transformational Leadership Style

Ellen and Emmanuel (2022) describe transformational leadership as leaders who are proactive and focus on motivating and inspiring employees to take up responsibilities and future roles of leadership. This leadership style allows for commitment, improves production, group dynamics and rapid realisation of the vision and objectives of the school (Ellen & Emmanuel, 2022). In the school context, Duraku and Hoxha (2021) established in their study that transformational leadership styles and practices used by school principals foster improved teaching and learning climate. This, potentially, leads to both teachers' and students' commitment to teaching and learning. In addition, the ultimate objective of a transformation leader is to positively affect people and the organisation.

Transformational leaders focus on making people more creative and innovative and taking risks for the achievement of tasks in the organisation (Makgato & Mudzaniani, 2018). In addition, transformational leadership is considered to relate to subordinates' ability, creativity and desire to be innovative in their attitude towards work. This leadership style is seen to have an influence on the views of teachers on the school environment, their devotion to change and how they view the progress of teaching and learning.

Transactional Leadership Style

Transactional leadership has been described as a method which instils in followers a common vision for the success and improvement of the organisation, a greater commitment in pursuance of shared goals through improved teamwork among the various actors (Jung & Sheldon, 2020). This leadership focuses on the positive and negative outcomes of employees by way of the extent to which goals have been achieved (Ellen & Emmanuel, 2022). It is seen to have a reactive nature, appeals to the interest of the leader, emphasises result, and is reliant on self-driven individuals. They use exchange to motivate followers. It has been found to give room for the competency and expertise of employees. Transactional leadership style has to do with a wide range of behaviours of the school leader.

A study conducted by Egdie and Andala (2020) found evidence of school principals using transactional leadership styles to influence the commitment of students and teachers. The research also revealed that school principals adopt transactional leadership styles in order to provide contingent rewards and punishment to employees when it is necessary. It has been argued that the transformational leadership style develops the climate for educators and learners to continuously engage in learning via collaboration with other peers around the shared vision and goals (Pena-Acuna, 2017). More so, transformational leaders focus on maintaining control, monitoring the performance of individuals, the productivity of followers, and task requirements (Makgato & Mudzaniani, 2018). However, Pena-Acuna (2017) found that transactional leadership is often positively associated with creativity, innovation and organisational culture.

Autocratic Leadership Style

Autocratic leadership, which is also known as authoritarian leadership, is an approach whereby decisions are solely made by the school principal (Akparep, Jengre, & Mogre, 2019). Autocratic leadership style is described as leaders who have little belief in their followers and subscribe to motivation through fear and punishment (Pena-Acuna, 2017). The autocratic leadership style is considered a classified leadership style where the leader is the most significant entity and the source of primary decision-making (Basit & Hassan, 2019). It is primarily centred around the traditional premise which says that leaders are effective managers who direct and control their followers. These leaders are noted to believe only in a top-down approach to communication and engagement, giving limited decision-making with higher levels to employees (Pena-Acuna, 2017). They only allow limited or no involvement of teachers and learners in decision-making. They are found to be characterised by task-orientedness. As such, teachers and staff have little room to negotiate or use their initiative.

Research conducted by Egdie and Andala (2020) reveal that the autocratic leadership style entrusts power and decision-making only in the hands of the leader. Such leaders have traits like (a) not believing in consultation with followers during decision-making, (b) ensuring that policies are strictly followed by employees, and (c) giving instruction that must be adhered to. The assumption for using the autocratic leadership style is that followers are more likely to be committed to leaders who utilise this leadership style (Basit & Hassan, 2019). The leader exercises power by monitoring, with minimal trust or

confidence in employees. The autocratic leadership style, unlike other leadership styles, does not instil the mentality of learning, which is vital to improving proactive behaviour among followers (Dyczkowska & Dyczkowski, 2018). In addition, its lack of consultation with employees may result in opportunities being missed, with risks being underestimated.

Distributed Leadership Style

Distributed leadership involves critical interactions between the principal as a leader and teachers on issues regarding teaching and learning (Sol, 2021). The study is of the view that effective school leaders have to include other leaders who will take up leadership responsibilities in different aspects of the school. Distributed leaders demonstrate a high degree of confidence in employees, and motivate them through rewards and punishment (Atasoy, 2020). They allow a two-way mode of communication between them and employees. They are usually characterised by general decision-making at higher levels, and allow constructive use of ideas and views of followers (Kemetheofer, Helm, & Warwas, 2022).

One important theoretical conceptualization of distributed leadership argues that leadership is not an exclusive domain of one person, but should reside in a group of people (Williams, 2021). According to this view, whereas other leadership styles place importance on the agency of one employee, distributed leadership gives credence to the social dynamics that come from the combined agency of communication and sharing of initiatives, responding to and building on creativity and practicality. Distributed leadership style as a construct promotes the attainment of the goals of the school, the professional development of teachers, efficient learning, and the increase of productivity (Lahtero, Lang, & Alava, 2017). Whilst there is no clear definition of distributed leadership, its occurrence can be observed from an axis of the formal structures of the school. Typical examples of this are the management teams and certain tasks that are delegated to other people by the school principal.

Instructional Leadership Style

Marinette (2020) defines instructional leadership as the process where leaders provide a positive climate for teachers and learners to effectively engage the curriculum for improved teaching and learning. Conversely, it can also be described as how a leader provides direction, resources and support for enhancing the commitment of teachers and students in schools (Pinninton & Tourish, 2017). The role of instructional leadership in teaching and learning cannot be overemphasised. Jung and Sheldon (2020) in their study indicate that the role of instructional leadership has a profound impact on student achievement more than other types of leadership styles and models. This is because they make teaching and learning their core responsibility, which enhances students' learning.

Instructional school leadership, as a leadership approach, contributes directly to the improvement of instructional activities in the school by providing meaningful feedback relating to pedagogy, content and standards as well as sustaining a culture of teaching and learning (Fuentes & Jimerson, 2020). Marinette (2020) identifies instructional leaders to be effective because they are able to think beyond current teaching and learning practices that can initiate change and transformation in the school. Instructional principals take

necessary measures to promote, not only teaching, but also educational outcomes and students' growth. This is supported by Ingersoli, Siriniders, and Dougherty (2020) who confirm that instructional leadership improves and strengthens teaching and learning, empowering teachers and students as well as putting in place measures that improve the overall quality of education in schools. However, Munna (2021) claims that instructional leadership style has not been adequately explored in the context of high school education. Therefore, it has not undergone any critical analysis to show how it influences teaching and learning in school. Atasoy (2020) suggests that this could be attributed to the rapid changes in school settings.

Contingency Leadership Style

Arenas, Conelly, and Williams (2021) describe ccontingency leadership style as when leaders are effective in instances where they exercise their leadership capacities to match their leadership style within a particular setting or context. Contingency leaders adopt their behaviour according to a particular situation. These leaders are able to master all the leadership styles in an organisation, and are able to identify them, and know when to use them appropriately (Tabrizi & Rideout, 2019). They utilize known leadership styles that are deemed appropriate to the desired situation and ensure the achievement of goals. The concept of contingency leadership focuses on aligning the force to the reality of current situations (Maisyyaroh, Imron, & Juharyanto, 2019). They adapt to any change by supporting and giving directions to their followers in accordance with a given situation and the degree of their motivation (Ghazzawi & Choughri, 2017).

Contingency leaders understand that not all leadership styles may effectively work under all conditions, times, and places (Tabrizi & Rideout, 2019). Therefore, they become experts, with enough knowledge and experience to know how to formulate objectives that improve the organisation. For contingency leadership to be successful, the leader must become task-oriented and relationship-oriented (Ghazzawi & Choughri, 2017). More so, because they understand that no one leadership style is effective in all situations, they blend task behaviour with commitment towards work and relation behaviour.

Laissez-Faire Leadership Style

The term 'laissez faire' is a French phrase that means 'let it be', and is also synonymous with 'hands off '. This leadership allows its followers to carry out their tasks and functions with their initiative, and without being ordered to follow certain policies or procedures. Laissez-faire leadership style is a leadership approach whereby the leader adopts an indifferent approach to employee's welfare, work, and the demands of the organisation (Ellen & Emmanuel, 2022). This allows employees to use their initiatives and creativity to make decisions with regard to their work (Egdie & Andala, 2020). However, this style of leadership has been found to give a leeway for unethical behaviour, moral deterioration of students, employees' degradation, and poor quality delivery of teaching and learning (Khan & Nawaz, 2016). Akparep, Jengre and Mogre (2019) argue that leaders who have no belief in their leadership abilities are the ones who use this leadership style. The study further claims that laissez-faire leaders do not ascribe to the development of employees, as they claim that followers can develop themselves.

The Importance of Leadership Style in Improving Teaching and Learning

There is substantial evidence of literature that suggest a connection between the abilities of school leaders and their impact on the achievement of educational goals and the performance of students (Webster & Litchka, 2020). School leaders play a critical role because they require leadership to develop and provide direction for teachers' work, and maintain the change that improves students learning experiences (Aas & Vennebo, 2021). Without the active involvement of the leader, it becomes difficult to achieve active support from staff and students at all levels for high achievement. Literature review indicates that leadership does not only strive to achieve students' performance, but also provides inspiration and guidance for both teachers and students (Darmiati, Kristiawan, & Rohanna, 2020). In particular, the study argues that strong leadership can influence members to become trustworthy, loyal, and motivated to carry out their functions effectively.

Tan (2018) ascertain that school leadership is one of the influential indicators that predict the quality of education and students' achievement. Furthermore, there is a consensus from literature which clearly shows that school leadership influences teachers' commitment to the achievement of students through the intervention of improving the school and classroom environment (Carswell, 2021). This is critical because school leaders who serve as instructional leaders are not more responsive to students' needs, and do not embrace the primary purpose of education which is a holistic development of the student (Veletic & Olsen, 2021). According to Veletic and Olsen (2021), an important feature of instructional leadership is an improvement in instruction, teaching and learning through the principal's direct relationship with teachers and students.

School leaders play a key role in providing the right atmosphere for effective teaching and learning practices as well as improving achievement (Jung & Sheldon, 2020). Their actions have been found to motivate the willingness of both teachers and learners to collaborate in a way that impacts the school culture, as well as fundamentally shapes the goals and objectives of the school. Webster and Litchka (2020) argue that effective leadership in schools promotes good ethics and professional norms that foster a positive climate for teaching and learning, academic success and the well-being of students. Ingersoli, Siriniders, and Dougherty (2020) disclose that schools that are performing well invariably focus on improving the school environment as well as developing a shared purpose and vision among staff and students. The study further argues that leaders promote a climate of trust, respect and teamwork, fostering high and consistent achievement standards, providing objective and useful assessment of quality teaching and learning in schools.

Research on school leadership has shown that the role of school leaders is pivotal because they set the culture, vision and curriculum expectations, which help to improve teaching and learning in schools (Leahy & Shore, 2019). As such, efforts should be put in place to develop leaders for them to be effective in their roles. Leahy and Shore (2019) further argue that school leaders' ability to promote positive relationships, trust, interpersonal skills, and have the interest of teachers at heart help to create a positive climate for teaching and learning in the school. Veletic and Olsen (2021) are of the view that, for

leadership to improve teaching and learning, leaders must develop a sense of autonomy and neutrality in learning and instructional practices as well as in focusing on the development of teachers.

For school leadership to be optimised, a review of the literature clearly points to the fact that leadership in schools needs to be developed and supported for improvement in practice. Veletic and Olsen (2021) discovered in their study that improving school leadership contributes immensely towards improving teaching and learning, creating a safe environment, supporting teacher interactions, providing resources, and improving education in general. Improving leadership practice ensures that good leaders lead by example that models teacher professional behaviour and sets a measurable standard of performance for teachers for effective teaching and learning (Leahy & Shore, 2019). Effective school leadership plays a crucial role during the crisis by engaging in effective communication, facilitating normalising challenging conditions, being flexible and adaptive to challenges and being empathetic to the wellbeing and health of teachers and learners (McLeod & Dilsky, 2021). The ability of the school leader to effectively adopt crisis management in times of pandemic is very vital in the school as a community for improved teaching and learning.

Measures to Improve School Leadership for Teaching and Learning in Schools

For school leaders to be able to execute their roles and responsibilities effectively, it is important that certain measures be put in place. For leaders to be effective, Fuentes and Jimerson (2020) suggest that leaders should go through developmental programs and standards for educational leadership that are designed to focus on improving the school leader's instructional role. However, Leahy and Shore (2019) are of the view that principals that are effective in the promotion of teaching and learning should be praised, and given the necessary recognition and professional promotion for the ultimate achievement of students and the sustainability of the school in future. Contrastingly, Basit and Hassan (2019) argue that, instead of depending on only the school principal as a leader, schools should rather form a community of leaders that promote teamwork, collegiality, taking of risks, and fundamentally, improving the growth of the school.

As a social reality that is reflective of all human institutions, understanding of leadership is gradually changing as well as all social aspects of the workplace (Karadag, Aksal, Gazi, & Dagli, 2020). To improve leadership at the workplace, Jung and Sheldon (2020) submit that leaders should be encouraged to share responsibilities and collaborate with other people in accomplishing the vision and goals of the school. They argue that this, tremendously, reduces the burden and the responsibility of the leaders. Darmiati, Kristiawan, and Rohanna (2020) claim that involving others in leadership with the leader exercising supervision and control enhances the effectiveness of the leader's role, especially towards improving quality teaching and learning in schools. Leadership has undergone a dynamic paradigm shift, that is, where leadership and power used to reside in the domain of one person to a situation where leadership responsibilities are expected to be shared by many people (Williams, 2021). This, therefore, questions leadership styles like autocratic, transformational, and transactional leadership which lay emphasis on the agency of one-person. This is as opposed to distributed leadership, which is a

democratic, consultative, and participatory leadership that improves the social dynamics of the combined agency of people who take decisions together (Williams, 2021). To a great extent, this leadership style promotes social cohesion, and helps to respond to the needs of the school.

Webster and Litchka (2020) are of the view that measures like preparing and supporting school leaders to upgrade and further their qualifications in educational leadership, administration and management have been found to be helpful. Notable, it makes them to develop their leadership competencies immensely. Leadership training and programmes are critical for leaders to be effective in their roles (Corales & Peters, 2017). According to this study, the aim of training programs is to prepare and empower leaders with the needed skills and competency to be effective. Furthermore, leadership preparation programs are to prepare leaders to be successful in their responsibilities as well as become a positive agent. Similarly, Lee, Douglas, Zeng, Lopes, and Reyes (2022) assert that leaders who are inspired and energised as agents of change have the likelihood of engaging in continuous professional development and innovation. This act has the potential to impact their instructional activities in the school and the overall goal of the school.

Literature highlight that school leaders need knowledge and skills in order to identify challenges, and introduce new ways to improve educational outcomes through building human interaction, building relations and social cohesion in the school (Carswell, 2021). This is because relational leadership strengthens teachers at different levels and positions to effectively participate in decision-making and introduce changes in the school (Lee, Douglas, Zeng, Lopes, & Reyes, 2022). Contrastingly, McLeod and Dilsky (2021) argue for the need for leaders to pay attention to the social and emotional concerns of teachers and learners during a crisis by applying crisis management, particularly as applying crisis management in schools significantly helps to promote a sense of safety, calmness, connectedness, and hope for staff and learners.

Theoretical Framework: *Contingency (Situational) Leadership Theory*

Contingency theory, as proposed by Greenleaf in 1977, recommends that no particular leadership style alone can resolve all the school challenges (Khan & Nawaz, 2016). The contingency leadership approach highlights that different situations and context demand different leadership styles (Kalkan et al., 2020) as the leadership style used is dependent on factors such as the quality, situation of the people and other variables. This theory proposes that there is no right approach to lead because the school environment demands that the leader adjusts to that situation. In most instances, leaders do not vary, only the dynamics and context, and employees within the organisation change.

Generally, situational theories are categorised as the behavioural theory assumes that there is no one way of leading an organisation, and that the leadership style which is being used in some instances may not be operative (Kalkan, Aksal, Atasoy, & Dagli, 2020). Advocates of situational theories presume that the leader is the focus of the leader-follower relationship. Thus, the followers play a critical role in giving meaning to this relationship. Although contingency leadership focuses mostly on the leader, it also ascribes importance to group dynamics (Atasoy, 2020). These scholarly literatures on the

relationship between leaders and groups have resulted in recent development in theories of leadership and group dynamics.

The contingency theory of leadership thus advocates that a leadership style should align with the maturity of the followers (Sana, 1979). The contingency leadership theory, which was first conceptualised in 1969, proposes that there is no better way to lead; and for school leaders to be effective, they must be able to adapt to the current situation and vary their leadership style between relationship-oriented and task-oriented.

Methodology

The study adopted a qualitative approach because the aim of the study is to investigate the leadership styles used to improve teaching and learning in South African schools. The case study design was adopted because the study wanted to investigate and understand the perception of teachers about the various leadership styles used in their schools to improve teaching and learning. The total sample for the study was 8 teachers (4 teachers and 4 Heads of Department) who were purposively selected from four schools in the Eastern Cape Province of South Africa. Each of the four educators and four HODs were selected from the four selected schools.

The data collection instrument used in this study was an in-depth interview which sought the understanding of teachers' views of leadership styles used in their schools and how they influence teaching and learning. Before the interviews, the researcher explained to participants the different leadership styles that are used in schools. This was to help participants identify which leadership style is being used in their school. To ensure data trustworthiness, the study was ethically cleared by the Provincial Department of Education in the Eastern Cape before the study was embarked upon. Data trustworthiness of the study was also ensured through member checks. The respondents were given a pseudonym with the aim of the participants remaining anonymous. As such, ED1-4 referred to educators, whilst HD1-4 referred to the HODs from the four schools selected. Furthermore, participants were given the opportunity to review the correctness of data obtained from them. The data were categorised into themes and analysed using thematic analysis. That is, the data collected were analysed by common themes and patterns.

Findings

To understand leadership styles used in schools and how they improve teaching and learning in schools in the Eastern Cape Province of South Africa, participants responded to the interview questions. The results of the study are presented according to the emergent themes from data analysis. These identified themes are supported by relevant and precise quotes from the respondents. The emergent themes which are analysed in the context of participants' perceptions, views, and realities, are presented in the subsequent section.

Leadership Styles Used in Schools to Improve Teaching and Learning

Principals adopt a leadership style depending on a number of contextual factors. To get these leadership styles, the respondents were asked the question, "What are the leadership styles that are used to improve teaching and learning in schools?" Responses from the

study indicated that a good number of leadership styles are used in schools to improve teaching and learning.

Theme 1: Democratic, Autocratic and Laissez-faire Leadership Style

The responses from participants were varied. Most of them responded that democratic, autocratic, and laissez-faire leadership styles are primarily used to improve teaching and learning in their schools. For instance, participant ED1 responded that democratic and autocratic leadership styles are used, by saying, "*To answer the question, we use both democratic and autocratic leadership styles. However, these are used depending on the situation at hand".* To ensure that everybody in the school participates in decision-making, participant ED2 responded,

> "*The democratic leadership style is used in my school to improve teaching and learning, whereby everybody has something to say. Everyone's opinion is not taken for granted. We also seldom use a top-down approach where you will be told what to do".*

Participant ED3 concurred by pointing out that,

> "*The leadership we use is the democratic and affiliative leadership style. Democratic leadership style allows human relation among teachers that creates a positive environment or condition for teaching and learning".*

However participant ED4 simply responded by saying, *"We use autocratic."*

Theme 2: Distributive Leadership Style

Responses from a few participants indicated that distributive leadership styles are used in their schools to improve teaching and learning, by sharing leadership responsibilities with other employees. This is to ensure that the burden on leaders is not only reduced, but also shared among others. Responses from participants generally indicated that this leadership style is used to develop new leaders for responsibilities and leadership positions. Responses from participant ED3 indicated that consultative and distributive leadership styles are used when leaders consult teachers in decision-making, asserting that,

> "*the leadership we use is the consultative. Thus, the principal as a leader consults us, the HODs and the SMTs, in many of the decisions. This is also known as distributive leadership because it makes leaders to delegate and share responsibilities."*

Theme 3: Participatory and Delegative Leadership Style

To ensure the involvement of teachers in leadership processes and decision-making, responses from a few of the participants indicated that their schools use participatory and delegative leadership styles to improve teaching and learning. For instance, participant HD 1 pointed out, "*First, the leadership style we use include participatory, delegative, and laissez-faire leadership styles. These leadership styles make us to work as a team for the betterment of our school".* However, participant HD2 disagreed by responding that different leadership styles are used depending on a number of factors. Participant ED2 argued that

> "*Just as schools are different, so also are leaders with different leadership styles. There are strong and weak leaders, based on how they choose to lead. With leadership, what is important is consistency, monitoring and evaluation. These are key roles of a leader.*

Theme 4: Laissez-faire Leadership Style

Responses from some of the heads of departments indicated that a laissez-faire leadership style is used in their schools to give teachers the room to take initiative about their work, instead of being directed or controlled by leaders. Participant HD1 responded thus, "*First, the leadership style we use include participatory, delegative, and laissez-faire leadership styles. These leadership styles make us to work as a team for the betterment of our school'.* Participant HD4 concurred by pointing out that laissez-faire is used in addition to other leadership styles. Participant HD4 claimed, "*I see only one style of leadership which is the laissez-faire among most of the leaders in this school. Sometimes we also use the delegated leadership style to blend laissez-faire leadership style".*

Discussion

From the findings presented, there seems to be a common understanding from the participants' responses regarding leadership styles that are used to improve teaching and learning in schools. The majority of the participants are of the view that no one particular leadership is used in all instances in schools. But different leadership styles are adopted as a way of improving teaching and learning. Most of the participants responded that the commonest leadership styles used in their schools include democratic, autocratic, laissez-faire, participatory, delegation, consultation and contingency leadership styles, depending on the context and circumstances. The contingency leadership style, which entails adopting different leadership styles according to context and the school environment, proposes that there is no one right approach to lead, because the school context from time to time may demand that school principals adjust to evolving situations (Kalkan, Aksal, Atasoy, & Dagli, 2020). First, this implies that it is important that school principals understand these leadership styles and when to use them. Second, it is crucial that leaders understand what objective they seek to achieve. The contingency leadership style supports this by indicating that different situations require different leadership styles (Kalkan, Aksal, Atasoy, & Dagli, 2020).

Also, the responses from the participants indicated that whilst school leaders play a significant role in improving the quality of instructional activities, it is noteworthy that they need the participation and involvement of other staff members and teachers to improve social cohesion and commitment in the school. Involving others in leadership responsibilities means that the school principal, as a leader, must be able to share and assign tasks to others as well as share their leadership responsibilities according to the behaviour and maturity of people (Sana, 1979). Atasoy (2020) concurs by pointing out that distributing and delegating responsibilities to others show a clear sign of the confidence that the leader reposes in others. As a result, individuals who share leadership responsibilities become motivated, committed, and responsive. Makgato and Mudsaniani (2018) assert that leaders who focus on involving others in leadership functions make them become more creative and innovative in taking calculated risks for the achievement

of the goals and visions of the school. For leaders to achieve significant improvement in teaching and learning, it is important that they do not only share and delegate responsibilities to other people, but they should also actively involve others in decision-making that affects them and the school.

Most of the teachers and heads of departments interviewed concurred that the leader and the leadership style used in schools are instrumental in ensuring that teaching and learning are improved. This suggests that, although sharing of responsibilities by the leader comes with its inherent advantages, it is, however, important for school leaders to understand that they are to be held accountable for distributing and delegating responsibilities. Thus, it is imperative that the leader undertakes the responsibility of monitoring and supervising the responsibilities assigned to others. Whilst Harris and Chapman (2017) concur that the leadership approach of involving others in leadership is key to improving teaching and learning, the study also argues that it is important that the leader plays a facilitating, supervisory, and monitoring role so as to ensure effective decision-making and the setting of goals and strategies. In essence, the leader should play a proactive role by supervising and monitoring responsibilites that have been assigned to others. On the contrary, Webster and Litchka (2020) argue that effective leadership in schools should focus on promoting good ethics and professional norms that foster a positive climate for teaching and learning, academic success, and the well-being of students.

Limitations of the Study

This study used the qualitative approach to investigate school leadership styles that are used to improve teaching and learning in schools. The study relied only on one research instrument which was a semi-structured interview to explore the research aim of the study. It would have been more beneficial if more methods were used for generalisation. Secondly, more instruments could have been used for triangulation in the study. Lastly, this study only interviewed teachers in the selected schools. The study could have been improved by increasing the sample size and the number of participants interviewed.

Conclusion

The study found that there is no single leadership style that is perfect for all situations in the school. However, the effectiveness of any leadership style adopted or used in schools is dependent on the context and the nature of the problem that the leadership style attempts to address. Moreso, improving teaching and learning in schools requires that school leaders adopt a leadership style that promotes a positive climate which supports teaching and learning in schools. Hence, it is found that the use of certain leadership styles like transformational, consultative, delegated, and participatory leadership should be promoted as they contribute to the improvement of conducive environment for teaching and learning.

Whilst the instructional activities and improvement of teaching and learning are the main roles of school principals, it is, however, important that a school leadership style is adopted that shares leadership responsibility with other teachers and staff to reduce the leadership burden on the principal, and at the same time involve others in decisions that

seek to improve teaching and learning in schools. Notwithstanding that, school leaders are expected to search for an effective leadership style that improves teaching and learning. In this sense, it is considered expedient that, they should adopt a leadership style that seeks to give the audience to handle teachers' and learners' grievances. This as the study found out is significant to improve the morale and commitment of teachers and learners.

Lastly, the study found that parents are expected to play a crucial role in teaching and learning, as well as the school in general. As such, the study found the need for Parental involvement in school administration to be promoted in a manner that ensures that their roles in the school become essential for the effective management and leadership of schools. This is especially important when it comes to influencing learners to be committed to their studies. The study found it expedient that, school leaders should vigorously involve parents in teaching and learning, the discipline of teachers and learners and in other areas of the school management and administration. Parental involvement in schools even becomes more imperative, given the fact that most schools are faced with a high rate of indiscipline among learners and teachers. Thus, a high rate of indiscipline in schools to a larger extent affects the quality of teaching and learning in schools. It is, therefore, beneficial that school leaders should not only put in place measures that seek to control indiscipline but should also bring parents on board about dealing with and managing indiscipline behaviours in the school.

Recommendations

The study investigated the leadership styles that are used to improve teaching and learning in schools in South Africa. Thus, the following recommendations are hereby presented:

- Since there is no single leadership style that is a panacea to all situations in the school, firstly, it is important that school leaders understand the various leadership styles and their implications on the school; and secondly, understand the school context in order to be guided when adopting a particular leadership style.
- Adopting a leadership style that allows leaders to share their responsibilities and take joint decisions is recommended to be used in schools, as it makes both teachers and learners be committed to the goals of the school, as well as the goals of teaching and learning.
- To improve teaching and learning in schools, this study recommends that school leaders promote a positive climate in the school environment that fosters improved teaching and learning.
- The role of parents in their children's education is highly instrumental, especially as they spend more time with them. As such, schools must find effective ways of involving parents in the day-to-day leadership and administration of the school.
- Indiscipline in schools amongst both teachers and learners potentially affect the quality of teaching and learning in schools. School leaders should put measures in place that mitigate indiscipline in any form in schools.
- As it has been found in the study that no one leadership style is perfect for all situations, it is important that school leaders should search for and adopt a leadership style for different challenges.

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MANAGING EDUCATIONAL AGENCIES FOR SOCIO-ECONOMIC AND POLITICAL DEVELOPMENT IN THE 21ST CENTURY

[1]Ajimuse, Muyiwa Sunday, [2]Ajewole I Philip
[3]Adesanya Esther Olaide & [4]Babalola, Oludare Ezekiel

[1,2,3&4]Department of Educational Management and Business Studies
Federal University Oye Ekiti, Ekiti State, Nigeria

Abstract
Educational agencies are the mechanisms through which a country's education system is controlled, monitored, funded and fed with the aim to achieve the defined objectives and goals. Efficient management of educational agencies in a country, therefore, is a paramount factor. In this regard, this position paper discussed managing educational agencies for socio-economic and political development in the 21st century. Examined in this paper are the definitions of the basic concepts, the educational agencies in Nigeria, factors affecting socio-economic and political development, as well as their contributions towards socio-economic and political development. Also, the roles and the challenges of these agencies are critically examined. The theory of modernisation was adopted for the study. The paper provided some suggestions considered necessary to manage the educational agencies in other to attain socio-economic and political development.

Keywords: Education, Educational agencies, Socio-economic development, Political development, Theory of modernisation.

Introduction

Socio-economic and political developments are the twin major factors that determine the categorisation of a country as developed, developing or underdeveloped. Indices of these factors are social benefits enjoyed by citizens of the country, such as equitable distribution of the national wealth, per capital income in term of Gross Domestic Product (GDP), education, health and technological advancement. In other words, the larger percentage of a country's education should be beneficiaries of the social benefits. Kostas and Ioannis (2013) identified the three dimensions of development as economic, social and political which an effective public sector promotes. The social benefits cannot be fully enjoyed by the larger percentage of a country's population without positive attitude of the government at all levels, to education, in terms of its funding and proper management through the educational agencies. Educational agencies are the government established instruments used to ensure proper management, monitoring and implementation of the short and long term goals of education in the country. Educational agencies are responsible for monitoring, evaluation, management and giving of reports to the government on the activities of the educational institutions within their jurisdictions. Their establishments are to ensure proper compliance to the rules and regulations guiding the purposes of the educational institutions. Unfortunately, educational agencies in Nigeria have been unable to maximally achieve the purposes of their establishments due to numerous problems militating against them. These problems range from inadequate

funding, corruption, political interferences, policy inconsistencies and greed (Omale & Unekwu, 2015; Kolawole & Ifiokobong, 2020).

Concept of Development

Development is a systematic transformation of a society, which is measureable in terms of its qualitative and quantitative social and economic growth sustained over a considerable period of time. The measurability of development can be adjudged through, among others, parameters such as industrial development, educational development, per capital income, occupational structure, health status, urbanisation or population characteristics, agricultural development, communication networking and transportation.

The expansion of people's freedoms and capabilities to freely live as they choose is what the United Nations Development Programme (UNDP, 2009) referred to as human development. Kaufmann, Kraay and Mastruzzi (2009) defined development as a government's ability to formulate and implement sound policies effectively such that it earns the respects of its citizens for the institutions that govern their economy. Accordingly, Kostas and Ioannis (2013) associated the overall development of a country with the degree of its government effectiveness.

In the same vain, Radhika (2018) defined development as the improvement within the lifestyles of the individuals living in a country through improved skill development, incomes, employment and education. The author saw development as the process of social and economic transformation based on environmental and cultural factors. A country is classified as developed or developing by the United Nations Organisation and the World Bank according to its prevailing or average income per capita level (Kostas & Ioannis, 2013). The six variables identified by Kostas and Ioannis (2013) as the main determinants of development are: the extent of government effectiveness, the level of income per head, the extent of political rights, the degree of human development, the level of perceived corruption and the extent of civil liberties in terms of the political and socio economic factors.

According to De-Vaal and Ebben (2011), the existing institutional framework is the determinant of development of a country to a great extent. Giovanni (2001) understood development as a social condition of a nation by which the vital needs of the people living in it are met through appropriate use of natural resources and sustained systems. The utilisation of natural resources by a given country is attached to technological advancement and the cultural characteristics of its population. The development of a country requires that its social groups should have access to basic needs like health services, education, employment opportunities, nutrition, satisfaction, housing and benefit from the equitable distribution and redistribution of national cakes.

It can therefore be inferred from the aforementioned definitions that a country's population should be able to enjoy equitable distribution of its natural resources. In other words, the government should be able to provide social services for the larger percentage of its population.

Socio-economic Development

Socio economic development is a situation where people's social life and economic activities are impactful. It is the extent at which the economic activities are able to positively influence or impact the social lives of the people in a country. Alex and Daniel (2020) defined socio-economic development as the process by which social and economic activities of a society are developed. According to the scholars, the indicators to measures socio-economic development include life expectancy, levels of employment, Gross Domestic Product (GDP), literacy, as well as changes in less-tangible factors like the extent of participation in civil society, freedom of association, personal dignity, personal safety and freedom from fear of physical harm.

Moreso, socio-economic development is the process of social and economic development in a society. Socio-economic development is measured with indicators, such as GDP, life expectancy, literacy and levels of employment. Changes in less tangible factors are also considered, such as personal dignity, freedom of association, personal safety and freedom from fear of physical harm, and the extent of participation society.

Radhika (2018) considered socio-economic development as an important factor to be taken into consideration if a country should experience rapid development. As highlighted by him, socio-economic development entails improvements of cultural factors, employment opportunities, skills development, lifestyles, incomes and improvement in the system of education. Socio-Economic Development and Empowerment of Disadvantaged Groups (2017) saw socioeconomic development as two different concepts. Social development refers to a process that leads to the transformation of social institutions and the improvement of the society; whereas, economic development refers to the development of resources and economic wealth of a country for the well-being of its individuals.

Alex and Daniel (2020) identified the causes of socio-economic impacts as ecological changes, new technologies, changes in the physical environment and changes in law

Moreso, social economic development is the process of social and economic development in a society. Social economic development is measured with indicators, such as GDP, life expectancy, literacy and levels of employment. Changes in less tangible factors are also considered, such as personal dignity, freedom of association, personal safety and freedom from fear of physical harm, and the extent of participation society.

Indicators of Socio-economic Development

Land (2014), United Nations Development Programme (UNDP, 2010), United Nations Economic Commission for Europe (UNECE, 2017) as well as Stiglitz, Senand and Fitoussi (2009) identified the indicators of socio-economic development as health, education and training, educational attainment, environment, life satisfaction, work, social relationship, quality of work, minimum living conditions, income, participation and trust, material living conditions, social relations, economic risks, environment, safety and life expectancy.

According to Amartya (2001), the Human Development Index (HDI) was introduced by the United Nations Development Programme (UNDP) in 1990 to provide a means of measuring economic development in three broad areas such as per capita income, education and health. Thus, the scholar further explained the three components of HDI as:

1. **Longevity**: This is measured in terms of life expectancy at birth.
2. **Knowledge**: This is measured in terms of adult literacy on one hand and the number of years children are enrolled at school on the other hand.
3. **Standard of living**: This is measured in terms of real Gross Domestic Product per capita, especially at purchasing power parity.

Conceptual Framework of Socio-Economic Development

Every economy exists for the sole purpose of meeting the growing needs of people as life conditions change. Thus, there is no society that can survive without an economy efficient enough to meet at the very least, the basic needs of its members. Economy, therefore, is a component of society and society is the framework within which economy functions. Because of this relationship, every society has its own economy, and every economy reflects the needs and cultural attributes of society as well as the major traits of the civilisation in which it lives.

An Overview of the Theory of Modernisation

The four main theories of development are theories of modernization, dependency, word-system and globalisation. The modernisation theory emphasises better education for children, welfare packages for the less privileged and more productive activities for the citizenry as the yardsticks to measure modern societies. Giovanni (2001) attributed the modernisation theory of development to three main events after the Second World War: the rise of the United States of America as a superpower; the spread of a united world communist movement; and the disintegration of European colonial empires in Africa, Asia and Latin America which led to the formation of several new nation-states in the Third World. Thus, the new nation-states were in dire need of a model of modern development to boost their economy and enable their political independence. Specifically, the three main characteristics of modern societies are:

i. differentiation of political structure;
ii. secularisation of political culture with the ethos of equality; and
iii. enhancement of the capacity of a society's political system.

Basically, the main assumptions of the modernization theory of development (as highlighted by Huntington, 1976 in Giovanni, 2001) are:

i. Modernization is a phased process – that is, modernisation is arranged in phases or stages.
ii. It is a homogenising process: The patterns of modernisation are structured such that the more highly modernized societies become, the more they resemble one another.
iii. Modernization is an Europeanization or Americanization process: It is an attitude of complacency toward Western Europe and the United States America, due to the stability of their democracy and unmatched economic prosperity.

iv. Modernisation is an irreversible process: Once modernisation starts, it cannot be stopped. This is an expression that once the third world countries come in contact with the Western world, they will surely imbibe the impetus toward modernisation.

v. Modernisation is an inevitable desirable progressive process in the long run: Rather than traditional political systems, modernized political systems have a higher capacity to deal with the function of national identity, participation, legitimacy, distribution, and penetration.

Modernisation is a lengthy process: It is not a revolutionary, but an evolutionary change which will take centuries to complete.

Factors Affecting Socio-economic and Political development

Shodhganga (2020) identified the major components of socio-economic development as per capital income, level of agricultural development, level of industrial development, level of urbanisation, occupational structure, level of educational development, health status, transport and communication, as well as population characteristics. However, there are factors that pose as impediments to socio-economic and political development in Nigeria. These factors include:

1. **Public sector corruption**: It is the abuse of public office for personal and individual benefit. It is also the misuse of entrusted power for personal selfish reasons. Some of the factors that responsible for corruption are as follows: the accumulation of wealth and materialism, for political status and power and fame, due to competition, poor economy, poor governance and bad leadership to mention but few.

2. **Underdevelopment**: Underdevelopment is the opposite of development and one of the major factors affecting socio-economic and political development of many developing nations. According to Warren (2004), the indication and the cause for the malfunctioning of democratic institutions is underdevelopment as against a well-functioning and highly developed democracy (Zhang, Cao & Vaughn, 2009).

3. **Illiteracy and half-education**: Illiteracy is inability to read, write and use simple numeracy. The larger percentage of people in the developing countries is either illiterates or half-educated, as in those who dropped out of schools. According to Edward (2020), illiteracy is the lack of ability to read or write or the perceived or actual state of being insufficiently educated or uneducated. About 14% of the world population can neither read nor write. In other worlds, 1.05 billion of the world population are illiterate which is equivalent to the population of North and South America. Besides, 250 million children across the globe cannot acquire basic illiteracy skills. As at 2018 statistics, 56% of the primary school pupils could not attain the minimum proficiency in reading and Mathematics. Also, 36% of the people in the developing countries are illiterates, 24% of which are women (Bridge International Academies, 2018). Thus, literacy has been a hindrance to many of the world population to fully participate in social interactions, sharing of the national wealth and contribution to community development.

4. **High rate of poverty:** In a situation where the larger percentage of the populace cannot enjoy social benefits such as education, health facilities and social amenities, it

would be difficult for such a country to have socio-economic and political developments. Yomi (2018) rightly observed that the most extreme poor people of the world are Nigerians, Nigeria being the world poorest country.

5. **Poor funding of education**: This is the greatest obstacle to socio-economic and political development in Nigeria. The lackadaisical attitudes of Nigerian Governments to education in the last two decades have created untold challenges and emergencies to educational sector. Lawal (2019) lamented that 7.04% of the annual budget of N8.6 trillion in 2018 budget was allocated to education sector as against 26% suggested by the United Nations Educational, Scientific and Cultural Organisation (UNESCO). Also, Salau (2019) saw poor funding of education as the greatest problem confronting Nigeria's development.

6. **Lack of policies continuity as a result of changing of governance:** Changing of leadership is amount to changing of policies. Political office holders are often inconsiderate to the goals of the existing policies that were put in place by their predecessors. Thus, they often jettisoned the policies to set up new policies. Bunce (1980) and Cerna (2013) lamented that policy instability, resulting from changing of government have constituted a hindrance to socio-economic and political developments. Thus, all the factors that pose as obstacles to socio-economic and political development require urgent attention.

Educational Agencies in Nigeria

Educational agencies are the government established sectors used to ensure proper management, monitoring and implementation of the short and long term goals of education in the country. The following are the educational agencies in Nigeria as supported by Andrella (2019) and the Nigeria Directorate and Search Engine (2020):

1. Tertiary Education Trust Fund (TETFund): A government established agency that is responsible for managing, disbursing and monitoring the education tax to public tertiary institutions in Nigeria.
2. Federal Inspectorate of Education: A sub-division in the Federal Ministry of Education for monitoring and supervision on the standard of education.
3. Federal Scholarship Board: This handles the scholarship schemes for deserving students.
4. National Commission for Mass Literacy, Adult and Non-Formal Education: A medium for the eradication of illiteracy in Nigeria
5. Nigerian Educational Research and Development Council (NERD): A council for research and development in education.
6. National Library of Nigeria: A Federal Government operating library projects..
7. National Youth Service Corps (NYSC): A Nigerian scheme designed for graduate youths in service of Nigeria, their fatherland.
8. Universal Basic Education Commission (UBEC): The commission is established for eradication of illiteracy, ignorance and poverty through basic education programmes in Nigeria.

9. Teachers Registration Council of Nigeria: An educational centre on regulation and control of the teaching profession at all levels of education system in the public and private sectors.
10. Centre for Distance Learning and Continuing Education (CDLCE): A Nigerian institution affiliated to university of Abuja to increase access to *education* to a large number of citizens interested in furthering their *education* with a view to improving themselves educationally and professionally.
11. Administrative Staff College of Nigeria: An institution for running of training programmes, seminar and talk workshop for workers
12. Committee of Vice-Chancellors of Nigerian Universities: An academic forum that provides a platform for discussions on common issues such as inter-university cooperation, administrative, academic practices and maintenance of academic standards.
13. Education Resource Centre: A Nigerian service centre that provides information and serves as a centre for training.
14. Joint Admission and Matriculation Board (JAMB): A Nigerian body that handles examinations for admission into colleges, federal polytechnics, monotechnics and Universities.
15. National Board for Technical Education (NBTE): This body regulates the programmes offered by technical institutions at secondary and post-secondary levels in Nigeria.
16. National Examination Council (NECO): The organisers of Senior School Certificate Examination (SSCE), Basic Education Certificate Examination (BECE) and National Common Entrance Examination (NCEE).
17. National Universities Commission (NUC): A Nigerian regulatory body for supervision on establishment and running of the universities.
18. West African Examinations Council (WAEC): An examination body for the West African sub-regions
19. National Teacher Institute: A distance education institution dedicated to teacher training in Nigeria.

    These educational agencies are responsible for monitoring, evaluation, management and giving of reports to the government on the activities of the educational institutions within their jurisdictions. Their establishments are to ensure proper compliance to the rules and regulations guiding the purposes of the educational institutions.

The Challenges of Educational Agencies in Nigeria

Educational agencies in Nigeria are established for quality control and proper management of educational institutions so as to achieve the aims, goals and objectives of education as stated in the National Policy on Education. Unfortunately, they have been unable to maximally achieve the purposes of their establishments due to of the myriad of problems militating against them. These problems range from inadequate funding to corruption, political interferences, policy inconsistencies and greed. Omale and Unekwu (2015) and Kolawole and Ifiokobong (2020) agreed that the following are some of the major challenges of education in Nigeria:

- inadequate funding and lack of proper budgetary allocation;

- poor governance and mismanagement;
- bribery and corruption;
- misappropriation of the fund meant for education;
- indiscipline;
- grossly inadequate infrastructure;
- lack of responsibility and control;
- political interference/politicization of education;
- lack of basic equipment;and
- policy inconsistency;

Conclusion

This paper considered managing educational agencies for socio-economic and political development in the 21st century. This will help as achieving the welfare of socio-economic development in the era of economic depression. Also, the government should the development of human capital for sustainability of improving educational agencies working conditions, ability to understand and respond to different development needs of educational agencies.

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ACADEMIC STAFF UNION AND SUSTAINABLE INDUSTRIAL HARMONY IN SELECTED NIGERIAN UNIVERSITY, IBADAN NIGERIA

[1]Akinbo, T. M. & [2]Kehinde I.

[1&2]Department of Management and Accounting

Lead City University Ibadan

Abstract

Sustainable Industrial Harmony (SIH) which is expected to improve labour productivity and advance performance in the education sector seems to have lost its relevance. This study was designed to examine the role of Academic Staff Union of Universities (ASUU) in SIH toward realizing economic growth and academic standard of students. An explorative study with a quantitative approach and guided by Dahrendorf Authority and Conflict theory. A total of 136 copies of questionnaire used to elicit information from respondents were returned. Majority of the respondents strongly agreed that unions play a key role in developing labor laws and regulations for effective worker protection (71.33%); while a proportion of (41.9%) agreed that trade union affords its members a conducive work environment in promoting industrial harmony. Majority agreed that the agitation(s) of trade union leads to delay in academic session of students such as strike (68.37%). A substantial number of the respondents also agreed that industrial unrest leads to strike which leads to elongation of academic session (75.73%). It was also discovered that collective bargaining (55.87%) and the use of dialogue (54.41%) are the most relevant alternatives to strike actions. Enforcement of educational reforms that are relevant to the Nigerian socio-cultural environment should be prioritized. Federal and state government should endeavour to increase their budgetary allocation to universities to the UNESCO recommended 26% of their total annual budget. Systems approach should be adopted in university management to allow for industrial democracy.

Keywords: Academic Staff Union, Performance, Productivity, Academic Disruption, Sustainable Industrial Harmony, University

Introduction

The presence of a formidable, united and known trade union is a pre-requisite to the industrial harmony and development pace of any developed or developing country. Trade Unions are professional organisations encompassing all serving public servants both at local government, state and even federal levels (Njom & Nyambi, 2007). A trade union is neither a legislative nor an executive circle; it protects the welfare scheme, dialogue and as last resort, declares a trade dispute with the government (Umunakwe, 2005). Industrial harmony, in its ideal form, presupposes an industry in a condition of relative equilibrium where relationships between individuals and or groups are cordial and productive. Conflicts and different objectives find its way into the organisation due to the inevitable differences among groups within an organisation (Ekpo, 2014). This type of conflict prevents the existence of industrial harmony which reflects a state of organisational instability. Industrial harmony can be defined as an industrial environment where workers along with their union and management accept and understand each other as partners in

progress; and cooperative attitude is viewed as mutually beneficial in terms of performance output and rewards.

Academic Staff Union of Universities (ASUU) was formed in 1978, a successor to the National Association of University Teachers formed in 1965 and covering academic staff in all of the Federal and State Universities in the country. The union was active in struggles against the military regime during the 1980s. ASUU has always been embarking on series of strike actions which continued to affect academic activities. For more than three decades now, the Academic Staff Union of Universities (ASUU) and the Federal government of Nigeria (FGN) have been engaged in series of prolonged industrial conflicts over several issues of importance to the union. These range from poor wages, unfair conditions of service of academic staff members in government owned universities across the country, problem of underfunding and infrastructural neglect in Nigerian universities as well as the lack of autonomy and academic freedom which union members claim to be limiting the quality of teaching, research, scholarship and innovation among others (Odiagbe, 2012). The current Academic Staff Union of Universities strike has hit seven months of students stay at home; a situation which started with a one-month warning strike in February 16, 2022 and two months after which the current indefinite strike was declared. Obviously lecturers, students, parents and other stakeholders are at the receiving as this menace is negatively impacting the stakeholders and the economy at large. This study therefore sought to identify roles of Academic Staff Union (ASUU) in sustaining industrial harmony, how unionism activities impede student academic performance, the implications of union activities on academic space and alternatives to resolving industrial conflict other than strike.

Trade Union is a specialised labour union set up to deal with labour and employment related matters. However, setting up the ASUU as the highest appellant body in sustaining harmony in the Nigerian university setting is a welcome development. This body was created, mainly, to address matters relating to any labour, employment, trade unions, industrial relations disputes and matters arising from the workplace, conditions of service, including health, safety, welfare of labour, employees, workers and matters incidental thereto or connected therewith (Aderibigbe, 2014). Unions have helped to maintain industrial peace, which is needed for achieving institutional goals and providing a strong workforce. Other roles of ASUU are to regulate the relations between employers and their employees; between the trade unions and employer organizations; and resolve disputes arising from these relations. The union mediates the boundaries of rights and obligations of employers and employees in accordance with equity, good conscience and the substantive merits of dispute. Its primary objective therefore is to attain social justice by upholding fair work practices. However, it is unfortunate that with the formation of ASUU, the relationship between the academics and the federal government became more acrimonious and antagonistic. Some workers are faced with non-regular payment and this has led to industrial disharmony. This and certain other actions of the government fuelled this crisis the more.

The attendant huge costs of these strikes on Nigeria’s university education system cannot be quantified. In fact, experience proves that the cost apparently outweighs the benefits.

The multiplier effect is demonstrated in the saying that "where two elephants fight, the grasses suffer". Thus, the students, parents, and society end up paying the most by extra years in school and lack of full capacity and complete formation for the students translated to extra costs for parents and production of half-baked graduates to society (Odoziobodo, 2015).

Over the years, academic calendar of Nigerian universities had hardly ever been devoid of hitches. This is occasioned by what is perceived by the lecturers as the insensitivity, irresponsibility and the negligence of the government. The unrelenting Union had in the past embarked on numerous strike actions in order to press in their demands of funding the educational sectors adequately and other prevalent issues. The government on its part has remained indifferent to their plights during those periods. Perhaps the government sees the academic sector as having little or no direct significance to the economic development of the nation. Hence the students are left to suffer during this impasse. As a matter of fact, the unwholesome brunt students are made to bear cannot indeed be quantified in terms of their academics. Prominent among these is the disruption of the academic calendar. As a result, students that are meant to spend four to five years to acquire their first degree rather spent six to seven years. Invariably, the academic calendar of Universities all over the country cannot be controlled centrally by the federal ministry of education while each University becomes autonomous in the running its own calendar (Ogbuka, 2015). The recent strike after the pandemic led to cancellation of a whole session by some universities in Nigeria.

Literature Review

Roles of Trade Unionism in Sustaining Industrial Harmony

Harmonious relationship between employees and employers determines industrial peace. The relationship between the workers and employers should be cordial. In order for an organisation to enjoy rapid industrialisation and overall development as well as for the employees who work in these organizations to enjoy sustainable personal development, industrial peace and harmony is a basic requirement (Ogunlola, 2018). Industrial harmony can be defined as an industrial environment where employees along with their union and management understand, allow peace, and accept each other as partners in progress in a way that cooperation is ascertained on the rewards, performances, and outputs (Akuh, 2016). Industrial harmony thus involves the ability of the employer and employees to have a proper dialogue concerning the terms and conditions of employment. However, when there is no agreement between the employer and employee leads to industrial disharmony. The role of trade unions and the interest of the employers are often conflicting in work-organisations. This has often led to disruptive labour-management relationship in Nigeria and globally. One of the most important aspects of industrial harmony is to maintain industrial peace and increase productivity. Rather than resolving to strikes by unions, good industrial relations engender averting strikes through proactive interaction with the employers (Ogunlola, 2018).

Union Activities and Student's Performance

Nigeria educational institutions have experienced disharmony in recent times, instability and other forms of industrial conflicts. This situation has resulted in low productivity as

academic programmes were often rushed since sessions were already disrupted (Orga & Monanu, 2020). Disruption of academic activities resulting from industrial action of the ASUU has crippled the Nigerian educational system as the product of the Nigerian tertiary institution are half baked due to disrupted academic calendar (Adewuyi, 2020). The quality of education offered by higher educational institutions in Nigeria in recent times has deteriorated substantially due to strike actions by ASUU. This has always subjected the students to pitiable conditions, disrupting academic programs, giving students' undeserved extension in their study years, poor students' concentration on academic programs and poor teacher-student relationships amongst others (Edinyang & Ubi, 2013).

Implications of Union Activities on the Academic Space

Globally, there seems to be an unfavourable reputation when Nigerian universities are mentioned and a quick link is made with unstable university calendar due to incessant strikes. As a result, this situation deprived graduates of international esteem even when their worth has not been proven in the labour market. Most Nigerian universities have experienced series of crises caused by management inability to agree with union leaders in staff welfare and other issues that border on sustainable university system. Industrial relations, one of the major areas of concern to the government, employers of labour, investors and trade unions of any industrial community is the maintenance of industrial harmony for the proper growth and development of the economy and the nation (Nworgu, 2005).

Alternatives to Resolving Industrial Conflict other than Strike

Involvement of union executives in decision making in non-statutory resolution framework such as joint consultation and mediations has been consistently adjudged as positive and beneficial to parties. This is because, when issues arise at the workplace between managers and the employee, union representatives can be engaged to secure a "win-win" resolution. Other alternative (to strike) means of resolving industrial or labour disputes in Nigeria covers both statutory and non-statutory mechanisms (such as joint consultation, negotiation, mediation, arbitration, conciliation and litigation or court adjudication). This creates a high level of employee satisfaction as opined by some authors (Orga & Monanu, 2020)

Theoretical Framework

Dahrendorf Authority and Conflict theory provided a theoretical guide in this study. Darhendorf (1959) conflict theory arose out of a critical evaluation of the work of Karl Marx. He accepted that Marx's description of capitalism was generally accurate in the 19th century when Marx was writing, but he argued that in the 20th century, it has become outdated as the basis for explaining conflict. Darhendorf argued that important changes have taken place in countries such as Britain and the U.S.A., which are now 'post-capitalist' societies. He claimed that, far from the two main classes becoming polarized, as Marx had predicted, the opposite has happened. The proportion of skilled and semi-skilled workers has grown; has had the size of the 'new middleclass' of white collar workers such as clerk, nurses and teachers. Inequalities in income and wealth have been reduced, partly because of measures taken by the state. Authority is the legitimate

power attached to the occupation of a particular social role within an organization. Thus, for example, the government has the right to take certain decisions, regardless of the wishes of the workforce (which includes ASUU). All organisations-or associations have positions of domination and subjection. Some are able to take decisions legitimately and issue commands, and others are not. It is this situation which Darhendorf saw as the basis for conflict in the societies of nowadays. He believed that the existence of dominant and subordinate positions produces a situation in which individual have different interests. Those occupying dominant positions (Federal Government of Nigeria) have an interest in maintaining the social structure that gives them more authority than others, while those in subordinate positions (ASUU) on the other hand have an interest in changing it. Therefore, from the theory of conflict by Ralf Darhendorf, it can be reasonably assumed that the authority wielded by the Federal Government gives them the right to take decisions and whenever these decisions contradicts the interest of the Academic Staff Union of Universities (ASUU), hence the conflict that manifest through the grievances of ASUU resulting into strike action.

Materials and Methods

Data was collected from the major actors in industrial relations within the university system. The study was carried out in University of Ibadan, Ibadan, Oyo State Nigeria. These are University management, the academic associations and the State. The primary sources include information collected through direct observation and questionnaire administration. Questionnaire was administered to examine the role of trade union in achieving industrial harmony and other objectives of the study; a total number of 150 copies of questionnaire were administered and 136 copies were returned for analysis. This represents a response rate of 90.66%. The questionnaire was sectioned into two parts. Section A consists of respondent's demographic variable, such as age, gender, education and occupation. Section B focused on role of trade union on industrial harmony and other objectives. Simple random sampling was used in selection of respondents. The data was analysed with the use of tables and simple percentages. The secondary data gathered are those which are found in existing surveys, library, textbooks, conference proceedings, journal articles, newspapers, government records as well as the internet among others.

Results

This section focuses on the results of findings, discussions, recommendations and areas of further study.

Socio Demographic Characteristics of Respondents

Table 1 Descriptive Analysis of Respondents' Socio-demographic Characteristics

Demographic Variables	Categories	Frequency	Percent
Gender	Male	90	66.18
	Female	46	33.82
	Total	136	100.0
Educational Status	PRY/SSCE	15	11.03
	OND/HND	34	25.00
	BSC/MSC	52	38.24
	PhD	16	11.76

	Others	19	13.97
	Total	136	100.0
Age (in years)	18-23	10	7.35
	24-29	22	16.18
	30-35	35	25.74
	36-41	28	20.59
	42-47	26	19.12
	48 & above	15	11.03
	Total	136	100.0
Marital Status	Single	20	14.71
	Married	109	80.15
	Divorced/Widowed	7	5.15
	Total	136	100.0
Ethnicity	Yoruba	97	71.32
	Hausa	5	3.68
	Igbo	34	25.00
	Total	136	100.0

Source: Field survey (2018)

The table above describes the gender of the respondents in the study. The table shows that out of 136 respondents 90 were males while 46 were females. This implies that majority of the lecturers are males. This study was carried out in Ibadan, South Western Nigeria where males are expected to be breadwinners and so they find every possible means to be engaged in formal employment that the female. From the table above, it could be understood that respondents who do not possess degree certificates are in the minority. The implication of this analysis is that majority of the respondents are people with a university degree and should be versatile with the theories and concept of industrial harmony. As shown in the table, 15 (11.03%) respondents have primary and secondary certificates; 34 (25%), 52 (38.24%), 16 (11.76%) respondents possess OND/HND, B.Sc. /M.Sc. and PhD, respectively while 19 (13.97%) have other forms of certificates. On the age of the respondents, the table above showed 10 (7.35%) of respondents were under between 18 and 23 years, 22 (16.18%) were between twenty-four and twenty-nine years of age, 35 respondents (25.74%) were between 30-35 years, 28 (20.59%) and 26 (19.12%) respondents were between age group of 36-41 and 42-47, respectively, while 15 (11.03%) were 48 years and above. The majority of the respondents were between 30 years and 48 years showing that they are mature enough to know how to handle industrial disputes. On ethnic affiliation, most of the respondents are Yoruba followed by the Igbos and Hausas with 71.32%, 3.68% and 25%, respectively. This shows that this study is not ethnic bias as it cut across majority of the ethnic group in the country.

Roles of Trade Unionism in Sustaining Industrial Harmony

Table 2: Showing the Role of Academic Trade Union in Maintaining Industrial Harmony

Role of Academic Staff Union in Maintaining Industrial Harmony	**SA N (%)**	**A N (%)**	**UD N (%)**	**D N (%)**	**SD N (%)**	**Total N (%)**
Labor unions check the unfair labor	26(19.12)	41(30.15)	29(21.32)	22(16.18)	18(13.24)	136(100)

practices of employers						
Employees are involved in decision making	33(24.26)	25(18.38)	11(8.08)	19(13.97)	48 (35.29)	136 (100)
Unions also play a key role in developing labor laws and regulations for effective worker protection	56(41.18)	41(30.15)	-	27(19.85)	12 (8.82)	136 (100)
Unions have successfully fought for better terms and conditions for workers.	42(30.88)	30(22.05)	8(5.88)	35(25.73)	21(15.44)	136 (100)
Trade union affords its members a conducive work environment in order to promote industrial harmony.	20(14.70)	37(27.20)	25(18.38)	36(26.47)	18 (13.24)`	136 (100)

Source: Field survey (2018)

The various roles played by trade unionism in maintaining industrial harmony are deducible from the table above. Majority of the respondents 57 (41.9%) agreed with the fact that trade union affords its members a conducive work environment in order to promote industrial harmony, 25 (18.38%) were undecided while 36 (26.47%) and 18 (13.24%) respondents disagreed and strongly disagreed respectively. Furthermore, 30.15% respondents agreed to the fact that labour unions check the unfair labour practices of employers, 19.12% strongly agreed while 16.18% and 13.24% disagree and strongly disagree, respectively. Many believed that trade unions play vital roles in ensuring industrial harmony, but they never involve employees in decision making, most decision made were done by the representatives to suite themselves most times and not majorly for the interest of the members. About 13.97% and 35.29% respectively agreed and strongly agreed to this claim, 24.26% and 18.38% strongly agreed and agreed that employees are being involved in decision making. Also, majority of the respondents agreed and strongly agreed that unions play a key role in developing labour laws and regulations for effective worker protection (71.33%). Just few disagreed that unions also play a key role in developing labour laws and regulations for effective worker protection (28.67). Lastly, one of the major roles of ASUU is to fight for better terms and conditions of workers. According to the result, 30.88% of the respondents strongly agreed to this, 22.05% of the respondents agreed to this, while 25.73% disagreed and 15.44% strongly disagreed.

Unionism Activities and Student's Performance

Table 3: Showing whether Union Activities Impede Student's Academic Performance

Variables	SA N (%)	A N (%)	UD N (%)	D N (%)	SD N (%)	Total N (%)
The union role in collective negotiation with management enables workers to participate in the management of their organization.	37(27.20)	45(33.08)	12(8.82)	17(12.50)	25(18.38)	136(100)
Tackling of examination malpractice in schools has been more efficient based on the role of trade union.	27(19.85)	32(23.52)	5(3.67)	23(16.91)	49 (36.02)	136 (100)
It has helped in balancing conflict and sometimes irreconcilable differences between management and labour.	33(24.26)	43(31.61)	9(6.61)	30(22.05)	21(15.44)	136 (100)
The agitation(s) of trade union leads to delay in academic session of students such as strike.	54(39.70)	39(28.67)	-	24(17.64)	19(13.97)`	136 (100)

Source: Field survey (2018)

Table 3 above shows how union activities affect the academic performance of university system. About 27.20% respondents strongly agreed and 33.08% respondents also agreed that the union role in collective negotiation with management enables workers to participate in the management of their organization which allows smooth run of academic activities. Many respondents are of the opinion that the impact of trade union in Nigerian Universities has not been more effective to the extent of making members or workers being more effective in their various duties. Nevertheless, 27.20% and 13.97% respondents still believed that the impact of trade union in Nigerian Universities has led to members or workers being more effective in their various duties. Despite the various rules and regulations laid towards malpractices act in the university system, this form of activity still found its way into the system. Examination malpractices are of various forms and levels. About 43.37% of the respondents believed that trade union has been able to tackle examination malpractices in the university while 52.93% respondents believed that they have not been able to tackle examination malpractices as it still found its way in the education system. About 55.87% agreed that trade union activities have helped to balance conflicts and sometimes irreconcilable differences between management and labour which is good for the smooth running of academic activities. In addition, strike is one of the major activities used by trade unions to implement and enforce their rights. Thus, it has effects on academic performance of the university as it delays or halts academic

activities in the university. A total of 68.37% of the respondents was in support of this while 31.61% of the respondents disagreed.

Other Implications of Union Activities on the Academic Space

Table 4: Showing Other Implications of Union activities

Variables	SA N (%)	A N (%)	UD N (%)	D N (%)	SD N (%)	Total N (%)
Industrial unrest leads to strike which leads to elongation of academic session	72(52.94)	31(22.79)	-	13(9.55)	20(14.70)	136(100)
Unjust compression of the syllabus and academic calendar which deprived students of adequate academic preparation	48(35.29)	29(21.32)	13(9.55)	18(13.23)	28(20.58)	136 (100)
It leads to loss of revenue by the university system.	17(12.5)	22(16.17)	10(7.35)	36(26.47)	51(37.50)	136 (100)
They end up having lesser period to prepare for academic exercises before summative evaluation.	51(37.5)	23(16.91)	5(3.67)	31(22.79)	26(19.11)`	136 (100)

Source: Field Survey (2018)

The table above illustrates other implications of trade union activities on academic space. A total of 52.94% and 22.79% respondents strongly agreed and agreed that industrial unrest leads to strike which leads to elongation of academic session. In addition, the claim that strike leads to loss or reduce in intellectual of both lecturers and students due to inactivity was reviewed by the respondents, though majority part of the claim was reviewed on the students compared to the lecturers. About21.32% respondents strongly agreed that strike will surely affect the intellect of the students and lecturers, unjust compression of the syllabus and academic calendar which deprived students of adequate academic preparation is one of the effects of strike on the students, and this is done in order to meet up with the time lost in the process of strike. Majority (56.61%) of the respondents agreed and strongly agreed to this. Majority of the respondents disagreed with the claim that strike leads to loss of revenue by the university. Though some believe it does as it accounts for 28.67% of respondents, while 63.97% respondents are of the opinion it does not affect the revenue of the university. Many of the respondents believe that after strike might have been called off students will still have to pay for the arrears owed or yet to pay for and also most of the school investment still runs during this period. A total of 54.41% respondents strongly agreed and agreed that they end up having lesser period to prepare for academic exercises before summative evaluation, while 41.90% disagreed.

Alternatives to Resolving Industrial Conflict other than Strike

Table 5: Showing the Solutions/Alternatives to Resolving Industrial Conflict other than Strike

Variables	SA N (%)	A N (%)	UD N (%)	D N (%)	SD N (%)	Total N (%)
Through collective bargaining.	45(33.08)	31(22.79)	11(8.08)	21(15.44)	28(20.58)	136(100)
Through the use of Adjudication	18(13.23)	32(23.50)	9(6.61)	31(22.79)	46 (33.80)	136 (100)
Through Arbitration	29(21.32)	32(23.50)	19(13.90)	33(24.26)	23(16.91)	136 (100)
The use of Conciliation method can resolve disputes.	31(22.79)	20(14.70)	8(5.88)	32(23.52)	45(33.08)	136 (100)
Through the use of dialogue.	51(37.5)	23(16.91)	5(3.67)	31(22.79)	26(19.11)`	136 (100)

Source: Field Survey (2018)

From the table above, the respondents made known the different ways by which industrial conflicts or disputes can be resolved other than strike. A total of 33.08% respondents strongly agreed that collective bargaining is the way to resolve disputes while 38.97% of the respondents strongly agreed that dialogue is the way to resolve conflicts. This was followed by 23.5% who agreed that the use of adjudication is the way to resolve conflicts. In contrast, 20.58% strongly disagreed that collective bargaining is the key to resolving disputes. Furthermore, 14.70% strongly disagreed that the use of dialogue can resolve conflicts while 23.52% and 33.08% disagreed and strongly disagreed that the use of conciliation method can resolve industrial disputes among workers. From the above results, the respondents did not recognize all the alternatives to resolving conflicts and that was why the highest figure which is 33.08% is not up to half of the sample size and that is where the problem why strike actions continue to rise unabated.

Discussion

The study, in line with its first objective, revealed that majority strongly agreed that Academic Staff Union play a key role in developing labour laws and regulations for effective worker protection (41.8%). This is in line with the study which says an objective of Labour Union is to ensure good personnel policies (Obiekwe & Obihhunun, 2020). Union seeks to ensure that inclusive personnel policies are in place for workers in the workplace. In other words, trade union objectives are to protect the interest of all its members in matters relating to terms and conditions of employment. Study also reveals that Academic Staff Unions have successfully fought for better terms and conditions for

workers (30.88%). This corroborates with the findings of a research which affirms the objectives of trade union as to regulate relations between its members (workers) and the employers, raise new demands of better condition of work on behalf of its members, and to help in industrial grievance, and between members and their respective organisations (Njom & Nyambi, 2019).

The second objective was to assess the extent to which Academic Union activities impede student's academic performance. A total of 38.23% strongly disagreed that the impact of trade union in Nigerian Universities has led to members or workers being more effective in other various duties followed by 36.02% that strongly disagreed that trade union tackles examination malpractices due to their activities.

The third objective examined the implications of trade union activities on academic space. The result showed that 52.74% strongly agreed that industrial unrest led to strike which elongated of academic session followed by 37.5% who strongly agreed that they end up having lesser period to prepare for academic exercise before summative evaluation. It is also important to note that 35.29% strongly agreed that compression of the syllabus and academic calendar will deprive the student adequate academic preparation. This result is in line with the assertion of previous studies which states that productivity in most organisations has comparatively been hampered due to frequent industrial conflict (Arogundade et al., 2020).

In relation to the study's fourth objective, 33.08% strongly agreed that collective bargaining is one of the solutions to resolving industrial conflict other than strike. Moreover, having industrial harmony could not mean that conflict of interest bargaining procedure will not exist but proactive, bargaining procedure and collective agreements could be the best method to adopt in preventing the conflicts bargaining procedure from transforming into an uncontrollable crisis (Akuh, 2016).

Conclusion

Role(s) played by the trade union in creating industrial harmony cannot be neglected. Trade union affords its members conducive work environment in order to promote industrial harmony. Though conflict is inevitable in any human organisation; however, navigate ways of resolving industrial conflict other than strike. From the research, dialogue, collective bargaining and adjudication are the alternatives to strike actions. The frequency of industrial crisis/disputes was discovered to be high in the Nigerian university system. Industrial unrest leads to strike which leads to elongation of academic session industrial actions such as strikes can sometime over stretch to the extent that academic calendars are elongated thus making it impossible for students to graduate as and when due. It is therefore recommended that political leaders be faithful with their promises and make use of alternative ways of resolving conflicts before union embark on strike.

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COVID – 19: ACCENTUATING FOURTH INDUSTRIAL REVOLUTION TECHNOLOGIES IN CONTEMPORARY HIGHER EDUCATION

[1]Isaac Mazonde & [2]Kabelo Mogatedi
[1&2]BA ISAGO University, Botswana

Abstract
The focus of this paper is on virtual education delivery at BA ISAGO University following the outbreak of COVID-19. The paper has both theoretical and empirical bases in that it uses BA ISAGO University as a case study while applying analysis of arguments as its a research methodology, to debunk the stereotype that COVID-19 has produced only negative outcomes and no positive ones. The paper posits two major findings. The first one is that the adjustments made in response to COVID-19 have radicalized tertiary education to a point where the majority of educational programmes can now be offered virtually at BA ISAGO University. The second point relates to the 'new normal'. In this regard, the paper finds that the transformations leading to the new normal have shifted the entire technological dynamic in a way that makes it impossible to do things the way they were done during the old order before the new normal.

Keywords: COVID-19; Fourth Industrial Revolution Technologies; Distance Education; Tertiary Education; Knowledge Economy

Introduction

The demand for tertiary education has been growing across the African sub-region over the past few decades, despite cutbacks in state funding for tertiary education (Odhiambo 2016). For example, in Kenya, the evening shift had to be introduced in order to address the rising demand for university education, even as students are self-financing their university education with a few of them paying their fees with help of loans from the government (Odhiambo 2016). Against this expansion of education, the world experienced the outbreak of the COVID-19 pandemic, which has threatened this evolution of higher education in all manner of ways. When the pandemic struck, it seemed poised to disrupt and even halt the growth in student enrolments within the entire education system. For example, Porhrel and Roshan (2021) assert that 'the COVID-19 pandemic has created the largest disruption of education systems in human history, affecting nearly 1.6 billion learners in more than 200 countries. The continue 'closures of schools, institutions and other learning spaces have impacted more than 94% of the world's student population' (Porhrel & Roshan, 2021).

A corollary to the assertion made by Porhrel and Roshan (2021) above is that the entire environment of teaching and learning was seen to change on a dramatic scale for all parties, namely the student, along with the administrative mechanisms handling education. The main contributory factor in this sudden transformation appeared to be the social distancing requirement which was imposed on all people, students and their teachers. There is an adage that adversity breeds innovation, and innovation is what 'rescued' the development of education from what would have been a catastrophe induced by COVID-19. The response that education systems gave to the deterrents of

COVID-19 sparked a rapid development of information technologies, virtually capitalizing on the characteristics of the fourth industrial revolution technologies. A major characteristic of the fourth industrial revolution is that its technologies develop much faster than those of the first, second and third revolutions. Hence, the innovations within the information and communication technologies developed very rapidly in response to COVID-19. This resulted in a renewed interest in the application of virtual learning, which now became not only more widely used but also got upgraded in functionality so as to perform more complex tasks than it was capable of doing previously. In other words, if COVID-19 was the adversity in the adage referred to above, virtual learning then became the innovation that was bred by that adversity.

In the course of the response to COVID-19, many countries came to appreciate the value and importance of educational information technologies in delivering effective teaching and learning. Essentially, this meant that the digital transformation commenced, followed by what would be a revamped distance learning, which increasingly was itself transformed and implemented in a virtual manner. By default, higher education institutions were forced by the evolving circumstances to design and put in place learning and teaching strategies that were both relevant and effective in the context of the new normal. In this manner, the monopoly of face-to-face educational approach was suddenly lost in the tertiary education systems and enhanced tailor-made online teaching systems cropped up (Tesar, 2020).

Analysis of Argument

The methodology used in this paper is what is called Analysis of Argument. In the analysis of the argument, a conclusion is arrived at through premises or evidence and assumptions to bring about logic. It ensures that a text is structured logically and flows smoothly, with strong persuasive yet objective or scientific arguments, backed by indisputable evidence. In order for it to attain that academic level, it must be free from any fallacies. A fallacy is a mistaken belief, especially one based on unsound arguments. It can also be viewed as a failure in reasoning or faulty reasoning which renders an argument invalid.

Remote Distance Education and Virtual Technology

While the differences in the meanings of distance education and virtual technology can be sourced from the literature, it is essential to clarify their meanings as used in this paper. This brief explanation is necessitated by the fact that there is no congruence in the meanings ascribed to these terms by the different writers.

Distance education is an interdisciplinary field that has evolved over time and that has served well in responding to learning needs and in guiding open educational practices (Bozkurt, 2019a). The concept of the old correspondence college where students and their instructors exchanged scripts via the post office is perhaps the best-known example of distance education. Currently, the concept has been technologically improved and modernized to embrace modern technologies such as the use of videos. Distance education programmes can be mounted on an online platform. Consequently, distance education is currently very advanced relative to its standard when it started way back in

1873, the year when Anna Eliot Ticknor established *The Society to Encourage Studies at Home* for the main purpose of ensuring equal access to education for all people in any geographical place and at any time, but with special focus on offering ladies of all classes the opportunity for education (Assie-Lumumba, 2006).

Virtual technologies take the concept of distance education much further and bring in more complexity and sophistication, the key aspect of virtual technology being its interactive competencies between the communicators in real-time, combining video and audio. As such, the virtual technology application is not limited to educational instruction. More importantly, it is also used in communications media such as zoom, google meet etc., as a video conferencing application where documents and other types of information can be shared and discussed in real-time by participants stationed in various localities, across the continents or in different offices within a single building.

The reason why this differentiation between distance education and virtual technologies is highlighted in this paper is that COVID-19 has pushed businesses into the virtual space beyond the limits of distance education parameters. In BA ISAGO University, for example, virtual technology has come handy in managing COVID-19 protocols through enabling social distancing in teaching as well as for doing the rest of the university business such as running meetings via google-meet and zoom, among others. It is clearly a fourth industrial revolution technology, and direct outcome of the University's response to COVID-19.

Application of Virtual Technology in BA ISAGO University's response to COVID-19 Pandemic

According to the World Health Organization's report for the year 2020, Botswana registered one of the lowest rates of COVID-19 in Africa, both in terms of reported cases and deaths (United Nations, 2020a). For that reason, a study of a Botswana-based academic institution should be of interest to the wider world since there might be lessons for others beyond Botswana to learn regarding how to effectively respond to the COVID-19 pandemic in their own situations.

In determining its response to COVID-19, BA ISAGO University acted within broad Botswana's national strategy for addressing the pandemic, a strategy that was itself set within the broad parameters of the World Health Organization (WHO) which declared COVID-19 a pandemic on 11 March 2020, following 118,000 reported cases of COVID-19 that spanned 114 countries with over 4,000 fatalities (United Nations, 2020a).

Across the world, the overall consensus has been that the most viable option of controlling the pandemic and minimizing its impact is to control the movement of people which can further exacerbate the spread of the disease. Hence, in line with the approaches followed by many countries, Botswana's strategy in responding to COVID-19 has been to contain the spread of the virus through social distancing, isolating and quarantining confirmed cases and also those cases with symptoms of the virus (United Nations, 2020b). Other measures included contact tracing and testing, treatment of the positive cases and imposing lockdowns within the national borders. In Botswana, the containment measures began with the 28-day lockdown which came into effect on 2 April 2020 and a

few others that followed (United Nations, 2020b). This national strategy seems to have worked reasonably satisfactorily if we consider that, by 24th May of that year, there were only 23 confirmed cases, eight of which recovered and only one recorded death (United Nations, 2020b). BA ISAGO University's response is a ramification of this national response. As indicated earlier, the critical issue is to appreciate how the response has impacted virtual technology.

BA ISAGO University is a private higher education institution located in Gaborone, Botswana where it has its main campus. The University has two other campuses, one in Francistown in the northern part of the country and another in Maun, northwest Botswana. The University is mainly a teaching tertiary education institution. Student numbers have been fluctuating over the past few years, mainly as a result of the changes in the government sponsorship policies. As of January 2022, BA ISAGO University has about 3,000 students registered in its four Faculties of Commerce, Education, Legal and Paralegal Studies and the last one being the Faculty of Built Environment, Arts and Science. The institution has an academic staff complement of 180, mostly teachers with Master's degrees. It has modern and well-equipped buildings and reasonably adequate teaching space with a high student-teacher ratio of 17:1. Despite BA ISAGO University its high student-teacher ratio, it has very high-quality standards as adjudged by the Botswana Quality Assurance in 2022. Botswana Quality Assurance is a body established by the Botswana Qualifications Authority Act in 2013 to coordinate the education, training and skills development quality assurance system, through the National Credit and Qualifications Framework (Botswana Quality Authority. The University also has a high social rating in the country since it is perceived to be the one institution with unique market-driven programmes whose graduates normally find employment sooner than graduates from programmes offered in other universities (Mogatedi, 2021). BA ISAGO University's response to COVID-19 was partly aimed at protecting this esteem and reputation. It must be stated that because the response of the institution to COVID-19 is still ongoing, there are no written reports that the institution has produced so far, apart from a graduate thesis from Ms Kabelo Mogatedi who is also a member of the institution. This means that the activities undertaken are being reported in this paper largely through observation, as the writer is a member of the institution. This explains why there is a paucity of citations on the activities of the institution.

To meet the challenges of COVID-19, the University designed a double-pronged system which brought together two aspects of a system, the physical and the intellectual. The entire system was designed to physically control infections and the spread of the virus while the intellectual aspect had to do with procuring and implementing a learning system that would facilitate student learning and teaching to proceed without any break or discontinuity in the physical arrangements of containing the spread of the virus.

The physical aspect entailed a number of actions, which were also replicated in other learning institutions. The first was the appointment of a Safety and Health Enforcement Officer for the whole University. The duties of this officer included ensuring that all people entering the University premises had to be wearing a mask and would be sanitized. He also ensured that social distancing was observed in all gatherings outside

the learning rooms and that before any physical meeting could commence, attendants had to be reminded about the strict requirement to observe COVID-19 protocols. Lecturers were given sanitisers and strict instructions to enforce these protocols in their classes, while office staff members were provided with sanitisers for their own use and for sanitizing their guests. Staff members were instructed to work from home whenever possible, but with arrangements with their supervisors. There was a shift system through which members of staff who share an office take turns to work from home, all staff were encouraged to vaccinate against COVID-19. Medical service providers were invited to come and vaccinate staff inside the university premises as a gesture of making vaccination less stressful.

The intellectual aspect entailed technologically improving the Learning Management System (LMS). Before the surge of COVID-19, Moodle, an open-source system which mainly focuses on classroom teaching, was the only learning management system that BA ISAGO University was using. The University was, however, forced to think more broadly and to identify a technologically superior system that could perform many different though related tasks that were necessary for achieving the larger goal of the institution, namely, to halt the transmission of the coronavirus while simultaneously enabling the teaching as well as the administrative tasks virtually.

Astria was selected as a technologically more advanced virtual system that has now replaced Moodle at BA ISAGO University. Astra is able to combine a number of features such as learning management, fee collection, library services, Human Resources management and facilities management. Astria is cloud-based and can be accessed by anyone anywhere anytime, as long as there is the internet. Furthermore, it has an added advantage for students because it can be accessed via laptop, tablet, or mobile phone to simulate a real classroom environment in which class members engage each other face to face with their instructors discussing just like they would interact in a real classroom. This wide and high-powered technological capability puts Astria squarely within the fourth industrial revolution technologies.

Moodle is free but after paying the annual subscription fee amounting to P1.6 million to secure Astria, BA ISAGO University is now carrying out all of its functions and activities virtually. By that, it has been able to circumvent the threat of the coronavirus infection and its spread, while delivering high-quality education and university services virtually (Raisi, oral communication). Included among these services are the various groups that teachers form between themselves and the teachers and also the staff meetings that the institution convenes among its staff that are located on various campuses across the country.

A note on the ‘hidden’ resources brought to bear in the course of escalating the operations of the University from a lower level to a higher level of technology in order. The University took staff members, lecturers, management, administrators and auxiliary staff, through various training exercises over the period of transition. Training is estimated to have cost around P100,000.00 as consultants were used in the use of Astria (Raisi, oral communication). In addition, there we also unquantifiable costs incurred such

as emotional resistance, which surfaced at the beginning of training in the use of Astria, around the end of December 2021. What this means is that the response to COVID-19 has not occurred without cost to BA ISAGO University. Although generally positive, the developments discussed above are being monitored by the university management pending a full review of the change to full virtual operations in a year's time. That review will reflect more accurately the levels of acceptance of the change to virtual operations by all sections of the institutions especially the learning-teaching function and the administration. But so far, no significant hurdles have surfaced to slow down the change.

Conclusion

The objective of this paper was to demonstrate, using BA ISAGO University as a case study, that COVID-19, notwithstanding the disruption to the economy and the devastation that it caused to human life, nevertheless served as a catalyst for the adoption of more advanced technologies that have radicalized education, especially at the tertiary level. The paper came up with its own argument through an analysis of arguments in the literature, while focusing on practical evidence from BA ISAGO University. BA ISAGO University's response to COVID-19 is still in the works and as such, the University is yet to document that response. For this reason, no citations of the ongoing activities inside the institution have been made.

The paper has demonstrated how the response of BA ISAGO University brought about a paradigm shift in the manner and scope of technology usage across the institution, resulting in the institution replacing the Moodle learning management system with a higher level and more sophisticated technology that has enabled the University to conduct virtually not only its teaching portfolio but its broader and varied management functions as well.

Furthermore, the paper argued that given the technological level at which the institution is now discharging its entire mandate virtually, and the expenditure into which it went to create competencies among its human resources, it would be regressive for it to revert to the old 'normal' which existed before the onset of the COVID-19 pandemic. This position, the paper argued, facilitates the implementation of the knowledge-based economy, an economy that is very much technologically based and one toward which Botswana is moving.

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SCALING UP TECHNOLOGIES, FUNDING AND PROPER POLICY IMPLEMENTATION IN ADULT EDUCATION FOR SUSTAINABLE DEVELOPMENT IN THE POST COVID 19 ERA

[1]Obiozor Ogechi Roseline & [2]Aniemeka Gloria Nwanneka

[1&2]Michael Okpara University of Agriculture,
Umudike Umuahia Nigeria.

Abstract

The essence of scaling up technologies, funding and policy implementation in adult education for sustainable development in the post covid 19 era is imperative. Adult education which is perceived as life long, life wide and succor for all has to be worthwhile, possess the quality of new trends in technologies, skills, and values for knowledge economy and competence. In other words, must be able to contribute to individual self-reliance, community emancipation and development as required in the post Covid era. Covid 19 is a pandemic which does not recognize boundaries and has become an international concern. In recognizing the place of adult education in achieving sustainable development, the paper examines technologies as means of learning in adult education, funding as an important aspect of goal achievement and effective policy implementation as means of achieving sustainable development in the post Covid 19 era. Adult education is confronted with many challenges which include poor funding, unavailability of technological equipment, etc. The paper consequently recommended that the government should give deliberate attention to funding adult education programmes which has become second to none in sustainable development.

Keywords: Scaling-up Technologies, Policy Implementation, Adult Education, Sustainable Development, Post-Covid-19.

Introduction

Adult education cuts across formal, non-formal and informal aspect of education forming a continuum for all age brackets, status and location. It is becoming increasingly difficult for anyone to function effectively or achieving sustainable development without quality education especially in post covid 19 era with alterations and complexities it has brought into the learning system. Covid 19 pandemic brought far reaching changes in all aspects of our lives, with social distancing and restrictive policies which has significantly altered local, national and international learning styles and strategies. Covid-19 exposed non readiness in eventualities not only in education system but in health matters, trading, home management and even transportation. This fact has created a wave of knowledge in the world of technology which is seen as the way forward to make development sustainable. Adult education, according to Aliwa (2018), is an alternate way of acquiring practical life skills relevant to the workplace and a true means of establishing sound and intelligent learning societies fit and relevant for the 21st market economy both internationally and in Nigeria. Adult education in context of sustainable development incorporates activities, programmes and engagements that widen peoples horizons and technical know-how, conscientise and help them know about their rights , gain

knowledge of health management, qualitative and valid rational judgment, live economically independent, respect laws and maintain order in the society. All of the aforementioned realities are implicit in Nigeria's national adult education objectives. Unfortunately, Babajide (2021) discovered that Nigeria, with the population of about 200 million people and a country endowed with various national resources, still harbours a large number of illiterates, out of school children, and a triple increase in unemployment. However, illiteracy and poverty continue to ravage the country and this phenomenon has resulted in several typologies of under-development (Babajide, 2021).

It is obvious that Covid-19 brought challenges. Egwuatu, Oso and Nnorom (2022) state that the national Bureau of Statistics discovered that the number of unemployed Nigerians increased to 23.19 million in the fourth quarter of 2020 as a result of job losses caused by the outbreak of the covid-19 pandemic and its suffocating impact on business, and that the country's current socio-economic conditions are precursors to this dreadful situation. However, the authors pointed out that Nigeria has reached this alarming level of unemployment as a result of a lack of population control and large number of unskilled labour. Therefore, there are needs to look into scaling up technologies, finance and policy implementation which will contribute to education goals and objectives for sustainable development and solve notable challenges ushered in by Covid-19.

It is very obvious that the flare-up of knowledge is characterized with technological advancement and practical skills in knowledge and market economy. On that, the sustainability of knowledge and development must conform to the world standard and acceptance for demand and efficiency. The national policy on education projects adult education and practice to cover functional basic education, remedial and life-long education and in-service, vocational and profession in training (Federal Republic of Nigeria, FRN 2014). These measures are to provide every possible means to enhance human development, improve quality education to accommodate new trends, fill vacuum, and make development sustainable with the proper adoption of technologies, funding and implementation of policies as documented.

Focus on Sustainable Development in Adult Education

Development is the purposeful enhancement of one's ability to deal with problems and maintain a high standard of living. According to Mensa (2019), development is an evolutionary process in which human potential grows in terms of establishing new structures, coping with issues, adjusting to constant change, and working consciously and creatively to achieve new goals. Tadoro and Smith (2008) described development as a multifaceted process including significant changes in social structures, attitudes, and institutions, as well as economic growth, inequality reduction, and the eradication of absolute poverty. Sustainability on the hand connotes the capability to maintain some entity, outcome or process over time (Bisiago 1999, cited in Mensa 2019). Sustainability, according to Mensa and Enu-kwesi (2006), is defined as the improvement and maintenance of a healthy economic, ecological, and social system for human progress. According to Stroddart, Doodds, Shaw, Bottero, Conforth and While (2011), the notion entails the efficient and fair distribution of resources intra-generationally and inter-generationally, as well as the operation of socio-economic activities within the boundaries of a finite environment. Ben-Eli (2015) added to this views by seeing

sustainability as a dynamic equilibrium in the process of interaction between the population and the environment on which it depends. As a result, sustainable development is the concept that human civilizations must survive and satisfy their needs without jeopardizing future generations' ability to do so. Every aspect of human endeavor is affected by sustainability. In this regard, Erhun (2015) asserts that if sustainability in development cannot be continued, then it is not sustainable.

Sustainable development in Adult Education programmes is very important, considering the fact that adults are members of the society. Moreover, Adult Education is an effective tool for educating, conscentising and training individuals towards sustainable development and its goals and targets. This view lends credence to Okorie and Echezu (2019) who stated that Adult education provides the necessary information that is relative to sustainability. Because technology has taken center stage in every part of human activity, sustainability cannot be achieved without, scaling up technologies, funding, and policy implementation in Adult Education. Countries cannot be said to have achieved sustainable development if they are not able to implement policies to meet the basic human needs such as the needs of employment, food, energy, water, education, sanitation and other areas as stipulated by the member countries of the United Nations in 2015 (Okorie & Echezu, 2019).

Adedokun, Adeyemo and Agboola (2018) argued that adults should be included in sustainable development programs through all approved and accredited Adult Education programs, while also incorporating technology innovation. These enormous potentials may explain why countries all over the globe are embracing Adult Education. However, adequate funding, correct policy execution and technology must be combined in order to provide widespread exposure and access to critical information. To buttress this point, Luo, Lang, Wu and Yang (2018) opine that in the era of knowledge economy, people pay more attention on lifelong education with fast updating speed of knowledge and continuing emerging technologies. It caters for both young and elderly, according to Adedokun, Adeyemo and Agboola (2013), and it is lifelong in nature. It will thus be viable if well-funded and strategically located in every country, particularly Nigeria.

Importance of Adult Education and Practice

Adult education is the type of education made easy for the purpose of development of mankind and his environment. Adult education and practice encircles educational activities that encourage all members of society to receive appropriate education at their pace within or out of the learning environment and setting in (formal, non-formal, informal). These include apprenticeship, engagements, vocational and skill acquisition, moral education, family education and more. The inclusion of all ages (learning from cradle to death) gave rise to the term long-life learning in adult education. Ojokhetta and Kehinde (2021) pointed out that adult and non-formal education is an activity geared towards improving people in terms of knowledge skills, technical know-how, and professional development in order to participate fully in development of the society. It is obvious that adult education has gone beyond literacy of reading, writing and arithmetic to encompass everything from elementary mastery to personal fulfilment as a life-long learner even to the attainment of advanced degrees (Patterson 2017). Inclusion and designing learning packages that fill vacuums in the lives of the people for the physical

and mentally challenged, drop-outs, stark illiterates, professionals and the nomads also give adult education a recognizable stand in the education system of any country. The Nigerian government recognized the importance of adult education and practice. Hence, the objectives were enshrined in section 4 of the national policy on education in 2014. Objectives are to:

A. Provide adults and teenagers with a functioning basic education who have never had the benefit of formal schooling or who have dropped out early. Migrants, almajiri students, illiterate and semi-literate adults, youths, and adolescents; persons who left the formal school system early and are now willing to return and continue their education; and other categories of disadvantaged groups; who are unable to access the conventional educational system and thus require other forms of educational programs to cater for their particular/peculiar needs and circumstances;
B. Provide remedial and life-long education to children and adults who did not finish high school.; and
C. To increase the abilities of diverse types of employees and professionals, provide in-service, vocational, and professional training.

Therefore adult education and practice yield the following gains:

1. Adult education is an important part of the life-long learning process, which encompasses a range of learning styles from formal to non-formal to informal.
2. Adult education was no longer limited to servicing the adult population, but had expanded to include the requirements of both young and elderly people.
3. Adult education is not restricted to short- term training but life-long and life wide training. It designs programmes for all aspects of life, continuous and accommodating new trends and innovative.
4. Creates and opens access to education for the excluded, gender equality, equity and justice.
5. Those whose work, age, marital status or physical challenges had excluded are brought into learning fold through adult education. (Omolewa 2021)
6. Adult education adopts variety of methodology to reach its population through the mass media, community gathering, family education and broad range of distance learning. Obiozor (2021)
7. Adult education as life-wide and life-deep covers literacies, community development, social welfare and industrial education. As a philosophy, adult education remains at the vanguard of helping to offer liberation and empowerment to the ignored, weaker and vulnerable groups of the population who decline to admit restriction and defeat and who are resolute and determined to fully explore their innate ability and capacities. (Omolewa, 2021)

However, it is imperative to understand that with the changing world economy and technological advancement, every education has to match with the knowledge economy, technical know-how and practical application of knowledge for solution to problems. Sustainable development in the post covid-19 era observably hinges on technological intelligence of the people whereby knowledge can be applied from any location, time, and medium. However, Nigeria's population is rapidly increasing with the available government jobs inadequate to absorb its youths after graduation from various institution

of higher learning. This difficult circumstance exacerbates unemployment, leading to observable social vices among youths such as drug abuse, kidnapping, abduction, armed robbery, cultism among others.

No matter the level of education attained by any society, adult education could serve as a lever that elevates it to development. According to Nnazor (2005), there is hardly any industrialised country that does not have a well-developed adult education and training system. A system that not only offers a wide range of programs or courses to meet individual and national development requirements, but also aims to eliminate barriers to adult involvement and participation.

As a ladder for advancement and sustainable upward movement, adult education, being flexible, can accommodate the changing world of knowledge explosion. Biao (2021) points out that within a society in which adult education attains this kind of dynamism, there are usually as many adult education programmes as there are industries and entrepreneurial enterprises. The approach is one in which adult education is put at the service of continuing skills up scaling and national development derives its legitimacy from human capital development. Therefore, to acquire theoretical practical and applied skills to match the growing and progressive world standard brought about by covid-19 and technological advancement, up scaling funding, proper policy implementation and technologies in adult education are necessary for over all sustainable development.

Scaling up the Potentials of Technologies in Post COVID Era

The Covid pandemic was a major global event that started from the end of 2019 up until date. It brought about unimaginable fear and uncertainty in the lives of many around the world, and in all facets human of life; social life, national economies, standard of living, work environments, salaries and earnings, health, education among others. One of the major events that took place at the peak of Covid pandemic was the closure of schools and resultant move unto online learning. This naturally pushed the importance of technology to the fore. It has proven to be critical in building long-term resistance against future pandemics as well as addressing secondary difficulties that arise in a socially isolated milieu (Bajpai, Biberman & Ye 2020).

There is dire need to accord technologies the importance it deserves especially in Adult Education programmes in Nigeria, to bring about the sustainability that everyone clamors for. Since technologies have emerged as major means of both tackling challenges caused by the pandemic and responding to new realities that stare us in the face, government of Nigeria should engage activity with the private sectors to develop and upscale technologies especially in Adult Education. There is also a dire need to give attention to the growing number of artificial intelligence (AI) which emerged during the pandemic in the post COVID era in adult education. Artificial intelligence, as defined by Kok et al. (2002), as referenced in Zha (2020), entails the following; Systems that think like human, that act like human, that think rationally and systems that act rationally.

In application to educational initiatives, scaling up technologies thus involves a deliberate effort to adopt, implement and practice a system of technological innovations in teaching and learning in order to achieve sustainable development.

Furthermore, even prior to the Covid-19 related school closure, the use of radio, television and other technological means of learning have been proven to be strong components of well-designed numeracy, literacy and financial education program for children, youth and adults living in remote and rural communities (Montoya 2020). This however may not have produced the desired result in Adult Education programmes in Nigeria, due to non-availability /or inadequate provision of technological facilities in most Nigerian rural and even some urban communities. Without adequate technological device such as internet/mobile networks access, educational resources and teachers training, learners simply cannot take place in distant learning and other adult education programmes. Adults in Nigeria are most likely to be left behind, as many of them come from poor areas, distant locations, and low-income households with limited or no access to technology and the internet.

According to Qekaj-Thaqui (2021), a major concern is also the efficiency of on-line teaching and learning methods. Efficiency is conceived in the following ways.

- Making adult training all inclusive by increasing the array of participants through technologies: This will help reach larger populace and also create employment opportunities. There should be exertion to guarantee that all adults are involved in this kind of training, provision of digital skills and making available computer and internet facilities.
- Strengthening the digital infrastructures available: This strategy is a crucial factor for technologies and online adult education programmes. According to World Bank (2020), during the Covid crises, several countries provided laptops with internet connections to disadvantaged learners. Some are now contemplating supporting internet connectivity as a fundamental utility that all residents, especially those in rural areas or from lower socioeconomic backgrounds, should have access.
- Training facilitators to deliver online courses: This will help in providing the quality of learning experiences and outcomes for the adults. Nigerian ministry of education should equip the facilitators of adult education programmes with the necessary skills through training and re-training to successfully move from face to face to online delivery.
- Providing motivation for online adult learners: It is known that most adults who participate in programmes don't end up completing them. Although adults are self-motivated but emphasis should be placed on building and maintaining motivation of adults especially when engaging in programmes through technologies.

Funding Adult Education

Funding is a serious threat that often sets back any effort of development especially when it is being needed to tackle the inherent challenges that resulted from covid-19 pandemic. The importance of funding is such that it goes along with planning, coordination, implementation and management, supervision and monitoring, evaluation and follow up processes for the achievement of stated objectives for sustainable development. Every system, including adult education as an area of knowledge, depends on funding. On this,

UNESCO in 1991 recommends that 20% of every nation's annual budget should be dedicated to education. Emphatically, the percentage of fund allocated to the education subsector has not been encouraging. Records show that it was 10% in 2012, 8.70% in 2013, 10.6% in 2014, 9.5% in 2015, 6.09% in 2016, 6.14% in 2017 and 7% in 2018 (Central Bank of Nigeria, 2017). In the same vein, Iyabo (2021) noted that in 2019, 7.05% was allocated to education out of #8.92 trillion while in 2020, 6.7% was given to education out of a budget proposal of #10.33 trillion. In 2021, 5.6% was allocated to education out of a budget proposal of #13.6 trillion. A graphical presentation of these education allocations indeed shows a good neglect to the field of education.

A study conducted by Nke, Abua and Eneh (2018) discovered that their study corresponded with previous studies corresponded which found funding as a major challenge confronting the implementation of adult education programmes. The magnitude of activities needed for the realization of sustainable development goals demands adequate funds which are not available to procure infrastructures. The findings of their study revealed that Adult education has no specific learning centres to a high extent and sometimes Adult education is carried out in town halls, and in dilapidated buildings, with no writing materials and instructional facilities, no well-equipped classrooms with adequate sitting arrangement, textbooks etc. There is no argument over these discoveries because they are facts and observable in the communities.

On the funding of literacy education (a major part of adult education), it has been invincibly compared with formal basic education. Aderinoye and Ladan (2021) discovered that literacy education is the most neglected in the family of the education system. Worst still is the zero budgetary allocation to state agencies of mass education in most states of the federation. Apart from salaries and allowances, no capital allocation is available to cater for literacy advancement. On this note, one is persuaded to compare Nigeria with other countries as Mba, Mba and Onyema (2019) noted that in the 2017 national budget, approximately 0.182% of the Nigerian GDP was spent on education compared to Norway and Ireland who according to the United Nations Human Development Report in education index spent 6.6% and 6.2% of their GDP on education. A further comparison of adult education with other educational sectors will clearly show that the government undermines the developmental strength of this all important type of education.

The consequences of poor funding and low budget to education sector are obvious, observable and range from industrial strikes, rivalries, mass exodus and migration to other countries for a greener pasture, dropout, unnecessary brakes in training period, unemployable youths due to unskilled labour and lack of technical know-how. Mba, Mba and Oyema (2019) opined that poor funding poor remuneration packages and other short comings in the system exacerbates the mass exodus (brain drain) of experienced academics to countries with better working condition. This effect of brain drain has led to the reduction of quality skilled man power in Nigeria, increase on the level of dependence on foreign assistance by Nigerian education system, and the reduction on the gross domestic product of the country thereby retarding the technological advancement of Nigerian as the releasing country.

Poor funding obviously leads to the following:

1. poor planning, implementation, coordination, management, monitoring, supervision, evaluation and follow up of learning programmes;
2. inability to provide and employ qualified and dedicate facilitators/teachers;
3. professionals without update on technical know-how;
4. non availability of pertinent teaching and learning facilities;
5. non maintenance of available facilities for learning;
6. abandonment of development programmes;
7. abandonment of academic standards due to unnecessary breakages in duration and period of learning;
8. union rivalries, strikes and closure of learning institutions and schools; and
9. most of all the social vices, corruption, and indiscipline witnessed in the society today.

Adult education financing in Nigeria is obviously inadequate. As a result, administrators are confronted with the difficulty of allocating scarce and restricted resources to ensure the proper operation of programs. Nke, Abua and Eneh (2018) maintained that reasons for under funding of adult education programmes include: poor budgetary allocation for adult education, not including adult education professionals in decision making and not implementing policies as documented among others.

This is to say that realization of adult education goals for sustainable development in the pandemic era is heavily dependent on funding. Adult education enables individuals to gain the required skills for works and life, enable people to have immediate solution to their problems, enable them to be self-reliant, access information from their comfort zone, learn at their pace, retrieve information as they desire, produce and develop man power capable of leading their world, prepare the learners for entry into employment and advancement in their chosen career, boost knowledge of technical know-how, integrate people into technological advancement and facilitates successful ageing process. All these issues highlighted above invariably lead to sustainable developments.

Education Policy Implementation

Education policies serve as guidelines and template for the sector. The national policy on education (NPE, 2014) prescribes national guidelines and requirements for effective administration; management and implementation of education of all tiers of government. As a result, the national policy on education is a declaration of goals, expectations, products, and criteria for providing great education in Nigeria. Frowler (2003) sees education policy as a specified body of principles and actions related to educational issues which are followed or which should be followed and are designed to bring out desired goals in the education sector. Policies are indeed established principles; assumptions, norms, guidelines that govern education decisions and practices. Shekarau (2014) maintains that strategic plans in education alongside blueprints of the transformation agenda expanded the roles for education as an investment for economic, social and political development to include education as an aggregate tool of empowerment for poor, and the socially marginalised groups, an effective means of developing the full capacities and potentials of human resource, as well as a changeable way of establishing sound intelligent learning societies, fit and relevant to the twenty-first

century, the development of competent work force via the acquisition of practical life skills relevant to the workplace.

There is no doubt that the above roles correspond with the stipulated objectives of adult education in human development. To further stress on how Nigeria has been on the path of development, the national policy on education was first published in 1977, reprinted 1981 and in 1998, produced the fourth edition in 2004, fifth edition in 2007, and had sixth edition first reprinted 2014. These are all with incorporations, adoptions, expansions, integrations and exclusion aiming to meet the changing world and standard. Nigeria has all along been a major part of education declarations, chatters, and legislations alongside commitment to the global education for all (EFA) initiative, the millennium development goals (MDGs), as well as sustainable development Goals.

In order to update the content of learning, the National Policy on Education (2014) mapped out comprehensive strategic plan that captured 10 thematic areas from sections 1 to 10 with Nigerian coat of arms enshrined on it. Section 4 is purely devoted to mass literacy, adult and non-formal education for guidance and implementation and this is presented in numbers (and alphabets) thus;

number 66: the definition of mass literacy adult and non-formal education,

number 67: the major objectives of mass literacy, adult and non-formal education;

number 68: strategies in order to eradicate illiteracy from a-s;

number 69: the roles of federal ministry of education from from a-d;

number 70: the role of national commission for mass literacy, adult and non-formal education from a-j;

number 71: the roles of state agencies for mass education from a-s;

number 72: responsibilities of the local government councils in

(a) Day to day control and administration of local mass literacy and adult education programmes,

(b) Recruitment and payment of NFE facilitators, part-time instructors and enrolment of learners for functional literacy and post literacy programmes;

(c) Feedback to the states/FCT and Federal ministries of education in respect of curriculum and materials adaptation, techniques of teaching and evaluation procedures and collection of data:

(d) Ensuring that the literacy network committee at local government, district, village ward and center levels are operating efficiently and effectively;

(e) Provision of physical facilities for rural library reading rooms, television viewing centers and radio listeners clubs.

Education policy is high on the agenda of government across the world. On the need to have a clear outcome of education policy. Les and Howard (2006) wrote on Education policy process, themes and impact which developed a powerful framework for policy

analysis, formulation and implementation in a range of international settings. These include:

- Policy and education focuses on the development of policy at the level of both the nation state and the individual institution.
- Themes in educational policy explore the forces that shape policy with a particular emphasis on the themes of human capital theory, citizenship and social justice and accountability.
- 'The impact of eduational policy' illustrates how policy develops in practice through three research-based case studies, which highlight the application of policy in a range of situations from the development of school-based policies in multi-ethnic communities to the formulation and implementation of strategic policy and planning in international contents.

From the information provided, it is very clear that Nigeria has a well detailed policy on education that can compete with the world standard of benchmark. The policy included materials, methods and mode of instructional delivery for all learners. The policy highlighted and mapped out the roles of federal ministry of education, state/FCT agencies, national commission for mass literacy adult and non-formal education, local government councils in order to achieve the goals of mass literacy , Adult and non-formal education which has been perceived as a substitute to non in sustainable development (National Policy on Education 2014). However, it is so clear that even well intended policies and programmes too often do not reach the target group either by neglects, diversion, corruption or lack of awareness. Gidado (2006) notes that no matter how good a formulated policy may be, if not implemented, it is as good as none. One thing is to have a policy, but it is another thing to attain the goal of the policy through implementation matters a lot in the educational sector. Aondofa (2022) discovered that between 2010 and 2020, Nigerians spent 28.65bn on foreign education. Aondofa further explains that between 1998 and 2018, the number of Nigerians studying abroad quadrupled from 15,000 to 96,702t even with the high cost of education abroad. In a similar vein, Bugage (2022) finds that Nigeria has around 90 million jobless adolescents and graduates with degrees and certificates from various educational institutions in the country, owing to a lack of skill development. All shows neglect on the area of policy implementation.

With the foregoing explanations, it is clear that, despite having a well-planned policy, Nigeria continues to face obstacles in education. Biao (2021) opined that reality differs significantly from what is reported. The first step towards making adult education policy a reality is to make a concerted effort to link it to stated plans. The next crucial step is to conduct a monitoring exercise in which all conditions are in place to ensure that the development plans are not only implemented but also implemented to design. (Biao 2021)

The design of an educational policy sets the scene for execution, which is the most crucial component of planning, according to Ukeje (1986). Policies are not only formulated and written down; they are meant to portray the way of life of people and related in all living circumference within the people, comprehended, communicate, monitored, evaluated and followed-up. Adesina (1977); Van Horn and Van Meter (1977)

showed the following why policies fail to achieve objectives: over-estimated available resources; underestimating the expense of putting a strategy into action, a lack of dependency on outside help, erroneous statistical data, a top-to-bottom faculty communication mechanism (stake holders and receivers), the competency issue (incompetent personnel), insufficient funds, poor information, political backing, and an impossibly short timeline and dispositional disputes, which occur when certain stakeholders refuse to complete their tasks.

Adult education as a field of study is second to none in promoting human resources which invariably leads to sustainable development. Adult education brings theory into practice because it aims at providing solution to immediate problems, Making people to be independent, fostering behavioral changes, equipping people with updates, new trends in knowledge and being marketable not minding background, age and location. Therefore, the tips below can guide in the implementation of policies.

a) Redesigning the policies to be feasible looking at the national values and culture of the people involved.
b) Allowing the Nigerian national council adult education (NNCAE) to take charge of all activities concerning adult education in Nigeria.
c) Making funds available and specifying in the budget enough funds for the adult education sector.
d) Employing personnel in the federal ministry of education whose job is to monitor and evaluate programs provided for adult learners, both in the formal and on formal settings.
e) Provide a way to harmonize scattered adult education outfits in the country examining and certifying the learners who have completed learning processes to avoid quacks.
f) Frequent training and re-traning of the educations for effective service delivery.
g) Deliberately giving adult education a functional position in the country as highlighted in the already existing policies.

Challenges Confronting Adult Education

- *Poor Funding and Poor Budgeting Allocation*

From the literature reviewed in this study, it is clear that poor funding and poor budgetary allocation from the literature reviewed in this study, it is clear that poor funding emanates from poor budget allocation to education to education which affects all sectors of education including adult education.

- *Unavailability of Technological Equipment*

Nowadays, technology has taken over traditional mode of learning and communication. It is obvious that some learning sessions are still taking place in dilapidated buildings, with desks and benches not comfortable for adults. Adults need comfortable buildings, computers, gadgets and other facilities to integrate technologies into learning.

- *Poor Political Will by Government at All Levels*

It is quite observable that adult education is neglected and emphasis is placed mostly on formal education. This special area which fills a vacuum is therefore faced with poor funding, inadequate infrastructure and more. Once the government does not show serious interest in adult education, achievement of the stated objectives will be a farce. Aderinoye and Ladan (2021) noted that more than fifty million Nigerians cannot read and write. In a similar report, the World Bank Group Report of 2018 specifically stated that only 20% of young Nigerian adults who have completed primary six can read (Nigerian Tribune, Friday 18th March, 2018).

Conclusion

This paper x-rayed scaling up technologies, funding and policy implementation in adult Education programmes for sustainable development taking into consideration the importance of adult Education and practice, scaling up the potentials of technologies in post COVID -19 era, scaling up technologies, improved funding, proper implementation of policies, to achieve sustainable development. Adult Education impacts are indeed far reaching and widespread in variety of spheres – on a social, political, religious and economic among others. Not only can scaling up technologies, funding and policy implementation help in creating awareness regarding sustainable development and sustainable living, it can also strengthen adult education in its core by making individuals more aware about their communities, environment, society and families and increasing engagement of such individuals.

Recommendations

1. Federal government of Nigeria should emphasize the production of qualified adult educators with adequate training for effective service delivery in all levels of education system.
2. NNACE should be allowed to harmonize adult education programmes to position personnel to function properly in adult education sector for achieving stated objectives.
3. The government should make technologies available and subsidize the prices of equipment and facilities at all levels of education for programme providers, implementators and participants.
4. The government should give deliberate attention to funding adult education programmes which has become second to none in sustainable development.

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PROFESSIONAL DEVELOPMENT OF ADULT EDUCATION FACILITATORS IN THE DIGITAL ERA FOR SUSTAINABLE DEVELOPMENT IN NIGERIA: POST COVID PANDEMIC

[1]Obiozor Ogechi Roseline & [2]Madu Catherine Omeriyang

[1]Michael Okpara University Agriculture
Umudike Abia state, Nigeria

[2]Nnamdi Azikiwe University, Awka, Anambra State, Nigeria

Abstract

Professional development of Adult Education facilitators in the digital era for sustainable development in Nigeria in the Post Covid Pandemic cannot be overemphasized. This paper examined adult education facilitators as the hub on which adult education programmes revolve and the success are determined by the quality of the facilitators who direct, diagnose and aid learning through mutual understanding with the learners. The paper looked into what is involved in professional development with emphasis on the digital era and post pandemic complexities which has forced a massive shift away from teaching and learning in traditional settings with physical interaction to a digitalized setting. The paper briefly explained sustainable development, the justification to the study and perceived challenges and way forward to professional development of adult education facilitators. In its conclusion, the paper maintained that adult education facilitators need professional development centering on technological know-how for effective instructional delivery. The paper hence suggested, among others, that government should reconsider and provide adequate funds for professional development in adult education facilities for better productivity.

Keywords: Professional development, Adult education facilitators, Digital era, Sustainable development

Introduction

The novel corona virus epidemic (Covid-19) that broke out in Wuhan China in 2019 and subsequently spread to almost all parts of the world disrupted all levels of education delivery worldwide. There has never been an event with such a disruptive global capacity. In Nigeria, the disrupted was enormous that no school was learning except few private schools that were conducting online classes. Adult education classes, community learning centers and others were completely grounded and the role of adult education and lifelong learning was made visible as people needed to learn how to create new ways of (re)organizing social, economic religious, education and political life. According to Pember and Corney (2020), adults unexpectedly faced unemployment, yearned for opportunity to maintain themselves and their families, placing earning above learning and training by working longer hours and taking on other occupations to secure household earnings. In addition, the demand for adult to up-skill and re-skill across the lifespan became painfully obvious in combating post pandemic challenges for sustainable development.

This gloomy situation continued to arise and it appeared difficult for adult education sector to be back on its track as a result of the paradigm shift in education sector which calls for a digitalized education to combat the pandemic challenges for sustainable development. Unfortunately, adult education facilitators were caught in the middle and by observation majority of them lack the quality knowledge and skills to tackle the aftermath challenges brought by the pandemic. Thus, the issue became more worrisome, compelling stakeholders and experts to make a clarion call for adult education facilitators to upgrade their skills and knowledge to meet the demand of the global competition for sustainable development. According to Adrián, Antoni and Pedro (2022), both the Organization for Economic Cooperation and Development [OECD] and the European institutions concluded that the pandemic has shown the need to update teacher training in many countries and acquire new types of skills among teachers, including digital skills. Teachers' growth has also been viewed as a critical component in increasing the so-called educational systems' resilience by international organizations (IOs). The OECD (2020) also considers that governments should bring digital education resources closer to teachers, especially in the post-pandemic era. Teachers' in-service training should focus on increasing their resilience so that they can thrive in changing environments, according to the OECD (OECD, 2020). In-service teacher training in times of crisis, according to IO, (UNESCO, UNICEF, World Bank) emphasize should be on promoting mindsets like learning to learn, flexibility, and collaborative effort to discover acceptable answers to new challenges, rather than instrumental skills alone. Therefore, the professional development of adult education facilitators in this digital era becomes a very important task especially in a country like Nigeria that wants to be relevant in the globalization competition for sustainable development.

Adult Education Facilitators

Adult education facilitator is an individual who helps adults to learn and mainly work in various contexts covering the whole field of adult education. Facilitators are role model and frontline workers; they are determinant of the success and failure of any training involving. Facilitators, according to Ngwu (2013) as cited in Ogu, Osagie and Yakubu (2019), are people who wisely manage challenging learning circumstances and simplify learning for adult learners. Facilitators also release, free, unbind, deliver, untangle, extract, unravel unburden and make learning easier for adults through adult education programs. In Nigeria, facilitators are cynosure to the success of adult education programs for facilitating self-directed learning. Adult educators, according to Nzeneri (2008), are those who intentionally or methodically deliver teaching/learning activities, programs, and processes with the primary purpose of supporting others in learning or achieving their intended learning goals. Therefore, facilitators are educators, motivators, animateur, instructors, directors, counsellors and programme designers.

Similarly, Bernhardsson and Lattke (2009) noted that adult education facilitators encompasses array of professional roles like educators, teachers, trainers, coaches, guidance and counselling staff and others. The authors emphasised that a substantial portion of the professional work in these professions is in direct contact with the adult learner(s) and consists of starting, facilitating, and monitoring these individuals' learning processes. Adult education facilitators operate in a variety of settings, including vocational training, corporate and functional training, social and moral education, and

cultural and arts education. They work in a variety of settings, including formal adult education institutions that provide basic, general, and vocational education and training and non-formal education institutions that provide popular education.

Furthermore, the roles of adult education facilitators outlined by Obidiegwu (2013) include mutual diagnosis of the learning and identification of programme ideas. Another is mutual planning of the experiences and instructions that will produce desired learning, motivating the learners by creating physical and psychological conditions that will cause them to learn. Also, they have the role of organising and managing both human and material resources necessary for achieving the objective of the entire learning process. Moreover, they have the responsibility of evaluating the entire input, process and output to determine whether the objectives were achieved, the extent of its achievement and to make necessary decisions for the future. In this article, an adult education facilitator is defined as any individual who formally and systematically helps adults to achieve their learning objectives in adult education programmes (Onwuadi, Nwachukwu & Okeke, 2018).

Professional Development of Adult Education Facilitators

Adult education facilitators' professional development is simply the process of teaching facilitators to be competent in their areas of expertise and to increase the skills required for maximum performance in adult education programs. Professional development of facilitators is the process such as training, workshops, seminars and any other initiated efforts geared towards deepening the skills, attitudes and knowledge-base of adult educators so as to make them competent and updated in the principles and practices of adult education (Onwuadi, Nwachukwu & Okeke, 2018). Similarly, Perry and Booth (2021) opined that professional development involves both formal and informal learning experiences and processes that lead to deepened understanding and improvement of practice. It is a continuum learning part for instructors throughout their careers. Effective professional development needs to be personalized and responsive to the complex and unique needs and context of the learner (Onwuadi, Nwachukwu & Okeke, 2018).

Regrettably, adult education programmes in Nigeria has not enjoyed the success expected from it. From the 1980s to today, adult education has been described as lagging far behind as a result of neglect and inadequate funding by the government (Fajonyomi, 2021). According to Ominyi and Opa (2008), those who teach in adult education programmes are mainly secondary school teachers. The findings of the National Commission for Mass Literacy, Adult and Non-Formal Education (NMEC, 2008) further confirmed that many of those who teach in adult education centres in Nigeria possess only post-literacy certificate. It further showed that a large number of them were West African Examination Council (WAEC) and National Examination Council (NECO) holders while a significant number were Teacher Grade II certificate holders (NMEC, 2008). Similarly, Fasokun (2008) noted that most facilitators of adult education programmes have no exposure to any form of basic training in the facilitation of adult education programmes in Nigeria. It is imperative to note that those who facilitate adults learning require a particular range of competencies to be effective. These competencies are based on a defined body of knowledge, skills and values, which include such

elements as adult psychology, teaching strategy, programme planning and communication, research method, social and political intelligence, sensitivity, empathy and tolerance (Murtala & Bala, 2015).

In addition, training of adult education facilitators changed with the outbreak of covid 19 pandemic. It forced people to start teaching online and those facilitators who were digital illiterate found it difficult to deliver lessons as demanded because they could not cope with the training that was provided during lockdown. Adult education facilitator applies andragogical approach and, it is their responsibility to apply a workable strategy to wake up adult learners' retention in order to keep adult learners learning through the time without being distracted or dropping out. Andragogy is perceived as the art and science of assisting adults to learn and realise their feet need. The adult learners are already used to old practices. It is pertinent to develop the professionals' competences in skills, attitudes, learning styles, instructional delivery, personality management and most currently technology of technical know-how.

Most importantly, the facilitators need training because many of them are ignorant of current method of teaching , assessing, current method of record keeping, current method of engaging the learners with the new technology, maintaining standardization, teaching them what is relevant, useful and things that they can retain. Effective training programme for adult facilitators will bring about improvement in adult education processes, whereas inadequate training can cause frustration and lack of job satisfaction among facilitators. Thus, for effectiveness and efficiency, all training programmes for adult education instructors must start with a training need assessment (Rowley, 1995). Adult education, according to Nzeneri (2008), is any sort of education (formal, informal, or non-formal) provided to adults in response to their perceived social, economic, political, and cultural needs/problems in order to enable them to completely adjust to life obstacles. According to the author, life-long education is emphasized in adult education as a process and agent of freedom, a tool for self- and national survival or progress; for cultural awareness and integration; for conscientisation or animation; and for collective dynamism. Onwuadi, Nwachukwu and Okeke (2018) state that adult education is defined as any educational programme designed specifically for the growth and development of the adults irrespective of their current status and educational attainment. Therefore, adult educators occupy a pivotal position in the entire process geared towards helping adults to learn effectively. Then, if the facilitators are professionally trained, the system of Adult education will keep making progress. Though, they have been training them for years with some success and failures stories. However, it has become paramount that adult education facilitators must be introduced into the modern method of teaching and learning through digital technology for sustainable development. Most of the facilitators are scared of the digital technology. Some facilitators are even unaware of the value of the technology because they do not know the value of technology to adult education for sustainable development. Therefore, there is an urgent need for adult facilitators to be conscious of the digital technology for sustainable development.

Digital Era

The digital era is the beginning of the information era, which began in the 1980s and continues till now. It is the era of technological development from analog electrical and mechanical equipment to digital technology (Nwachukwu & Eneh, 2019). Jill (2014) claims that the digital era may be understood as the progression of an evolutionary system in which information turnover is not only very high, but also more beyond of human control, making it a period when managing our lives becomes more complex. Jill emphasised that our understanding of human knowledge about how we connect to the world, which is developed in conjunction with technology and publicly available on the internet, raises concerns about our assumptions of control.

As this technological era advances and expands in function, everyday activity and perception of life are gradually depending on it and as it stands, education, economic, social, religious, political and more are consequently becoming tied to it. Nwachukwu and Eneh (2019), opined that digital era is when information technologies are used to collect, store, control, manipulate and distribute the information associated with all forms of work. The authors emphasised that digital era is a technology boom era that all sectors embraced. It is also an era that gave birth to digital natives, the millennial. However facilitators must embrace and integrate all these emerging technologies that will be part of the adult learning since both the adult and digital natives compete in the same society. As a result, rather than merely shifting a printed handout from paper to PowerPoint, the objective of adult facilitators should be to guarantee that the use of digital technologies promotes learning – by taking it to the next level. In the digital age, the instructor serves as a link to the knowledge community, or the state of the art in that field, as well as a fellow student. As a result, in addition to standard teaching abilities, some additional talents must be ingrained in a teacher in order for him to properly fulfill his duty as a facilitator of adult learners. With the world of technologies, both the facilitators and adult learners are better off no matter the location, age, status, past experience and challenges.
These technologies include the smart phones, laptop, computers and the internet. Digital technologies, according to Jill (2014), have been incorporated into practically every aspect of education, business, health, governance, and civic action, and have become essential factors in the creation of wealth across the world. As a result, adult facilitators in this period must possess the necessary talents to assist them in reaching adult learners who are prepared with the necessary functional skills and knowledge to compete in a global society for long-term growth.

The pandemic has pushed a significant transition away from conventional learning and teaching environments with physical contacts and toward a digitalized environment. Facilitators are faced with new problems every day in the digital era, including learners' particular demands, new technology and software, and their own growth needs. It might be difficult to be an adult education facilitator in the digital age. There are so many innovative tools and skills that many facilitators feel they can’t keep up with or they feel they are not given the support on how to effectively integrate them into their literacy classrooms (Nwachukwu & Eneh, 2019).

Need for Professional Development of Adult Education Facilitators in the Digital Era

Professional development sits at the heart of improving facilitators' skills, knowledge and practice. In today's digital era in the face of threats of pandemic, one will not imagine it without professional facilitators with good qualifications and competences in adult education who are equipped with skills of technical knowhow for the changing world. On that note, adult education has become second to none in making the world a global village and a cynosure in market economy for sustainable development. The global emerging issues including COVID-19 calls for effective training and re-training of facilitators (in academic qualification, digital skills, content management and instructional delivery) who will implement adult education policies and programmes for individual, community, society, national and international development.

Offorma (2016) noted that the world is experiencing information overload as a result of communication facilities. This indeed requires the facilitators to keep abreast of the new information to be able to deliver rich, relevant and comprehensive knowledge that will contribute to the growth and development of people. In a survey, the author conducted using 3,733 undergraduate students of the University of Nigeria to find out their conception of the educator of 21st century, 552 (the highest proportion) indicated Information Communication Technology (ICT) as one of the skills the educator must possess (Offorma, 2016:14). Offorma's study indicates that facilitators require skills and digital knowledge to be able to facilitate learning as required. In order to achieve sustainable development in COVID-19 era, the learning must involve competences, knowledge, skills, values, attitudes and dispositions people need to be functional and relevant in the society and these competences are impacted and facilitated through the act of learning by the facilitators. However, the facilitator is a human capital which can also depreciate over time. The upgrade to this obsolescence demands training, retraining, learning and proper reward of performance. They must be retrained to face the challenges of time for the transformation of the stagnated educational system into a sustainable one. Furthermore, the facilitators have to be multi skilled in directing learning for quality output and sustainability. One should understand that before development becomes sustainable, it has been built up with good academic and professional skills focusing on current demands and standard. From the world point of view, adult education cannot be separated from technology. All systems are becoming digitalized with or without being conscious of it.

Technology has been introduced into the Universal Basic Education, Senior Secondary, Tertiary education and Post graduate programmes, not only as compulsory subjects and courses but as a means of learning. Obiozor and Aniemeka (2019) aver that ICT instructional use is vital to the progress and development of facilitators and participants alike in any learning environment. Unfortunately, many developing countries in Africa are still low in ICT applications and use, as a result of obvious reasons such as finance, electricity problems, lack of compliance and lack of proper policy implementation in education. One of the key characteristics and objectives of education is to equip man to play his part harmoniously in the modern world. According to UNESCO (2019), its task is to obtain for each person an adult education confronting to his aptitudes and to the needs of societies, including technological training and higher education. In this

technology driven age UNESCO (2019) explained that education field has been greatly affected by ICT in ways of teaching, learning and research. ICT has the capacity to accelerate, enhance, and deepen skills in order to excite and engage learners, connect learning experiences to work practices, establish economic viability for tomorrow's worker, and improve, instruct, and assist schools in changing. Empathetically, adult education having formal, non-formal and informal aspect of learning has adopted the digital world to reach the infinite audiences; illiterates, professionals, semi-literates, neo-literates, drop-outs, stark illiterates and physically challenged for inclusive education. Therefore, professional development of facilitators is pertinent in the achievement of sustainable development in the pandemic era.

Sustainable Development

Sustainable development begins with education, whether formal, non-formal or informal, because development in any given country is measured by gross national product per head which must translate into progress and general wellbeing in the society. Agenda 21 adopted at the United Nations Conference on Environment and Development in 1992 in Rio de Janeiro, recognizes the critical role that education plays in sustainable development. Sustainable development involves providing opportunities that will enable individuals and communities to achieve their full potentials and goals without endangering or destroying economic, social and environmental system. Obiozor and Aniemeka (2019) aver that sustainable development provides an approach to make better decision on the issues that affect lives. It is about finding better ways of doing things, both for the future and the present. This entails addressing a wide range of community needs, encouraging personal well-being, social cohesion and inclusion, and equalizing opportunity. Adult education is the perfect tool to achieve the mentioned objectives if full potentials of adult facilitators will be properly harnessed in Nigeria education sectors in general. On that note, the adult facilitators have been exposed to the characteristics of adult learners and ageing process, their dual responsibilities in the communities as they crave for immediate solution to problems. Adult learners do not like competitions and therefore need facilitators who understand felt needs and go extra mile to design programmes to meet individual needs for sustainability. Despite the fact that the issue of sustainability has climbed to the top of policy agendas across the world, policy action, particularly in adult learning and education, remains limited. The 2030 Agenda for Sustainable Development does not specifically reference adults. Nonetheless, by referring to lifelong learning and all learners, he fourth Sustainable Development Goal (SDG) includes adults as one of the target groups for educational efforts (Christiana, 2021).

Perceived Challenges to Professional Development of Adult Education Facilitators

Adult education is expected to bring education and learning to the grassroot to include all classes of people, location, background, language, status, age and educational level for sustainable development. Unfortunately things are not working according to plan as a result of some observable challenges of the professional development of the adult education facilitators which include:

*Corruption***:** This is embezzlement of fund meant for educational development, diverting education fund into a private pocket or shared among stake holders. Wonah, Beshel and

Uangbaode (2019) discovered that funds up to the tune of three billion, three million naira (#3.3billion) that passed through Nigeria's Universal Basic Education Commission (UBEC) to service nomadic education, mass literacy education were diverted to private accounts in 2015 and 2016. This huge misappropriation will not only affect teaching and learning but the continuity of updates, workshops and other trainings for the facilitators. In the same vein, Imodu (2018) noted that the then Minister of Education who attempted to bribe the senate Chairman on the Committee on education for enhanced allocation to education ministry is also "gross misconduct and high level of corruption. On this, one can understand that this cankerworm called corruption may also be traceable to the lower levels on the part of people that are involved in providing and implementing programmes for development of education.

Similarly, Okora Saye-orubite (2008) confirms the manner in which Universal Basic Education Blard (SUBEB) outrageously used (800,000,000) eight hundred million in executing a one day training workshop for teachers. It is indeed clear that the influence of corruption on adult and continuing education is significant. Facilitators are developed with money no matter the mode of training. Whereby funds are diverted, every other aspect remains standstill. It is quite unfortunate that well intended programmes do not reach the target audience. On this note, the government has to be more responsible in monitoring and evaluating programmes and projects intended to develop the teachers.

*Funding***:** This has been a great challenge in the practice of adult education. The percentage of fund allocated to the education subsection has not been encouraging. Records show that it was 10.0% in 2012, 8.70% in 2013, 10.6%in 2014, 9.5% in 2015, 6.09% in 2016, 6.14% in 2017, and 7% in 2018 (Central Bank of Nigeria 2017).

According to Ojekheta (2018), the percentage allocation of funding to adult education and literacy fluctuated from 0.65 percent to 8.94 percent of the overall allocation of funds available to education between 1997 and 2008 (which is still the case now). Adult education receives less than ten percent of the entire amount of money available in the Nigerian education system. Funding in adult education has been a serious threat to the development of adult education facilitators. UNESCO's recommendation of 1991 that 26% of every nation's annual budget should be dedicated to education is still not a fact in Nigeria. in the recent time, Iyabo (2021) noted that in 2019, 7.05% was allocated to education out of #8.92 trillion while in 2020, 6.7% was given to education out #10.33 trillion. In 2021 5.6% was allocated to education out of a budget proposal of #13.6 trillion. A graphical presentation of these budgets allocation to education indeed shows a good neglect to the field of education. This invariably affects adult education as an arm of education. Onyenemezu (2012) as cited in Okafor and Dialoke (2021) observed that facilitators receive inadequate wages which is disproportionate with services rendered; work in dilapidated and demoralizing environment without the necessary teaching and learning facilities. The authors explained that facilitators experience stress, insults, and violence from clientele and government. Okafor and Dialoke (2021) added that inadequate funding has caused dearth of trained personnel for the implementation of adult education in Nigeria. Many people carrying out the business of adult education in Nigeria are not trained in the principles, theories and practices inherent in the field and may not

help to realize the objectives of adult education in Nigeria. Funding is indeed a serious threat that sets back any effort of development especially when it is being needed the most to tackle the inherent challenges created by the COVID-19 pandemic. The importance of funding is such that it goes along with planning, implementation, management, co-ordination, monitoring and evaluation processes for the achievement of sustainable development in the society. With adequate provision of funds, development of adult education facilitators will be a positive point of reference. Moreover, all programmes provided to achieve sustainable development will be sustained because the facilitators are the hub on which the successes of all adult education programme resolve.

In all, Fajonyomi (2021) explained that the discourse on funding reveals the apathy of government at all levels towards adult education and its organs of administration like the NNCAE. Back in 1978/79, adult education has been comparatively neglected with the result that there is little by way of infrastructure or curriculum from which to develop, or suitable teaching materials. Till date, the funding of adult education programmes, projects and activities have remained abysmal and uncomplimentary especially when compared with development activities expected (Fajonyomi, 2021).

Placing Nigerian National Council for Adult Education (NNCAE) on the Right Track

Nigerian National Council for Adult Education (NNCAE) has been undaunted in its efforts to ensure social justice in national education aimed at individual, community and National development. Among the numerous goals of NNCAE are the enhancement of the states of field workers and greater professional recognition of full-time adult education workers by the federal and state ministries, provision of adequate training facilities for adult education facilitators, and provision of more personnel in the field of adult education. Another important goal of NNCAE is to plan and conduct adult education conferences, seminars, workshops and symposia periodically for the development of adult education facilitators.

Fajonyomi (2021) noted that one of the major challenges of NNCAE is funding. The writer explained that funding of NNCAE programmes seems to have trimodal phases: 1971-1989 was a period of relative sufficiency time when there was regular statutory allocation to the council, 1989-2006 was termed time of lack when there was no financial support and no academic activities took place and from 2006-2021 is known to be time of inadequacy. Fajonyomi maintained that there has not been budgetary allocation to NNCAE and no support from International Organisations so far. This development has not only affected the development of adult education facilitators negatively but every other aspect that will lead to sustainable development.

It is unfortunate that NNCAE has not been able to achieve the stated goals especially on the training of the facilitators and workers in adult education. Omolewa and Kester (2021) observed that this status of the NNCAE over five decades as a professional association has impeded its potential roles and recognition as a veritable body for actualising national development in Nigeria. The authors explained that the status of the

association should be raised from a professional association to a professional body which will have the powers to

i. Specifying the nature of the education and training required for entry into the profession.
ii. Assessing the knowledge, competence and values of aspiring members as condition for entry.
iii. Ensuring that the providers of professional education and training are suitable and
iv. Specifying the on-going education and training required by the individual members for continued practice within the profession.

In addition, the core elements of any professional body would entail the following

- Recognition by character or statute.
- Qualification for membership is contingent on passing a professional standard examination.
- Membership also dependent on a period of assessed professional practice and
- Providing and enforcing a code of practice based on acceptable professional values (Omolewa & Kester, 2021:13)

The requirements above will indeed quicken the adult education facilitators to strive to upgrade their knowledge to meet up with the changing world. As professionals, recognisable by organisations nationally and internationally they will not like to risk their jobs, positions and memberships of their professional organisation because a whole lot is involved. Therefore, if NNCAE is given the rightful position to coordinate the professional development of adult education facilitators one can readily see the following:

b. readiness to comply to the digital world;
c. readiness to learn on the part of the facilitators;
d. there may not be lackadaisical attitude to instructional delivery;
e. unqualified personnel may not be employed to handle adult education programmes;
f. qualified adult education facilitators will be employed to handle special positions as required of them;
g. appropriate designed and detailed adult education programmes for different purposes;
h. more respect in the practice of adult education; and
i. monitoring, supervision and evaluation of adult education programmes would be assured.

Omolewa and Kester (2021) aver that making the NNCAE a professional body will help in focusing on the dissemination of good adult education practice, and exchanging ideas and the continuous education of the facilitators in general.

Conclusion

Professional development of adult education facilitators is very important in this digital era because the modern Information Communication Teachnologies (ICTs) have great

potentials in transforming instruction delivery in adult education. Professional competencies will not only enhance learning, but will also sustain development and make learners marketable and independent with technical know-how. Adult education facilitators have to be trained and retrained to meet the felt needs of the society. On this, adults would be able to acquire new and practical skills for sustainable livelihood and maintenance of their environment. This paper agreed with the policy statement of the national policy on education that "no education system can rise above the quality of its teacher" on the contrary, this statement has not been implemented anywhere in Nigeria looking at poor remuneration of facilitators, low academic qualifications of facilitators, unavailability of digital facilities in learning centres, and others. This paper has therefore noted that adult education facilitators need professional development with good digital skills to face the challenges of the current hour.

Recommendations

1. Government should reconsider the professional development of adult education facilitators for digital updates for better productivity.
2. Stakeholders in NNCAE should register NNCAE as a professional body to harmonise the training of the adult education facilitators for sustainable service delivery.
3. Adult education programme providers should register with NNCAE as a professional organisation, periodic and mandatory attendance to workshops, conferences and seminars for updates should be supervised and monitored by the professional body.
4. Government should provide adequate funding to provide programmes that will equip the facilitators with current needs and digital skills for better productivity.
5. The government should set up monitoring teams to make sure that funds provided for programmes are used appropriately and accounted for in that manner.

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SCIENCE, MATHEMATICS AND TECHNOLOGY EDUCATION

TEACHING NATURAL SCIENCES AND TECHNOLOGY WITHIN THE LIFE SKILLS CURRICULUM IN FOUNDATION PHASE, IN THE EASTERN CAPE, SOUTH AFRICA

[1]N.C.P. Ngibe, [2]V. Mafilika & [3]M.J. Nela
[1,2,3,&4]University of Fort Hare, South Africa
nngibe@ufh.ac.za[1]; vuyokazi@fundawande.org[2]; nela.ak@gmail.com[3]

Abstract

Natural Science and Technology is one of fundamental subjects in Basic Education, in South Africa. The subject is locked in the Beginning Knowledge of Life Skills subject, which is one of the subjects that are offered at the Foundation Phase. Teachers in primary schools, still lack trainings and workshops, and have limited content and pedagogical knowledge. Hence, they do not always prioritise teaching the subject. The apparent neglect of the subject is a concern because of valuable role that it plays in the development of the Foundation Phase learner. The literature review is used as a method to investigate teaching of Natural Science and Technology, which is within the Life Skills Curriculum. Results from the existing studies reveal that many teachers are unprepared to promote science inquiry and learning in their classrooms; Foundation Phase teachers have a great difficulty interpreting the curriculum because the Foundation Phase Curriculum does not give clear guidance regarding the teaching of Natural Science and Technology. However, in other countries, some teachers are confident in their strategies for teaching Science and Technology. It is recommended that teaching of the subject must be prioritized in primary schools, and teachers must always be invited for teacher in-serviced trainings and content gap workshops.

Keywords: Foundation Phase Curriculum, Life Skills, Natural Science and Technology, Primary School, Teaching

Introduction

Natural Science and Technology subjects are among the imperative subjects in the level of basic education in South Africa. Science involves the systematic study of the structure and actions of the physical and natural world through observation and experiment, whereas technology is the application of scientific knowledge for practical purposes (Svendsen, 2021). The author further posits that some knowledge of science and technology is needed for citizenship in modern technological societies. Teachers need to prepare their learners to fit well in the Fourth Industrial Revolution Era, and compete with their counterparts everywhere in the world. This can be mastered when the good foundation is laid in the early years of schooling, hence Natural Science and Technology (NS & TECH) should be included in the Foundation Phase (FP) Curriculum. Kirch and Amoroso (2016) claim that the qualities that the children possess and bring to school may best be developed by means of a Science Education program that regards children as having ability of understanding the world, but also as able to be in a process of changing the world as well as themselves during the process of learning.

In South Africa, the curriculum for primary schools is planned in such a way that, subjects taught in FP are lesser than those offered in Intermediate and Senior Phases (INTERSEN) (Department of Basic Education, 2011). NS &TECH, as a subject is taught in Intermediate Phase (IP), and it includes content for both Natural Science and Technology as well, but it is not accommodated as a stand-alone subject in the FP because, only four subjects are taught and it is not among the subjects. For that reason, NS&TECH content is infused in the Life Skills subject. Within the specific outcome Beginning Knowledge in Life Skills (FP), NS & TECH states that it aims at building learners' competency in technological processes and elementary science. The apparent neglect of the Life Skills subject is a concern because of the valuable role Life Skills plays in the development of the Foundation Phase learner where NS & TECH is also part of the subject.

In other countries, including South Africa, Science and Technology are not separated because for science subject to be taught effectively there must be more practical than theory, hence; the two concepts will be used interchangeable.

Internationally, most teachers in the FP do not prioritize the teaching of Science and Technology. According to Chalufour (2010), over the past several decades, an alarm has been raised, warning of the state of science education in the United States for children at all grade levels. There is a growing understanding of the role that early childhood education can play in building science literacy as infinitely curious about the world around them. Children constantly observe and explore, take in new information, and generate their own ideas about how the world works (Chalufour, 2010). Unfortunately, many teachers are unprepared to promote science inquiry and learning in their classrooms, since it was presented to them as a static collection of facts to be transmitted by the teacher and memorized by students, and the method is not relevant in teaching young children. Metz (2011) posits that the reform of early primary school science is fundamental to addressing underachievement in later grades and that failure to support the scientific capabilities of primary school children can seriously handicap their future prosperity.

Trinity Grammar School (2018) advises that inquiry and scientific methods are integral to science education and practice. The study of science enhances critical thinking skills that can be applied to any area of learning. Furthermore, teaching technological literacy, critical thinking and problem-solving through science education gives students the skills and knowledge they need to succeed in school and beyond (University of Texas online, 2017). As it appears these are the teaching strategies that are suggested for science teaching in the USA. Learning science in FP instills the love of science, develops life-skills, and encourages enquiry and critical thinking (Trinity Grammar School, 2018).

Campbell and Chittleborough (2014) notes that although Science is a fundamental learning area in the Australian Curriculum, it is not always a priority in Australian primary schools. The findings from the researchers' study revealed that the allocation of time, professional development and resources contributed to building the teacher's capacity to be a science specialist and thus should contribute to making science a priority

in Australian primary schools. Petre's (2013) research promotes the implementation of direct cognition of nature to Science Education to support learners' inherent interest in nature. He maintains that using appropriate teaching instructional methods and resources may contribute to developing and maintaining a constructive association between the learners and their natural environment. This in turn will encourage learners' interest in Science Education.

In New Zealand, there has been concern regarding the inconsistent quality of science teaching. The reason for this has been attributed, amongst others, to the "relatively low levels of Science Education components in initial teacher education programmes" (Bartholomew et al., 2012). The research showed that the teachers still had an optimistic perception of science in the curriculum. The teachers' self-confidence in their capacity to teach Science and to apply learner-centred strategies increased (Bartholomew et al., 2012). Sexton (2018) avers that in New Zealand, primary school teachers are expected to be able to deliver all eight subject areas of the curriculum which include Technology and Science from New Entrant to Year 8 - students aged 5 to 13.

According to Beni, Stears and James (2012), the American Association for the Advancement of Science (AAAS) and the National Research Council (NRC) have highlighted that the New Zealand Curriculum Framework maintains that NS &Tech is essential to understanding the world, and active participation in science fosters that understanding. Beni, Stears and James' (2017) research on Natural Sciences shows that teachers avoided teaching Natural Science, since they lacked specialised content knowledge and were unable to integrate it into other subject areas. They contend that FP teachers have a great difficulty interpreting the curriculum because the FP Curriculum does not give clear guidance regarding the teaching of science. The researchers also claim that although Science and Technology activities are beneficial to learners, several FP teachers feel ill equipped to present activities in this study area. They also believe that the inclusion of Science and Technology activities in the classroom helps to meet the cognitive, psychomotor, social and emotional needs of all learners. An exploration of FP teachers' understanding of the Natural Science curriculum within the Life Skills learning programme, notes that the implementation of the intended curriculum depends on teachers' capacity to do so. They also found that teachers are confident to teach content that they have been teaching for a long time, but are reluctant to introduce new science topics or new methods of instruction" (Beni et al., 2012).

Garbett (2003) noted that, in general, early childhood student teachers' subject knowledge in science was poor, and it also emerged that the student teachers were unaware of how little they knew and how this might affect their ability to provide appropriate science experiences for young children. This would have an impact on their teaching of science at the early childhood stage. However, reflective practice, according to Edwards (2009), can enable teachers to develop their understanding of what science is and a pedagogy that will support the children's scientific learning, as well as increasing their confidence in and willingness to expand their scientific subject knowledge base. This international context background reveals that there is a global trend or practice of prioritising the introduction of Natural Sciences and Technology at the early years of education.

However, the early childhood teachers are found not prepared or ready for the teaching of Science and Technology.

Smith and Fitzgerald, (2013) suggest that primary school teachers should determine how, when and where they attend to a range of explicit science curriculum demands while also attempting to balance teaching and learning requirements across all curriculum areas. These decisions are informed by personal and professional experience, including professional understandings of pedagogy and content knowledge, personal thinking and beliefs about the importance of science and ideas about what science matters for their students (Fitzgerald, 2012). Providing alternative ways of thinking about science teaching may enable primary teachers to drop out their personal feelings of insufficiency in dealing with the teaching of science but build on their existing pedagogical strengths and provide a consistent science learning experience for all primary students. In this way, primary teachers may come to see new possibilities and opportunities for science learning as well as realizing the potential science learning, which exists in the experiences that they presently provide for their student.

In Kenya, Natural Sciences and Technology is a key subject that children study at all institutions of learning from early childhood to university (Andiema, 2016). According to Andiema (2016), the Kenya Education Policy describes the curriculum of primary school is anchored in experimental learning methods, hence the Early Childhood Development Education (ECDE) curriculum is designed to ensure that learners are grounded with scientific knowledge by the time they are finishing nursery school. Unfortunately, most teachers in Kenya are not well prepared in the implementation of early childhood education curriculum development, whilst proclaiming that the teachers' direct involvement as implementing agents dictates that they receive appropriate training (Hellen (2019).

In Botswana, changes were introduced in the primary science curriculum, of which, teachers were not ready for them. The main reason being that science was new to them and that they did not undergo any in-service training in it. Furthermore, some concepts were well above primary teachers' level of understanding (Mosothwane, 2014). In addition, teacher-training institutions did not have science in their curricula; but only physiology and hygiene, and teaching materials such as textbooks, worksheets, etc. were also not available. Graduates from primary schools did not meet science for the first time when they entered secondary schools therefore, this facilitated the learning of science, where the language of science was familiar to first year secondary school students.

However, the current status of science education in Botswana primary and secondary schools is based on the Revised National Policy on Education of 1994, Vision 2016, EFA goals and MDGs (Vision 2016, EFA, 2006; Republic of Botswana, 1994 & 2004). The Revised National Policy on Education calls for a scientifically literate nation. Furthermore, the policy document calls for a strong primary science curriculum. Vision 2016, Long Term Vision for Botswana, calls for a technologically advanced nation through a quality science programme. The vision contends that Science and Technology must be emphasized through the education system and recommends that all children at

the primary and secondary levels of education must be encouraged to study science (Mosothwane, 2014).

Bose, Tsamaase and Seetso (2013) examined Mathematics and Science Education in the pre-schools of Botswana and found out that 50% of the teachers faced challenges while teaching. This indicates that Mathematics and Science Education was already in place in Botswana as early as in pre-schools by 2013. According to Bose et al. (2013), the study revealed that few teachers acknowledged infusing science concepts in their Foundation Phase curriculum. They also found that the teachers' attempts were hindered by the limited scope of knowledge about Natural Sciences and Technology, and hence children's engagement was restricted to fewer Natural Sciences and Technology related activities. Be that may beat as it may be, young children develop Science and experiences through inquiry (Bose, Jacobs & Anderson, 2009; Gelman et al., 2010). Based on the study done by Bose et al. (2016), the teachers have content, but lack in pedagogical knowledge and innovative methods of teaching to deliver difficult contents of science to young children effectively.

From what has been highlighted in the African context, it can be deduced that Africa is not falling behind when it comes to the introduction of Natural Sciences and Technology Education at the Early Childhood Development level so that children can be scientifically literate in the early years of their education development.

South African Context

Life Skills in the FP is divided into four study areas. Beginning Knowledge in which the NS & TECH is locked, is one of the four study areas, others being Personal and Social Well-being, Physical Education as well as Creative Arts. Even in Beginning Knowledge, NS& TECH is paired with Social Sciences. This gives a clear indication of how limited the NS & TECH content is at the FP compared to Mathematics, which is a stand-alone subject. NS & Tech has not traditionally been seen as a focus of instruction, and many reasons that could be attributed to this are: having no specific curriculum for teachers to follow, teachers' lack of content knowledge, the issue of unavailability of resources, large class sizes, teacher identity and teacher confidence (Beni, Stears & James, 2017). The authors add that other problems that may well contribute to this could be the background of the teachers and the fact that NS & Tech is caged in the Life Skills learning programme. In short, one could deduce that NS & Tech is not prioritised at the FP.

Rolandi and Francoise (2016), in their study, revealed that very little prominent focus is placed on NS &TECH, and that the preparation for future schooling does not include the development of science process skills, whilst Trundle (2015), on the other hand, argues that Science is not taught well and effectively to young children.

As far as Steyn, Hartell and Schuld (2012) are concerned; FP teachers are expected to be empowered with content on NS & TECH so that they can equip learners with beginning knowledge. Set, Hadman and Ashipala (2017) advocate that research on the teaching and learning of Natural Sciences is still developing, leaving us with knowledge gaps regarding the various issues that may be preventing or improving successful results in the

learning area at that particular level. They continue by saying that Natural Science teaching hardly support the conceptual development of primary school learners. Ngubane (2014) argues that there is neglect and insufficient support of primary school NS & TECH teachers by their school districts. On the other hand, Mtsi, Maphosa and Moyo (2016) noted that some educators lack proper foundation in Natural Sciences teaching methods and content knowledge.

In South Africa, science is compulsory for learners in the primary schools where it is incorporated in Life Skills from Grades R-3. For the learners to choose science as study area in secondary school will depend on the type of science learnt, the relevance of the science taught and the way it is taught in the primary school. To achieve the goal of ensuring that more learners choose to study science, the way science is taught in primary school should inspire learners to develop an interest in the subject. The study of van Aalderen-Smeets, van Der Molen and Asma (2012) revealed that there is an increasing concern about the decreasing interest of young people in pursuing scientific careers. Popoola (2014) noted that learners' interest might not have been aroused and sustained during their pre-primary education experiences. Learners' lack of interest in science is noticeable in secondary school when learners have to choose subjects in their grade ten year. This interest and love for science has to be developed and nurtured from the time the child enters the schooling system from Grade R. This is essential not only to make daily decisions but also to meet the demands of the global economy. There is a need for science learning to start early and for learners to be taught in such a way that they are engaged in critical thinking. Since Natural Sciences and Technology form part of the Life Skills Curriculum, it is often not given much attention at the foundation phase level and may be an indication of the low prominence given to science in the South African curriculum.

Statement of the Problem

The subjects that are taught in Foundation Phase are Mathematics, Languages and Life Skills. The content of Natural Sciences and Technology is locked in Beginning Knowledge of the Life Skills subject. Even in Beginning Knowledge, Natural Sciences and Technology is paired with Social Sciences (Department of Education, 2011). This gives a clear indication of how limited the Natural Sciences and Technology content is at the Foundation Phase compared to Mathematics, which is a stand-alone subject.

The study conducted by Steyn et al. (2012) in nine South African Universities also revealed that four universities offer modules on Natural Sciences and Technology, whereas one university offers natural and life science. This implies that the other five universities that offer life skills, do not equip their student teachers with knowledge and skills to effectively teach Natural Sciences and Technology. They also recommended that Higher Education Institutions (HEIs) should consider the inclusion of Natural Sciences and Technology as well as Health Education, Safety and Nutrition as subjects/ modules in their Foundation Phase Teacher Training Programmes. They went on and say if Life Skills is regarded as one of the three important subjects for the FP learner, HEIs need to ensure that their student teachers are equipped with knowledge and skills to teach beginning knowledge, health education, arts and craft, as well as physical education.

Fraser-Abder (2011) posits that the existing evidence indicates that only a small amount of the students who go through the school system develop any useful scientific literacy. Hoadley (2012) asserts that gaining deeper and more robust understandings of instructional practice is critical to understanding why and in what ways schooling in South African primary schools continues to fail many learners. According to Rolandi and Francoise, (2016) "many children in South Africa do not encounter science instruction in the early grades, possibly because the curriculum limits science learning to only one of the 'Life Skills' topics in the curriculum and teachers seem to minimise early science learning opportunities". Therefore, the teaching of Natural Sciences and Technology in the Foundation Phase was made a problem in considering the priority, being infused in Life Skills, as well as the content knowledge, skills and competences required of teachers in addressing this multi-disciplinary subject

Research Questions

1. How are the teachers' implementing the teaching of Natural Sciences and Technology within Life Skills Curriculum?
2. What are challenges experienced by teachers regarding the teaching of Grade 3 Natural Sciences and Technology within the Life Skills Curriculum?

Purpose of the Study

The purpose of the research study is to investigate the teaching of Natural Science and Technology in the Foundation Phase.

Literature Review

Implementation of the Teaching of Natural Science and Technology in the Life Skills Curriculum

Any curriculum is at the mercy of the teacher, who will interpret it in classrooms. This is evident in Shalem and Pendlebury (2010) arguing that good teachers are the most precious source of any education system, but they are also expected to fulfil roles, which interfere in their core task of organizing systematic learning. No matter how experienced the teacher may be, the presence of interfering roles is likely to hinder proper implementation of any curriculum. Carl (2010) argues that the curriculum design must consider not only the subject content but also the methods and skills necessary for learning process.

In the learning environment, teachers are expected to implement the curriculum plan handed to them; irrespective of the nature of the workshops and training, they are conducted to equip them with the necessary skills to implement the curriculum. In South Africa, there was a continuous change in curriculum, which included the introduction of new subjects to add on what they were offered already, and this brought a lot of confusion to teachers in South Africa. Still with the current curriculum, National Curriculum Statement (NCS) R-9, there's still some confusion in teaching some of the subjects, including NS &TECH content, which is infused in Life Skills subject. Teachers' choices with the implementation of the curriculum may depend on the resources that are available to them. At times, teachers' preferences regarding the manner and content of what they teach may not correspond with the needs of the learners, depending on how the

curriculum was presented to them for implementation. Carl (2010) is of the view that many curriculum initiatives have foundered due to curriculum developers underestimating the importance of implementation. Moodley (2013) claims that curriculum change is an international issue and is done to adapt to changes in the society and this change happens at a fast pace. Moodley (2013) also maintains that the teachers and learners may be left confused and stressed, if the resources needed for this change are not provided by the Department of Education. Mouton, Louw and Strydom (2012) and Moodley (2013) reckon that these changes are also imposed on teachers as they are not directly involved during the curriculum change. It is therefore necessary for curriculum developers to plan effectively for the implementation phase as Carl (2010) also put emphasis on the idea of dissemination of information, implementation and assessment of curricula. In this case, learners become the core of learning since they are actively involved in the social construction of reality**.**

According to Tenaw (2014), Avraamidou (2014), and Boaventura and Faria (2015), the science teacher is both a curriculum implementer and a reform agent. Maree (2010) argues that while policy documents provide broad guidelines and approaches to changes envisaged, it is getting to grips with implementation taking place in classrooms through efforts of teachers. One may also emphasize that change is not automatically followed by a change in policy but is brought about by the transformation of classroom culture. Teachers play an important role in creating learning environments which enhance learning. If Life Skills CAPS (Natural Sciences and Technology) is implemented, then the learning environment must be supportive of that curriculum. A teacher may need to undergo a change in his/her mind-set regarding Life Skills CAPS (Natural Sciences and Technology) implementation in order to change the culture of the classroom in line with curriculum imperatives. Briggs and Hansen (2012) also affirm that we make learning relevant through mediation by drawing on and making links to what learners may already have experienced in their social contexts. Children accumulate a wealth of experiences in informal contexts before they begin more formal learning context in school. These experiences encourage the development of children's motivation to understand their world where conceptual change is better understood as an intentional activity with regard to the learner, simultaneous reconstruction of conceptual contexts as well as increasing awareness of contexts for their application (Larsson & Hallden, 2010).

Luneta (2011) states that the better our understanding of teachers' experiences is, of how their practices in the classroom develop and of the factors that impinge upon this development, the better we are able to construct, develop and evaluate theories of teacher education and professional growth that are contextualized and grounded in relevant concepts. This will enlighten the training of teachers and guide them in their tasks. Teachers promote children's engagement in challenging and intentional ways by the use of well-timed questions that encourage children to reflect and investigate, demonstrations of techniques using tools with which children are not familiar, and modelling procedures that children may not know how to carry out independently. Chalufour (2010) believes that effective science teaching needs to embrace knowledge and science processes and practices, as well as provide multiple opportunities for students to use these processes and apply them across many experiences.

The National Centre on Time and Learning (2011) argues that science education should build on children's innate curiosity, expanding their scientific knowledge and engagement over time as they examine objects, design and analyse investigations, collect data and discuss and defend their ideas. Bosse, Jacobs and Anderson (2009) and Gelman et al. (2010) indicate that young learners develop science understanding best when given multiple opportunities to engage in science exploration and experiences through inquiry. Rolandi and Francoise (2016) maintain that children don't need to be "little Einsteins" to develop science skills and knowledge, as they use naïve concepts and intuitive theories which are based on their emergent ideas and prior knowledge. Mwenda et al. (2013) assert that the way in which a lesson is presented determines it effectiveness and the level of understanding by the learners who are being taught. They recommend that science should be made practical so that the learners may relate it to their daily situations. According to Abudu and Gbadamosi, (2014) teachers who are not able to use a correct approach and attitude while teaching are resulting to learners having negative attitudes towards science.

According to Wilson (2015), teaching and learning approaches applied by teachers in early childhood are a matter of concern. Anne and Roa (2013) also add that approaches to early childhood education vary enormously from country to country and raise many questions regarding appropriate strategies for the teacher to employ. Weisberg, Hirsh-Pasek and Golinkoff (2013) highlighted the important role of adults in scaffolding children's learning through guided play. Fisher et al. (2013) and Weisberg et al. (2015) claim that guided play is often more effective than free play or direct instruction in isolation. On the other hand (Howard, 2011) is of the view that primary teachers can effectively engage students and encourage learning by supporting students to construct new ideas, share new thinking, generate and record data and collect evidence to challenge and sometimes change existing ideas and understandings.

Set, Hadman and Ashipala (2017) highlighted in their study that science teaching hardly supports the conceptual development of primary school learners. Sharples et al. (2016) are of the view that the teachers should place the student in an active role, and to include innovative teaching/learning methods such as problem-, research- or inquiry-based learning, which are contrary to traditional one-way (frontal) teaching methods. (Charlesworth & Lind, 2013) argue that by developing science process skills early, the children can apply these to their advantage in the learning of other subjects, such as mathematics. In order to teach science to young children, teachers need sound science content and pedagogical content knowledge and skills, which includes an understanding of science content and inquiry processes, knowledge of children and how children learn, and skills for facilitating children's experiences in ways that support their active inquiry and conceptual development (Chalufour, 2010; Sackes, 2012). Worth (2010) asserts that engaged children may stay with science investigations for significant periods of time.

Hong and Diamond (2012) in their study found that children learned science concepts and vocabulary when the teacher utilised a variety of responsive teaching strategies; and children learned scientific problem-solving skills as well as concepts and vocabulary when the component of explicit instruction was combined with the responsive teaching strategies. They also highlighted that children who are in classrooms that provide more

opportunities to explore and manipulate science-related materials and to participate in science-related activities may have more knowledge and skill related to science-content. For example, if early childhood educators provide a classroom environment with rich science-related activities and materials children may be more likely to learn more science concepts, vocabulary, and scientific problem-solving skills. The way in which a lesson is presented determines it effectiveness and the level of understanding by the learners who are being taught. Thus, the role of teachers in quality science learning is critical, their knowledge of children, of teaching and learning, and of pedagogical science knowledge. Fives & Gill (2015) maintain that there is a growing body of research on teachers' beliefs, in which the relationship between beliefs and teaching practices is viewed as significant.

Challenges Experienced by Teachers Regarding the Teaching of Natural Sciences and Technology within the Life Skills Curriculum

Teachers are expected to be experts in the subjects they teach, including the Life Skills, which is one of the subjects, taught in the Foundation Phase. So, the curriculum planners need to consider conducting informative workshops and well organised trainings on the new curriculum that is introduced. Teaching NS&TECH in the early years of schooling can be challenging, and teaching and learning at this stage is closely linked to concepts, events and phenomena surrounding children's everyday world. Learners rely mostly to the knowledge and guidance they get from their teachers, and this put more pressure on the teachers, who may be experiencing some challenges in teaching the subject.

Mosia (2011) is of the view that most teachers experience difficulties with the implementation of Life Skills. So, if Life Skills suffer therefore, Natural Sciences and Technology will suffer too. Teachers are expected to be experts in the teaching of Art, Music, Physical Education, Social Sciences, Natural Sciences, and Technology. In addition, to being knowledgeable Life Skills as per the CAPS requirements, all the above-mentioned aspects of Life Skills related to content and content selection, teachers are also required to have pedagogical knowledge. In the Life Skills CAPS several subjects have been merged. Anything not related to Languages or Mathematics is allotted to Life Skills, making this a multi-disciplinary subject (Department of Education, 2011). There are high expectations regarding the diversity of skills and knowledge that teachers are expected to have in order to address the issue of Foundation Phase Life Skills Curriculum.

Van Aalderen-Smeets et al. (2012) are of the view that primary school teachers lack training on how to teach science and this affects the effective teaching of NS&TECH, which is encompassed within the Life Skills. Bosman (2017) mentioned constraints associated with primary school science teaching that are well documented, and these include teachers' lack of science background and limited subject matter knowledge; limited pedagogical science content knowledge as well as low confidence. This view of the teachers' limited background in science results in teachers developing negative attitude towards science, and omitting the content of NS & TECH when teaching Life Skills subject.

According to Sandholtz and Ringstaff (2014), teachers develop low levels of science teaching self-efficacy, resulting in a disservice to young children who are ready and eager to engage in science. Trundle (2015) concurs with Sandholtz and Ringstaff (2014) in their claim low self-efficacy may result in teachers following inappropriate pedagogies and a preference for more teacher-controlled, text-oriented teaching, focused on isolated facts for rote memorisation. Bandura (1997) refers to self-efficacy as those beliefs people hold with respect to their capabilities to perform given tasks. Teacher self-efficacy, then, are those beliefs held by a teacher regarding his or her capabilities to teach and influence learner achievement (Steel, 2010).

Klassen and Chiu (2010) in their study reveal that teaching experience is related to specific beliefs, and this corroborates to what was observed internationally in TALIS (OECD, 2009; 2014). The more experience teachers have, the more they believe in constructivism and the less they believe in direct transmission. On the contrary, de Jong et al.(2014) did not find any significant association between teacher self-efficacy beliefs for classroom management and for student engagement and the quality of student–teacher interactions. An increase in science teaching self-efficacy encourages a shift from a teacher- and textbook-centered focus to a more learner-centered approach, with its concomitant inquiry-based emphasis

Effective science teaching involves more than just enjoyment and fun science; it involves children being actively engaged, resulting in them having a conceptual understanding of the science being taught (Konstantopoulos & Chung, 2014). Engaged teaching for conceptual understanding of science requires deploying a whole range of different and innovative teaching strategies. Sandholtz and Ringstaff (2014) recommend that pre-service early-years science teachers should be taught conceptually challenging science using a pedagogy that is appropriate for young children.

Milne (2013) is of the view that there are challenges faced by young learners entering formal education, which need teachers with the content and pedagogical knowledge to apply the technological process as well as the scientific inquiry process in the Foundation Phase classrooms. According to the findings by Kijkuakul (2018), Science teachers in primary schools have non-science educational background as the teachers perceive themselves as not being good Science teachers, with only minimal science teaching competency. There is neglect and insufficient support of primary school natural sciences and technology teachers by their school districts. This issue has been discussed in Ngibe's (2016) research findings, where teachers complained about the limited workshops facilitated by teachers who do not have the necessary information.

Heap (2013) is of the view that when teachers think about science in different ways they therefore work with science in different ways; how they understand the nature of science influences where they find opportunities for science teaching and learning within the context of their classroom. Smith and Fitzgerald (2013) assert that it must also be acknowledged that primary teachers have much in the way of expertise to contribute to quality science teaching and learning. Primary teachers nurture critical thinking and

important interpersonal learning behaviours, but they do not recognise these acts as part of learning 'science'.

In the study done by Bose et al. (2016), it was revealed that the teachers had content but lacked in pedagogical knowledge and support of material to comprehend that use of play / rhymes, the innovative method of teaching instead of the conventional ones is effective to deliver difficult contents of science to young children. They also indicated that the awareness of combining content knowledge and the pedagogical knowledge enabled the teachers to develop a resource book with local games / rhymes packaged with embedded science and mathematical concepts, illustrations, steps, rules, and probing questions.

For teachers teaching science, this is the opportunity to have tremendous positive impact on shaping the thoughts and opinions of children. Research has shown that by the time the children reach the age 7 most children have already formed an opinion, whether it be positive or negative about science. With the emphasis on STEM education, it is imperative to increase coverage of Natural Sciences and Technology concepts in the Foundation Phase. It is also important for the teacher to plan, support and guide children in learning about science and technology concepts. Bose and Seetso (2016) are of the view that the teachers can use various teaching strategies and techniques such as modelling and providing feedback and cognitive structuring in an environment that encourages learning through social relationship. Harlen et al (2015) echoed that primary school teachers faced challenges in relation to big ideas in science and lacked resources to enhance the integrative teaching and learning. It is good enough to say that the pedagogical and professional competencies of the teachers are critical for the success of Foundation Phase teaching. An experienced teacher must be able to choose the appropriate method of approach.

Conclusion

From the reviewed literature, it is evident that the teaching of science in primary schools is still a problem. The teaching of Natural Science and Technology content, which is infused within Life Skills subject, is still a challenge in the Foundation Phase. Teachers are still in need of trainings and workshops to be able to teach the content using the relevant teaching methods and strategies.

Recommendations

It is recommended that:

The Department of Education District officials should organise workshops for Life Skills, in which the facilitators will go through each study area, focusing more on the teaching of Natural Science and Technology.

The teaching of Natural Science and Technology content should be emphasized as early as Grade R.

Teachers must be motivated to teach the content even if it is within the Life Skills, but they must make sure that the content is delivered to Foundation Phase learners.

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EXPLORING THE POTENTIAL OF PRE-SERVICE TEACHER EDUCATION INSTITUTIONS IN ADDRESSING SUSTAINABLE DEVELOPMENT ISSUES IN ZIMBABWE

Konyana Shoorai
Central University of Technology, Free State
&
Modise Matolenyana Alfred
Central University of Technology, Free State

Corresponding email: shookonyana@gmail.com

Abstract
Teacher education plays a very important role in sustainable development. Experience has shown that Education for sustainability is not well understood and not well practiced by teacher educators in pre-service teacher education institutions offering Diploma in Primary Education in Zimbabwe. This study aimed to determine how pre-service teacher education promotes the Sustainable Development Agendas (2030 and 2063 for Africa). Through a qualitative case study design, the study utilised unstructured interviews of purposively sampled teacher educators and analyse relevant teacher education curriculum documents to generate data. The findings establish that pre-service teacher education curriculum is not fully integrating Education for Sustainable Development (ESD). Teacher education curriculum plans analysed do not address sustainability. The study suggests that pre-service teacher educators should endeavour to develop in student teachers, positive attitudes towards sustainability.

Keywords: Pre-service teacher education, Teacher education curriculum, Sustainable development goals (SDGs), Teacher educators

Introduction

The contemporary talks about 'saving the planet' and 'planet change' are topical as the responsibility to save our planet is for the global citizens. In order for the planet to be saved, there is need for all nations to think seriously about and act towards a more sustainable world. Though governments across the world have made efforts to address the issue by signing the agenda 2030 (UN, 2015; UNESCO, 2016), which establishes the 17 goals for sustainable development (SD), the efforts will yield nothing if all citizens within the nations are not committed to take up the initiative. In view of the fact that education plays a vital role in developing citizens, it follows that schools and particularly teachers should be prepared to include the importance of the SD agenda in their teaching and learning activities. To this end, pre-service primary teacher education should integrate in their teacher development programmes, which prepare future teachers, ways of dealing with such challenges. Therefore, teacher education should take clear strategies on board aimed at promoting the development of primary school teachers with competences that educate responsible citizens in as far as SD is concerned.

Education for sustainable development (ESD) is defined by Durani, Malik and Jumani (2019) as "sustainable development that meets the needs of the present without compromising on the future generations to meet their own needs". Originally cited in the United Nations Organisation (UNO), the definition portrays development as the use and proper management of available resources for the needs of the current population and for the same resources to be able to meet the needs of future generations. Educational institutions have the mandate to train individuals to develop positive attitudes towards the proper use and management of available resources. Symons (2008) views ESD as the understanding and knowledge of social, economic and environmental features of sustainable development.

Teacher education institutions are the major agents in promoting and delivering ESD to learners at a younger age. ESD has to do with the development of skills and knowledge of individuals in order to be able to solve social, economic and environmental problems within their contexts (Samuelsson & Kanga 2008). Zimbabwe faces economic and environmental crises, and the people's quality of lives have been affected. So, there is need to create awareness and sensitise people of Zimbabwe on the importance of adopting sustainable habits. Kalsoom, Quresh and Klam (2019) maintain that it is the role of teacher educatorn to develop ESD skills in student teachers so that they will instil the theme of ESD in learners. Rickinson (2001) believes that teacher education institutions and teacher education have a major role to play in the promotion of basic theme of ESD. This is so because in class, teachers are in direct contact with learners; so they are well positioned to guide the younger generation for sustainable utilisation of resources. Generally, ESD has been included in teacher education and teachers are playing a crucial role in some countries in the education of learners on the concept of ESD. However, the inclusion of ESD in teacher education is questionable in Zimbabwe since the economic and environmental crisis is still soaring each day. Pointing to the fact that teachers may not be playing this important role. In order to address economic, environmental and social problems in Zimbabwe, teacher education should equip would-be teachers with ESD skills. At present, teachers do not have enough knowledge of ESD. They are not capable of relating the challenges surrounding them in their communities and contexts to content knowledge they impart to learners during teaching and learning. Therefore, to close this gap, there is need to capacitate primary school teachers through pre-service primary teacher education by introducing course content based on the theme of ESD for creating awareness in students about economic, environmental and social problems.

Globally, there is a general realisation that present economic progress is not sustainable. As noted by Basera (2016), it is necessary to make an effort to train citizens, carry out awareness campaigns with communities and educate them to move toward sustainability. Pre-service teacher education purports to enable the future teacher to learn practical techniques which will be helpful for him or her as well as for the learners in classrooms. To this end, Waltner, Rieb and Brock, (2018) note that the important skills, knowledge and attitudes for ESD can be transferred to communities at large through teacher education. Globalisation has brought with it some challenges which have caused some change in educational trends. Therefore, nations, worldwide, are working on enhancing the capacity of teachers to deal with the new trends in education. Education systems in all nations depend on teachers since they are the ones who can help nations to achieve their

educational objectives. So in order to realise the goals of ESD, there is need to focus on teacher education (Louis et al., 2010). This implies that teacher education should take the theme of ESD seriously and work towards integrating it in its content.

The teaching and learning of sustainability is an upcoming development in education. Mostly, it involves understanding of the idea which enables the teachers to address problems for example population explosion, gender equity, environmental problems, poverty, urbanization and reduction of resources in their surrounding and further inculcates the awareness in learners (Pauw et al., 2015). Revision of the courses of pre-service primary teacher education to incorporate the components of sustainable development may bring positive change in understanding the prospective teachers and they may shift this change to the young generation to gain understanding, attitude and skills and attitudes for sustainable future. Therefore, this study sets out to identify the level of alignment of the components of ESD in teacher education curriculum of Diploma 3-year Primary General Course program and find the insights of the members of the College Academic Board on the integration of ESD in teacher education at pre-service primary teacher education level.

Statement of the Problem

The importance of the SDG4 has been well documented (Durrani, Malik & Jumani, 2019; Chasara I Hahlani 2021). The need for integrating components of ESD in teacher education curriculum has been highlighted. Michail, Stamou and Stamou (2007) observe that teachers have little knowledge of the components of Education for Sustainable Development. Teacher education in countries such as Pakistan is said not to reflect ESD (Jumani and Abbasi, 2015). Yet, teacher education is key in the promotion and realisation of ESD. Shava et al. (2021) maintain that, in Zimbabwe, the key challenge for the Zimbabwean context in as far as ESD is concerned is how to structure and implement quality higher education for sustainable development. Another barrier to the implementation of ESD in Zimbabwe is that the schools' curriculum content and educational pedagogy do not fully reflect ESD components. Therefore, if ESD is not integrated at teacher education level to equip prospective teachers with ESD pedagogical knowledge, the highly regarded SD4 will remain on paper and never materialise because teachers are the vehicle through which knowledge of ESD could reach classrooms in Zimbabwe.

Research Questions

- To what extent is the Zimbabwean 3 year Diploma pre-service primary teacher education curriculum aligned to ESD?
- What perceptions are held by teacher educators on the integration ESD in the 3 years Dip. Ed pre-service teacher education curriculum?
- How can ESD be integrated in the 3 years Dip. Ed pre-service primary teacher education?

Literature Review

Pre-service teacher education refers to the preparation of primary school teachers through pre-service teacher development for improvement of students learning (Khan & Haseeb,

2017), whereas Education for Sustainable Development (ESD) denotes the utilization of every type of resources for existing as well as for coming generation. To this end, Pre-service Primary Teacher education and ESD are closely related since teachers are considered to be a key agent in the promotion of ESD to learners in primary schools and to communities at large (UNESCO, 2018). The 3 years Diploma Pre-service Primary Teacher Education program deals with the development of primary school teachers who will proceed to teach in primary schools to learners from grade 1 to grade 7 in Zimbabwe. The Primary school level of education is an essential stage in the lives of children because it is the stage where the teachers take the chance to shape the minds of the young learners through teaching and learning activities they prepare for the learners. Thus, the knowledge of ESD can be easily instilled in the minds of the young learners through teaching in their early stage of schooling life, there by catching them young.

A number of studies show that including Education for sustainable development in teacher education has a positive impact on their awareness, development and capacity building. A study carried out by Michail, Stamou and Stamou (2007) in Greece revealed that primary school teachers do not have adequate knowledge of the environmental component of ESD. Consequently, they hold a misconception that ozone layer depletion is associated with greenhouse effect. Likewise, Evans, Whitehouse and Hickey (2012) point out that it is essential to include a course on Education for Sustainable Development in pre-service teacher education programmes so as to instil the concept in the minds of the learners in primary schools. However, for teachers to teach these ESD issues to learners in schools, they need a proper teacher development programme. Jumani and Abbasi (2015) report that pre-service teacher education in Pakistan do not reflect ESD. At the same time, the school curriculum is said to be over loaded, thereby leaving very little roam for teachers to implement ESD related content (Atmaca, 2017). Therefore, due to heavy loads on teachers which often result in 'teacher burn out', it is likely that issues relating to ESD are pushed aside while teachers concentrate on the 3 'Rs'. However, despite work overload, there is still a serious need for the inclusion of ESD in teacher education curriculum, especially practical activities based on ESD during Teaching Practice, since this will enable the student teachers to try out teaching about ESD to learners in classrooms. In a study on the attitude of pre-service primary teacher education students towards Education for Sustainable Development after studying the course on ESD (Tomas, Girgenti & Jackson, 2017), it is revealed that the teachers' attitude was changed positively towards the social and environmental problems. It is reported that the teachers gained knowledge, attitude and skill for teaching of ESD in schools.

Furthermore, in support of the inclusion of ESD in teacher education, Durrani, Malik and Jumani (2019) shows that the integration of ESD in per-service teacher development programmes enhance quality education in many ways at primary school level. The authors observed that the teaching and learning process change when ESD is included in the content of teacher education curriculum. As a result, the pedagogies which include ESD uphold values, perspectives and skills inside the classrooms which are essential for nurturing of societies. Another study that reflects positive impact on perceptions of student teachers on how to teach ESD related issues to learners in classrooms was contacted by Anderson in 2013. This suggests that the knowledge of ESD can be

transmitted to societies through teacher education and cascaded down to schools through teachers.

Another study by Esa (2010) cited in Durrani, Malik and Jumani (2019) also emphasises on the need to include ESD in in-service teacher development programmes. The findings from this study shows that the teachers were attentive to the ESD issues like energy preservation, water pollution, recycling of waste material, and climate change, as they transmitted the knowledge of ESD to learners. Furthermore, Tuncer et al. (2009) in Durrani, Malik and Jumani (2019) observe that unless teachers develop positive attitude and concerns towards environmental challenges, learners will never be literate on environmental challenges. The study reveals that vocational and technical education teachers such as Agriculture teachers are better placed to initiate and uphold societal wellbeing and community development. Chinedu, Mohamed and Ajah (2018) suggest that the technical and vocational education teachers can develop in learners a culture of sustainability and healthy environment and cascade this culture to communities by teaching them the good values like integrity, peace, resolving conflicts, tolerance and respect for others culture. In line with Durrani, Malik and Jumani (2019), the current study incorporates three main components of ESD which also have their sub-components. The major components of ESD included for this study are (i) environment, (ii) social and culture (iii) economy. Below are the sub-components of the main three categories which were identified.

The sub-components identified for environment are, destruction of the environment by human beings including deforestation, environmental cleanliness, population growth, polluted environment and environmental knowledge, saving natural resources, and resource utilisation. The subcomponent identified for social and culture are corruption, discrimination in health and other services, causes of poverty, energy preservation, rural development, and saving water and other resources. The economic components are religion and tolerance, war and conflict, peace and harmony, rights and responsibilities, and intercultural understanding.

The researchers were motivated by the importance of Education for Sustainable development as documented in literature to carry out this research study which examine 3 year Diploma Primary Teacher education programme specifically with the teacher educators in the Mathematics, Science and practical oriented subjects departments to establish how the components of ESD identified above are aligned in their teacher education curriculum. The department has 7 subject areas namely: Mathematics, Science, Agriculture, Textile Technology and Design, Food technology and Design, Physical Education and Music.

Conceptual framework

This study is informed by the whole teacher conceptual framework (Chen and Chang, 2006; Chen and Mcray, 2012). The whole teacher approach put more emphasis on the promotion and full development of the teacher in terms of knowledge, skills, methods, practices, attitudes and behaviours. Therefore, it caters for the social/emotional, cognitive, psychomotor and behavioural aspects of a teacher's growth. A teacher education approach guided by the whole teacher approach includes core values such as

Commitment, Holism, Experience, Collaboration and Knowledge (CHECK). Chirume (2020) cites Plymouth State University's teacher education faculty as one example of an institution guided by the whole teacher approach. In Zimbabwe, teacher education programmes is within the frame of the Ministry of Higher and Tertiary Education, Innovation, Science and Technology Development and it shares the same goal of producing and developing the 'ideal,' 'perfect' and or 'whole' teacher, even though they might have different core values and mission statements to achieve that goal.

Methodology

In order to achieve this goal, a case study design was adopted in the context of a Zimbabwean Pre-service Teacher Education institution in the Midlands Province, with future primary school teachers studying Agriculture as their main Subject at college. The study adopted a qualitative approach. The approach was preferable since it allowed the researchers to study the phenomenon (teacher education curriculum) in its natural setting. The researchers used a case study within the qualitative approach. A case study enabled the researchers to have an in-depth and detailed analysis of the studied case within its real-world context. Patton (2001) observes that a case study seeks mainly to have the knowledge of a phenomenon in its specific context or its natural setting. In this case study, the researchers had no interest in the manipulation of the phenomenon of interest. A case study design was appropriate for this study because in line with the qualitative approach, it falls under the naturalistic approach in which researchers come up with the whole picture about the phenomenon of interest, analyse documents and detailed views of informants, and conduct the study in a natural setting (Creswell, 2014).

Sample

The sample consisted of 1 Head of Department (HOD), 2 Lecturers in Charge (LICs), 3 Head of Subjects (HOSs) and 15 students. These participants were purposively selected to respond to open-ended and unstructured interviews questions. The student teachers were involved in Focus group discussions. Although these participants held the posts above, they are also college lecturers and, as such, were deemed to be information-rich in terms of how the teacher education curriculum integrates components of Education for Sustainable Development. The HOD is the one who leads the department, is behind the planning and approval of all the curriculum plans in his or her department, and is a member of the College Academic Board, (CAB). The Lecture in Charges man subject areas within their cluster of subjects. They are also behind the planning of the curriculum documents within their clusters. They are members of the College Academic Board and represent issues within their cluster. The Head of subjects are directly involved with the initial planning of the curriculum in their subject areas, be it main subject or the didactical subjects. They are also CAB members standing in for the interests of their subject areas. The student teachers are the curriculum consumers and during TP they have the chance to practice what they gained from the teacher education curriculum. Purposive sampling procedure was used to come up with information rich participants for the study. The students who participated had gone through their Teaching Practice. Therefore, the researchers assumed they had enough experience on how issues of ESD were handled in classroom situations in Zimbabwean primary schools. All the participants were involved in the planning of the curriculum in the department and were

deemed knowledgeable about the curriculum plans. So they were considered to possess valuable knowledge on the implementation of curriculum within their department at the case teachers' college.

Research Instruments

Open ended and unstructured interviews together with focus group discussions were utilised for data collection. These research instruments were handy in the sense that the researchers were able to collect rich data, because they gave room for flexibility to discover certain points stressed in the focus groups. The use of open-ended and unstructured interview questions allowed the participants to explain further on points of interest and expand on others' viewpoints. The focus group participants expanded on some of the issues while the focus group discussions enhanced diversity of thinking and at the same time. Contradictions and differences were noted when they arose. Though the Focus group discussions were face to face, measures to control spread of covid-19 were adhered to. The participants sat one metre apart as they discussed. They sanitised their hands and remained masked up throughout the discussions. Therefore, social and physical distancing was allowed for at the same time. The interviews targeted those from within the department of Mathematics, Science and Practical subjects. Interviews were held twice every week. The researchers transcribed data generated in note pads after seeking interviewees' consent.

Data Collection Procedure

Following the WHO guidelines, and in line with Moyo (2020), though the study was carried out during level 2 of Covid-19 restrictions. Participants were encouraged to mask up and sanitise always and keeping a distance of one meter from each other during the focus group discussions. For interviews, both interviewer and interviewee keep a physical distance of one metre and masked up and sanitised their hands. Permission to carry out the research was sought from both the Ministry of Higher and Tertiary Education, Innovation, Science and Technology Development (MHTEISTD) and the college authorities. It was made known to the participants that they were free to opt out of the interviews or discussions if they felt not comfortable with the proceedings. Further the names of participants remained anonymous.

Data Analysis

The interview responses and debates that came out of the Focus Group Discussions were analysed through a qualitative content analysis. In line with Creswell (2014), content analysis was employed to come up with a systematic examination and interpretation of data presented, in an endeavour to establish themes, patterns, meanings, and biases pertaining to views of college lecturers on the integration of ESD in teacher education curriculum. Furthermore, data collected were thematically analysed following Creswell's open-coding procedures (2014). These procedures involved systematically organising and categorising data and then describing it thematically. For the researchers to condense the data into manageable categories, they came up with themes which they assigned codes. In order to maintain confidentiality of participants and for ethical considerations, participating lecturers were assigned numbers in data reporting.

Findings

Thematic Contents that Emerged in the Data

The contents of the date obtained were analysed thematically. Three thematic contents arrived at: (1) environmental concerns; (2) economic issues; and (3) social and cultural concerns. Each of these themes and the evidence for them is presented below.

Theme 1: Environmental Concerns

Teacher Educator 1 (TE1) (Age 56, Male, 16yrs experience) was of the idea that the issue of integrating ESD in teacher education is still at its infancy. He said with the talk of the philosophy of 5.0 in higher education, there is hope that the ESD agenda will see light in teacher education. However, he raised some concerns by saying:

> *At this college, the personnel do not have enough of the required technological, scientific and managerial skills. In order to have a teacher education that can produce teachers who instil in learners the requisite environmental awareness, there is need for a more focused education that requires and makes use of Science. The teacher educators should find out how to use indigenous knowledge to solve environmental challenges. The environmental challenges such litter management, over population, damaging the environment and saving the forests are the main issues of today which need serious attention. The primary school teacher education curriculum should include use of scientific principles in responding to environmental problems.*

However, TE5 (female aged 52 with 5 years of teacher education experience) opined that the teacher education curriculum in their subject area is well aligned to ESD. She pointed out that in their teacher development they help student teachers to develop pedagogical skills to handle issues of climate change, she said:

> *The subject area is all about nature preservation and the growing of crops and raring of animals for food. The student teachers in our subject area are taught how to grow trees in nurseries and transplant them. Student teachers are expected to establish the same in their Teaching Practice (TP) schools. Student teachers are equipped with soil preparation and management skills including use of organic fertilizers which does not damage the environment.*

The Teacher Educator further indicated that the curriculum plan in her subject area enables student teachers to develop mitigation strategies on environmental challenges. She however, expressed the need for constant review of curriculum plans to cater for drastic environmental changes in different parts of the world and which are also manifesting in the Zimbabwean context, which do not only affect the climate but also people and other living creatures globally.

Theme 2: Economic Component

At the time of data collection, Zimbabwe was going through serious economic challenges. Participating Teacher educators deliberated well on the issue of economic challenges and how their teacher education curriculum plans are aligned to this Education

for Sustainable Development (ESD) component. To this end TE3 (Age 46, Female, 4years experience) pointed out that:

> *A well-qualified primary school teacher must be competent enough to use his or her pedagogical content knowledge to solve problems in society. In a classroom situation, teachers should give learners problem solving situations, discuss and debate with them entrepreneurial skills and let them start small businesses. Our curriculum plan covers this in preparation for primary schools. However, lack of modern equipment hinders the development of competent and effective teachers. Therefore, the colleges need to be well resourced.*

She suggested that teachers should help in the improvement of Zimbabwe's economy by running small businesses with learners and giving advice to communities on small and medium scale enterprises.

In support of the above sentiments TE 6 (Female, aged 52, 10 years' experience) suggested that:

> *The pre-service primary teacher education must focus on creating skills and attitudes for proper utilisation of resources. The pattern of utilisation of resources needs to be taught to learners in schools, but it is only possible when the teachers are aware of the importance of saving all kinds of resources and poverty alleviation through rural development.*

Furthermore TE5 (male, aged 55 with 10 years experience) said that:

> *Teacher education should equip student teacher with competencies which enable them to be good at both subject content and pedagogy and be technologically advanced. In the classrooms teachers should use methodologies that challenge traditional conventions. And to impart entrepreneurial skills to their leaners, primary school teachers should use practical assessments involving community tasks, and should apply their knowledge to solve 'real life' not 'fake' problems in the society.*

Teacher educators' views presented here supports the need for student teachers to be equipped with the necessary skills and competencies in order for them to be able to teach their learners in schools, sustainable skills. This is in line with the views of Samuelsson and Kanga (2008) who recommend that ESD should be part of what learners learn because it has to do with the development of skills and knowledge of individuals in order for them to be able to solve social, economic and environmental problems in their societies.

Theme 3: Social and Cultural Component

Teacher has a crucial role to play, not only in teaching learners in the field of knowledge but also to teach them to accept and adopt their own local culture. Only a qualified teacher can mould the mind of the learners towards achieving the goals of peace and

tolerance in their society. In line with this component, TE1 (Age 56, Male, 16yrs experience) opined that while their curriculum is not addressing this important component of ESD, it is covered well in the other cluster of subjects. He said,

> *In my subject area, social and cultural issues are covered to a lesser extent. However, our student teachers study subjects like Heritage Social Studies (HSS) and Family, Religious and Moral Education (FAREME). In these areas, student teachers are equipped with skills to handle social issues in their teaching practice.*

Document Analysis

Curriculum documents from the department of Maths, Science and practical subjects were analysed. These were for Main Subject (MS) and Professional Subjects Syllabus 'B' (PSBs). The documents were analysed to determine their level of alignment to ESD.

Environmental Component

The Agriculture Main Subject (MS) is aligned to the environmental component of ESD. It aims to create an awareness of environmental issues, community nutritional needs and food security in student teachers. One of the objectives is to apply relevant skills in environmental conservation and management. The Agriculture didactics curriculum (PSB) also aims to develop in student teachers an awareness of contemporary issues in agriculture and actively participate in conservation projects in the community. The aim and objective above shows that the pre-service teacher education curriculum in Zimbabwe is aligned to the ESD component of the environment.

Economic Component

The Textile Technology and Design Main Subject curriculum has two aims which make it aligned to ESD economic component and these are to develop in students:

- entrepreneurial skills in Textile Technology and Design; and
- the ability to harness resources in a sustainable and environmental friendly manner.

While the curriculum is well aligned to the environmental and economic component of ESD, the researchers noted with concern, that the didactic component of the subject area Home Economics PSB is not as explicit as the Main Subject component in terms of its alignment to the economic component of ESD. Of further concern worrisome is the absence of Home Economics as a learning area in the primary schools.

Social and Cultural Component

Two aims of the Music MS for primary teacher education are to:

- Promote cultural awareness and appreciation of music through exposure to a variety of musical instruments and music genre; and
- Develop in students an understanding of music through critical analysis of Zimbabwean music and music of other cultures.

The above aims indicate that the teaching and learning of Music as a main subject at the case college is aligned to the ESD component of social and culture. It is hoped by the

implementer of this curriculum, that their student teachers will be able to help improve social and cultural concerns in the society through music. However, the researchers were not able to deduce how this curriculum addresses the environmental and economic components of ESD.

Focus Group Discussions

In order to validate the data which was collected through interviewing teacher educators and analysing the teacher education plans from one department of a Midlands teacher education institution, focused group discussions were done with the consumers of the teacher education curriculum under study. These were final year student teachers who had gone through their teaching practice and had the chance to implement part of the teacher education they learnt in their first year at college. They were deemed information rich in as far as the teacher education offered at the case college was aligned to the three components of ESD which are environment, economic and social and cultural sustainable components. The student teachers in their discussions showed that the curriculum equipped them with necessary teacher competencies to engage in different ESD related learning activities with learners in schools.

While the research participants were selected from one department in the college, the discussions revealed that these student teachers gained more ESD teacher competences from other departments too because the whole teacher approach in teacher development entails that the student teachers are exposed to a number of didactical subjects so that that are ready to handle all learning areas offered in the primary schools. They indicated that they engaged in various community outreach programmes and were confident that these projects were aligned to the three components of ESD which are environment, economic and social and cultural. The following is a case project done by 3 student teachers at one rural primary school in Shurugwi District. As narrated by Student Teacher 1 (ST1 female ECD student teacher aged 23 Agriculture Main Subject):

> *With the help of an initiative by the local Member of Parliament, we were able to establish a garlic project earmarked for export market. The project was both for the learners and the community. Since it was done with us ECD student teachers, our learners were too young for the work involved. Therefore, their parents and other older learners in the school helped with land preparation and planting of the garlic. The older learners and the student teachers helped with the maintenance of the garlic that included watering and making sure the animals were not destroying the garlic. Learners were taught all the skills needed for such a project from land preparation, preparing the seeds, transplanting seedlings and maintaining the crop up to maturity. This project had an impact on the environment since an idle piece of land was turned into a productive one as shown in the*

pictures below.

ST3 (female student aged 28) talked about the economic impact of the garlic project. She pointed out that:

> *The garlic project introduced the school and the community to export markets. This was a great opportunity for the school and community to reduce poverty and earn a living. The learners gained lifelong skills they will fall back to in life and become self-reliant. The harvested garlic was sold and the funds raised were used to buy school furniture as shown in the picture below.*

ST 2 (female aged 30, Agriculture Main Subject) highlighted the social and cultural impact of the garlic project they engaged on while on teaching practice. She said:

> *The project changed the community to be a better one, especial school leavers. After demonstration by consultants from Seed Co company where members of the community were in attendance, some community members also took up the initiative and started garlic production for export. Therefore, they were no longer idling, but became productive citizen. Poverty alleviation was achieved. The school and community are still going on with the garlic project even after we have left the school to finish our studies at college. Therefore, sustainability has been achieved.*

Discussion

The Findings of this research revealed that the three major ESD components which are environment, economic, social and culture were aligned in most of the subject areas of the three years Dip.Ed. Pre-service Primary Teacher Education programme at one Teacher Education college in the Midlands province of Zimbabwe.

The overall findings of this research corresponds well with the research of Tomas, Girgenti, & Jackson (2017) which supports the inclusion of Education for Sustainability for teacher education at preservice stage. In their research the student teachers who were studying for B.Ed. and participated in the study showed a positive change in their attitude and knowledge about issues of sustainability after completing the course on education for sustainability during their first semester of B.Ed. programme and the students also found it relevant to their teacher education programme. Other studies by Andersson, Jagers, Lindskog and Martinsson (2013) also established that studying ESD had a positive effect on the attitude of student teachers towards social and environmental problems. This research further argued that ESD can be easily transferred to communities through

teachers as teachers play effective role in moulding the opinion of learners towards a positive change.

The findings of this study reveal that Zimbabwean pre-service primary teacher education curriculum is making progress in as far as integration of ESD components is concerned. It can be safely said that the Zimbabwean teacher education is ahead of the Pakistan one documented by Durani, Malik and Jumani, who observed that the three components of ESD economic, environment and social & culture along with its sub components are not aligned in the courses of B.Ed. four years' elementary programme.

The findings are in line with the recommendations of Shava, Chasara and Hahlani (2021) who maintains that the primary purpose of adopting ESD is to build up an institutional culture that would improve learning and help students to become responsible individuals by fostering sustainability for the sake of quality education, equality sustainable consumption and practices to protect our environment and make Zimbabwe a place of safe and sustainable habitat.

Conclusion

The findings based conclusion for this research study are that the Zimbabwean Pre-service primary teacher education curriculum has taken aboard the three components of ESD economic, environment and social & culture along with its sub components the courses of Dip.Ed three years' primary programme, though at a smaller scale. It is hoped that with the 5.0 framework in place, the innovation and industrialisation pillars will further enable student teachers in colleges to develop skills and knowledge to produce goods, services and ideas and also to impart such knowledge and skills to their learners.

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ESTABLISHING THE RELATIONSHIP BETWEEN TECHNOLOGY-INFUSED LEARNING VERSUS UNDERLYING CHALLENGES

[1]Bulelwa Makena, [2]Zameka Yengwayo, &
[3]Mpiti, Motsi Qoyi

[1,2,&3]Walter Sisulu University

Abstract
Learning through digital technologies has come to stay in recent years, and it has been noted as amongst top crucial approaches for enhanced integration to suit the needs of the current economical era. Learners and teachers as recipients of these technological innovation got held in a prodigious task of familiarising themselves with digital learning devices, irrespective of rural-urban environmental disparities. Nevertheless, South Africa, renowned for its rurality in vast communities, has a huge need for schools to adhere to revised curriculum delivery strategies intended to meet global current needs. This study seeks to investigate the challenges of technology infused learning in the South African context. Purposefully nominated five secondary school computer applications technology (CAT) teachers formed a sample for this investigation; semi-structured interviews administered in this qualitative study emerged some themes. Findings showed that incongruous infrastructure and non-functional e-learning resources pose great challenges regarding technology infused learning. As the country is entirely declared to adhere to infused technology practises, we conclude that learners need to be motivated to enrol in computer studies for advancing digital life-long skills, with proposition that curriculum in all South African schools be revised for diverse streams to infuse computer studies as fundamental.

Keywords: Computer skills, Digital, Economic era, E-learning, Rurality,

Introduction

Learning through infused technologies has since become a fundamental phenomenon in the education sphere. This is the case not in the South African context only, but a global awareness. Such changes equally prevailed in the education system, not only in South Africa to mention, but across all other countries of the world (Chetty et al., 2018). As prescribed by the South African government in addressing the problem, prohibition of social gatherings and distancing procedures were put in place. This measure had an effect on the schooling system as there emanated a move towards online teaching and learning. However, inescapable predicaments posed some hindrances for schools located in rural communities of South Africa with regards to shifting towards technology infused learning (Al-Awidi & Aldhafeeri, 2017). Most learners residing in the rural communities got caught up in glitches of exclusion from schooling due to limited resources to cater for online learning. Such sources include but not limited to online sources and automated gadgets, lack of infrastructure, unavailability of electricity, let alone competent teachers

to assist on the new journey that had to be abruptly taken. Limitation of these resources broadens disparities between the advantaged and the disadvantaged (Kwon et al., 2013).

Rural areas are known their lack of socio-economic facilities inclusive of quality services in the field of education, a barrier for sustained technological enhancement (Lozano & Solé-Pla, 2017). Prior et al. (2016) are of the same opinion that there are factors derailing learning and teaching quality in rural communities of South Africa. For improved and sustained quality, there is an urgent need for such disparities to be compensated. All these barriers have been noted to deprive both teachers and learners of the vital information and skills towards community and self-enhancement. As authors we opine that if these barriers are left unresolved, academic attainment would also be deprived, leading to a stagnant throughput rate.

Literature Review

For sustenance and an economically augmented environment, schools need accessible and sustainable infrastructure that would cater for technology infused learning resources (Au-Yong-Oliveira et al., 2018). The current era of digital economy has predominantly brought about emergence of e-learning, wherein learners irrespective of rural versus urban background constituencies are expected to engage is such technologies, for improved computing skills as a necessity towards this period of vast fourth industrial revolution growth across the entire countries of the world. It has been the same case in Saudi Arabia (Pital, 2020) where English First Additional language teachers experienced some challenges to maintain language learning when technology infused online engagements with learners had to resume during the COVID-19 Pandemic learning process. Schools were faced with purchasing functional e-learning mobile resources like smart interactive whiteboards and student response centres. Such innovations were proved to be of effective and efficient use by both language teachers and learners, this spreading over to all subjects underpinning the prescribed curriculum. Yet for the South African context, as these gadgets were subsidised to learners for online learning to resume, taking into cognisance the inhabitants of the so-called rural and deep-rural environments, the greatest percentage of learners experienced glitches to engage with the e-learning devices due to network connectivity encounters. However, Courville (2011) also perceived that for learners to have actively engaged in processes of online learning, there would be added advantages of motivated learning coupled with sharpened skills in the use of gadgets like smart phones, tablets computers.

It is conferred by Du Plessis and Mestry (2019) that, for eras, schools in South African communities have been held up in anomalies emanating from contexts of being marginalised. This includes limited access to profound classroom settings, internet connectivity and electricity, thus imparting negatively at infusing technology with learning. Seemingly there is a huge need for rural-urban digital disproportions to be addressed.

As noted by Jollife and Prydz (2016) most schools around South Africa are positioned in the rural and deep rural environments, implementation of digital literacy developments

tends to be rather slow in such areas, and it is for this reason that the authors of this paper got interested to examine whether infused technology in the South African perspective is experiencing some predicaments or not (Goh & Sandars, 2020). Literature survey has identified a number of a research question to be answered. They include To what extent is infused technology in the South African context is experiencing predicaments? As we respond to the posed research question we already believe and envisage for some imminent research agenda, thereby providing some recommendations to address technology infused predicaments for rural South African schools when formulating future policies (Barteit et al., 2020).

In line with challenges of resources, Blank, Graham and Calvino (2018) argue that schools located in South African rural environments are engulfed with encounters like proximity to towns, road conditions, lack of access to information technology and also lack of access to electricity. All these features are likely to hinder learning, more so that the current economical era needs all learners to be aligned with digital learning logistics to obtain and be well vexed with computer skills for life -long learning. Statistics South Africa (2014) attest that poverty-stricken rural South African schools are pigeon-holed by poor classroom infrastructure challenges, yet with limited and at times, equipment that are non-functional for some years, yet continue to be displayed in the shelves or storages. These infrastructure encounters impede digital development as success for such enrichment relates to extensive access to e-learning devices (Yadav, Gupta & Khetrapal, 2018).

The importance to attain digital and computer literacy skills for excelled academic attainment is acknowledged by Howell and O'Donnell (2017). For effectiveness, digital learning regardless of the rurality of the schools requires access to relevant learning materials for enhanced digital developments. Be that as it may, demographics challenges caused by disparity in economic and rurality of the backgrounds have been noted by Ernst and Moye (2013) to pose some challenges towards an infused digital learning environment. This view is of the same perception with Du Plessis and Mestry (2019) who observed that access to internet, computers and other digital devises become a limitation as violated by the rurality of the environment where a school is situated.

In addition to that, infusing technology still remains an encounter for the poor because of the unique technical hitches (Becker et al., 2010)**.** Benner and Veloso (2008) indicate that paucity conditions like being in far flung environments away from the urban centres and limited access to information communication technology infrastructures can be causes of impediments towards development of the obligatory competencies to leverage digital learning. Nevertheless, technology implementation can be noted in some areas as indicated in the literature (Aghion, David & Foray, 2009).

Moreover, digital illiteracy still remains prevalent in poverty-stricken environments of the developing and underdeveloped countries, despite the current education system's advocation for technology infused learning for learners to be acquainted with computer skills, irrespective of the rurality or urbanity of the environments they emanate from (Von Briel, Davidsson & Recker, 2018). The South African education system, by so doing, is

detrimental at providing all communities with comprehensive environments to learning, thereby intensifying digital literacy-infused technology learning (Soltan, 2016). As a means of addressing the current gap, authors of this paper have explored various literature from diverse sources, aiming towards researching for predicaments likely to hinder infused technology learning, thereafter, outlining some necessary recommendation to close the gap (Hanafizadeh, Saghaei & Hanafizadeh, 2009).

CAT embraces the use of materials required for digital learning. Such material comprises digital infrastructures like software programs, computers, tablets and laptops as alluded to by Wetzel et al. (2014). Specifically, Patil (2020) avers that successful schooling for learners in rural areas is impeded by various challenges. Such challenges in the South African framework have been reported to lead at failure risks and learner drop out resulting from lack of provision from some homes. Rurality of such schools deter learning due to lack of essential resources. In addition to the claim of lacking resources, Du Plessis and Mestry (2019) further aver that despite South Africa being granted a democratic country for the past decades, the standard of education coupled with learner performance for rural school learners still remains in a down-arrow trajectory. Pillay (2021) supplements by confirming that incompatible infrastructure intertwined with under-resourcing logistics in the South African schools denotes some sense of inequality. All the above-mentioned challenges to rurality of some schools contradict with the human rights proposition (Constitution of the Republic of South African, 1996) In essence, the reality of many South African rural schools contradicts Chapter two of the Bill of Rights which proclaims equal education for all South African learners.

Theoretical Framework

Underpinning this investigation is the Constructivist Perspective by Jonassen and Reeves (1996). This theory advocates for an efficiency in learning when e-learning is pursued through the use of digital equipment like computers. It is indicated by the theory that computer learning has been noted for its enhancement in learning as well as in research. It therefore implies that there seems to be some positiveness and effectiveness when teaching and learning infuses use of e-learning devices like computer learning as this enhances learning hence the digital world. Implications of this theory are in line with Yassin, Razak and Maasum (2019) who proposes that application of technology skills in learning play a purposeful role. When leaners have obtained the necessary computer skills, they would be liable to a huge range of possible careers as life-long learners.

Research Methodology

Authors of this manuscript adhered to a qualitative research approach to explore teaching and learning approaches used by teachers towards enhanced e-learning to suit emergent changes roaming the digital world. A case study design embedded in this research approach was followed using the phenomenological method to explore whether infused technology in the South African schools' context is experiencing some predicaments or not towards academic attainment (Mckenney & Reeves, 2018). Purposive sampling was used for this inquiry as it focused on particular characteristics of a population that were of interest. Study participants in the investigated school from the Amatole Education

District comprised three teachers that were offering Computer Applications Technology (CAT).

Authors believed that semi-structured interviews were suitable for this exploration because they allowed for in-depth discussion (Freedmam, 2014) as interviews contained open ended questions relating to the subject under investigation. Furthermore, semi-structured interviews gave authors an opportunity to probe deeper into what the teachers thought and felt. Using this data collection instrument allowed authors greater scope leading to obtaining rich data. Interviewing and understanding responses began with listening to participants 'verbal descriptions, preceded by reading and re-reading written responses in piles of papers. The authors listened to audiotapes to gain a feel of the overall facts. The entire process led to formation of themes as findings for this investigation (Galletta, 2013).

As a way of observing ethical considerations, hitherto human participants' involvement, it was therefore necessary that some ethical principles be adhered to. All teachers who got involved in the interviews voluntarily granted authors permission to be included as participants of the sample population as no single individual was forced to take part in the investigation. Henceforth, the researchers acknowledged not to identify any given response and ensured protection of participants from any kind of exploitation. The collected data was analysed and identified into similar findings which were then grouped together to formulate themes. This helped the researchers to ensure that research questions are answered.

Findings

Findings for this examination revealed that digital disproportions seemed to persist, thereby having an effect towards schools situated in both rural and deep rural constituencies. In the South African perspective, such disproportions were a mere result of infrastructure together with materials for an enhanced - teaching and learning (Pillay, 2021). Data analysed had similar responses which formed various themes discussed in this section. The themes include incongruous infrastructure and non-functional e-learning resources, are discussed as findings in the preceding paragraphs (Morris, Santos & Neumeyer, 2018).

Incongruous Infrastructure

Participants complained that they were faced with poor infrastructure. For example, Teacher 1 reported that: *There is a lack of resources, the workstation for grade 12 is not at all adequate, with limited space to accommodate only a few learners*. This statement was supported by Teacher 2 had a similar opinion: *The computer lab for the grade that I teach is not in the best condition to support large numbers of learners at the same time. As such, classes take turns to attend the lab and use the same computers which make them wear out quickly*. *Furthermore, there needs to be some improvements on the available infrastructure. The school management has to make sure that all the computers in our school are in good working condition*. Teacher 3 is of the same view with the

statements by the previous participants: *Learners cannot practice computer literacy skills due to lack of computers at homes as they mostly come from rural communities with limited access in most learning resources.*

As alluded to by Tondeur et al. (2012), there are suggestions of numerous and unsatisfactory factors that may influence the degree to which teachers implement and persist in the implementation of educational innovations. These include the extent to which administrative and curricular support of resources is made available to schools, as well as the quality of teacher access to computer resources.

Non-functional e-learning Resources

In the school where research was conducted it emerged that there are problems of old computers. Teacher 1 complained: *My challenge is about the computers that are not working as such, I am left with no choice but to only teach theory depriving learners of the necessary skill to practice on computers.* Teacher 3 responded: *Learners in my class use outdated and old computers such that the internet seems to worsen the problem.*

Another participant, when interviewed on the sufficiency of computers as teaching and learning tools, one teacher said: *In my school there is a lack of computers*, while Teacher 3 said: *Learners during computer lessons have to wait for one another as there are inadequate computers*. Another participant said: *We experience limited number of computers, and this causes some delays of not meeting the expected time frames. Since our learners have to share computers, they get limited opportunity for hands-on experience. As a result, there are very few learners who can operate computers without any problems.*

From these findings it could be denoted that teachers face a number of constraints that make the shift not to be fully computer technologically driven in classroom settings. As these mentioned problems of inefficient computers continue unattended, the ultimate results might rotate around time limitation, pressure to cover the curriculum, lack of funds to purchase and upgrade hard and software, as well as limited number of internet connections (Oyedemi, 2012).

Discussion

Considering the findings presented above, it is obvious that there is a need for improvements on the available infrastructures. The school management has to make sure that all the computers at schools are in good working order. There is a need for computers to be connected on internet to help learners find information for their school projects and assignments. It seems imperative that donors have to supply plenty new computers to schools for supporting the development of computer literacy skills in this digital world (Meyers, Erickson & Small, 2013).

The findings above are in line with Von Briel, Davidsson and Recker (2018) who identified a few obstacles in connection with the incongruous infrastructure. This researcher discusses insufficient financial support by the Department of Education in South African schools; untrained teachers; lack of electricity; socio-economic status of

the communities; unfavourable teacher-learner ratios and lack of classrooms suitable to serve as computer laboratories.

For learners not to have free access of this skilful subject might be problematic as CAT is one of the subjects underpinning the school curriculum (Housand & Housand, 2012). Such learners when they proceed to tertiary levels of learning could experience some problems resulting from lacking exposure in their previous years of study. On the other side, this is one of the most important subjects to be learnt as it deals with the effective use of information and communication technologies to solve information, communication and data problems (Mouyabi, 2011). CAT helps learners acquire computer skills that improve their performance when they have enrolled to study at tertiary institutions. It can also help learners to find jobs in companies that need people who are able to operate computers. This is particularly true for learners from rural areas, since most of their parents are unable to pay for them to further their education at tertiary institutions.

Teachers offering CAT are faced with a challenge to continuously upgrade their skills in order to obtain new information on the use of digital technologies. These skills may be obtained through attending workshops and trainings conducted by either government or non-governmental organisation. If teachers upgrade their skills they would be empowered, this leading to imparting more information to learners. Other learners come from advantaged backgrounds and can easily access computers as opposed to learners who come from disadvantaged backgrounds. If CAT teachers do not work together as a team and share responsibilities among themselves, learning of the subject could lead to non-enhanced upgrading in learners, also, leading to underperformance even during examination time (VanBraak, 2001).

Learners who lack sufficient knowledge of how to use various digital applications may be limited in their ability to solve real-world problems (Zimmerman, 2015). A learner is expected to have knowledge of assessing various situations then be able to apply some skills to solve problems, including an ability to work out a problem then suggest a way forward. Studying this subject may empower learners to have theory in practise.

When learners have gained experience in computer learning, they become acquainted with a variety of skills that can assist them in addressing any challenge, such as developing new solutions to the problem at hand. At this stage, learners are now able to use different equipment giving out the expected results. What is surprising is that findings of this paper have divulged that there are many learners who show interest to learn computer literacy skills. This is a good example that people in the outside world are now beginning to really understand that having computer literacy skills is a demand in all areas or fields of work. Not to have knowledge in computer learning is regarded as a big challenge in our current living (Mhlanga & Moloi, 2020) and this is one the reasons why many people have difficulty in getting jobs of their choice. However, another confounding factor is that teachers are faced with various challenges such as poor internet access, shortage of computers, infrastructure and large classes (Herold, 2017). These problems cause teachers to conduct classes limitedly as against the expectations.

Conclusion and Recommendations

This exploration aimed to investigate whether infused technology in the South African schools' context is experiencing some predicaments or not towards academic attainment. Through the revealed findings, it is necessary for teachers across diverse subjects offered to allow for environments that would instil motivated learning underpinned by digital applications. Considering discussions and findings previously outlined, authors recommend that to curb predicaments engulfing technology infused learning within the rural South African context, the government is faced with a challenge for consistency to supply, upgrade and design preservative strategies for the already available equipment and infrastructure.

For learners to acquire computer literacy skills they need to engage in consistent practical work. We, as authors, therefore, conclude that as citizens across societies are all held up in technological revolution, there seems to be a dire need for rural-urban digital variations to be addressed and put into equilibrium, thus enabling enhanced learner attainment within an effectively modernised South African society.

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SENIOR SECONDARY SCHOOL PHYSICS STUDENTS' DISPOSITION TO RENOVATIVE STEM-CELL APPLICATION AND ITS EFFECT ON ACHIEVEMENT IN PHYSICS IN THE POST-COVID-19 LOCKDOWN PERIOD

Veronica Folasade Titilayo Babajide
Department of Science Education
University of Lagos, Akoka

Abstract
The study examines the effect of physics students' disposition to Renovative STEM-Cell Application on achievement in physics. Six research questions guided the study and five hypotheses were tested. The design of the study is an expo-facto form of descriptive research design. Physics Achievement Test (PAT) and Physics Students' Disposition to Renovative STEM-Cell Application Questionnaire (PSDTRSCAQ) were the two validated instruments used for data collection. The reliability coefficients (0.88 and 0.85) were obtained for the PAT and PSDTRSCAQ, respectively, using KR-20 and ordinal alpha. The data gathered was analysed using descriptive and inferential statistics. The results show that physics students have positive disposition to the App , dispositions have effect on achievement in physics. Gender has a significant effect on students' disposition but gender has no significant effect on the achievement of students in physics. All the indices of the independent variable significantly predict the achievement of students in Physics. Based on the results, the researcher made some recommendations.

Keywords: Students Disposition, Renovative Stem-Cell Application, achievement, Physics, Post Covid-19 lockdown period.

Introduction
The rapid development of technology in the 21st century has shown that science is irreplaceable in the modern world. Technology is, indeed, a laudable achievement in the development of a nation. Some of these achievements would not have been possible without the application of the knowledge of physics, a physical science subject. Physics is one of the core science subjects at the secondary school level in Nigeria due to its vital role in technological development. Physics exposes students to the study of matter in relation to energy and motion. Hence, everyone in the universe needs the fundamental knowledge of physics to improve the handling of matters for safe living, appreciation of scientific products for man's use and for the generation of wealth, and to boost the nations' economy.

In spite of the inevitable benefit of physics as a core science subject, its teaching should be effectively handled in the era of COVID and post COVID-19 lockdown periods; a pandemic that invaded the world in the year 2019. The research report of Babajide and Amosu (2021) showed that, from the beginning of the 21st century till date, the world has experienced three outbreaks of Corona viruses namely, Severe Acute Respiratory Syndrome Coronavirus (SARS-COV) in 2003, Middle East Respiratory Syndrome Corona virus (MERS-COV) in 2012 with COVID-19 being the most recent in 2019. However, the first two viruses did not affect any human activity around the world as COVID-19 does. The pandemic led to the shutdown of human activities especially

teaching and learning in schools to prevent the further spread of the disease in Nigeria. The Lagos State government provided online tools and trained all teachers, specifically physics teachers, on how to effectively use various online platforms such as Zoom, WhatsApp, and YouTube videos among others to teach physics at Senior Secondary Schools to meet up with the demands of teaching all the topics in the scheme of work within a limited time. Also, Okeji and Alex-Nmecha (2021) reported that Zoom and WhatsApp were the online platforms lecturers used in delivering lectures to students during COVID-19 pandemic.

In line with the situation in Nigeria are the research reports of Zhao (2020), Harris and Jones (2020) and Cam-Tu et al. (2020). They reported that all school activities were suspended and teaching re-organised with the adoption of online mode of teaching and learning during the pandemic in some countries outside Nigeria. This new mode of teaching due to COVID-19 is known as "the new normal". Still along this direction is the submission of Oviawe (2021) who reported that the Edo State government adopted the use of remote learning during the pandemic.

Also, being a global challenge, various nations across the world adopted online teaching and learning. For instance, the study by Darling-Hammond (2020) investigated the impact of COVID-19 on the Americans' teaching and learning of Physics and reported that during the school closure, 15% of the households in the United States and 35 percent of low-income households with high schools' children did not have a high-speed internet connection at home to move to online teaching and learning platforms.

Similarly, Harris and Jones (2020) noted that the impact of the pandemic on senior secondary school students studying Physics was immeasurable, far-reaching, devastating, and potentially irreversible. The authors further reiterated that the pandemic has disrupted the traditional teaching of physics in schools and reorganised it through the use of online teaching platforms during the pandemic. Similarly, it has made education be re-crafted, re-designed, and re-booted as a home-based technology-enabled online activity rather than school-based. This paradigm shift is likely to affect the core functions of the school because the home cannot serve the same function as the school. The new normal has made school leaders and teachers perform every administrative and academic activity online.

After the total lock-down, heads of schools in Nigeria were asked to design modalities for the reopening of schools. In response to this, the Lagos State government adopted a staggered school calendar (from September 2020 to June 2021) whereby students attend schools on alternate days of the week (Babajide & Amosu, 2021). This period was a partial lock down era. The era after the partial COVID-19 lockdown is known as the Post COVID-19 lockdown era. It is pertinent to identify the mode of instruction in the core science subjects in general and in physics in particular in Lagos state schools in Nigeria during the Post Covid-19 lockdown era.

To sustain the achievement of science subjects in general and physics students in particular in both internal and external examinations, the Lagos State government in partnership with TechHub developed a computer software named Renovative STEM-cell Application specifically for teaching the three science subjects; physics, chemistry, and biology in the Post-COVID-19 lockdown in the state. This application is primarily

designed for use during this era to teach the above three science subjects. The STEM-Cell application is interactive, stimulating, and innovative in nature; it is still undergoing trial testing in fifteen schools from two Education districts in Lagos State Nigeria. This trial testing started in February 2022 in some selected schools in three Local Governments of Lagos State. There is therefore, the need to examine students' disposition towards the new mode of instruction. Hence, this study examined the students' disposition to Renovative STEM-cell Application for teaching physics and its effect on the achievement of students in physics in some selected schools where the App has been used to teach physics during the trial testing. The app is a form of instructional strategy. Students must have acquired basic computer knowledge from their junior secondary schools to enable them use the Renovative STEM Cell Application.

The research report of Juskaite et al. (2020) on the opinion of students and teachers on the use of mobile App for teaching physics showed that the App assisted students in learning physics. Students can perform experiments, solve problems, and learn physics concepts individually as well as learning collaboratively in a group. A further search to identify the mode of instruction in science after the lockdown in other states shows the report of Lockee (2021) who reported that after the COVID-19 pandemic, the mode of instruction in most schools is the blended learning instructional strategy. The study further noted that the respondents found the blended learning instruction very flexible. This implies that the respondents have a positive disposition towards blended learning. The study of Hwang and Purba (2021) also confirmed that the mode of instruction in post Covid-19 era is the use of App. The researchers investigated the effects of Ubiquitous – Physics APP on students' inquiry behaviours and learning achievement. The result shows that students taught with the App performed better than those not taught with the app. Also, inquiry behaviour has a significant correlation with students 'learning achievement.

The research reports of Nja, Lalmuanzuali and Lalchhandami (2019) showed that disposition is an important variable in science and mathematics that determines the selection of students' career choices and their enrolment in a particular science course and achievement. The implication of this assertion by Lalmuanzuali and Lalchhandami (2019) is that if a student is positively disposed toward science or physics or mathematics subjects, the student is likely to choose a career in science or physics or mathematics-related courses in a higher institution, and study the subject he or she is positively disposed to. This positive disposition will make the student to study well and hence, perform excellently in the course

This present study therefore, focuses on the disposition of students to the use of the app. Disposition, within the context of this study, refers to students' state of mind, mood and attitude to the app. It includes their perceptions, interest, the benefit of the app to the learning of physics, ease of use, and challenges encountered in using app. Also, scholars have confirmed that the evidence that methods of instruction is related to students' disposition ain science and mathematics (Nja et al., 2022; Chua 2021; Areepattamnnil et al., 2020; Njah eta l., 2019; Narmadh & Chamundeswari, 2013). The implication of this affirmation is that method of instruction, or instructional strategy can influence students' disposition to science. For example, if an interactive or simulating strategy or gadget is used to teach science subjects such as physics, which students perceive to be difficult can then make the students change their negative disposition to the positive. Also, the

affective disposition of students to a particular subject or method, or object is related to the achievement of students in the subject (Awofala et al., 2020; Cairns & Areepattamnnil 2019; Sakariyau et al., 2016; Awodun et al., 2016). Hence, there is the need to investigate physics students' disposition to the Renovative STEM-cell Application (an interactive, innovative technology and an instructional mode) and its effect on the achievement of students in physics. Achievement in physics within the context of this study is the expected outcome in physics which is a measure of the scores of the students on the physics achievement test.

Gender is the only moderating variable in this study. The choice of the variable is simply due to the inconclusive results of gender on disposition and achievement in science and mathematics. Some researchers found gender difference in the achievement of science and mathematics (Lalmuanzuali & Lalchhandami, 2019). The reason for this hinges on the fact that male students had a better understanding of the mathematical aspect of physics compared to female students; since physics is regarded as a male subject because of its mathematical aspect. This made them have higher scores in the physics achievement test than their female counterparts. Also, the research reports of Lalmuanzuali and Lalchhandami (2019) and Sakariyau, Taiwo and Ajagbe (2016) showed no gender difference in disposition towards science because both male and female students have positive disposition to science. Contrary to the above findings is the report of Narmadh and Chamundeswari (2013) who obtained significant gender difference in disposition to science. There is, therefore, the need to further investigate the effect of gender on students' disposition to physics and achievement in physics.

Statement of the Problem

Generally, students are expected to have excellent achievement in physics at all levels in both internal and external examinations since physics is the bedrock of modern and technological advancements. Over the years, the performance of students in physics has been consistently poor in both internal and external examinations. This poor performance of students in Physics especially in external examinations organised by West African Examination Council (WAEC) and the National Examination Council (NECO) has been a point of concern to students, teachers, and parents who dream that their wards should study engineering courses and medicine at the university level. The Lagos State government introduced online classes and staggered school calendar to assist students during total and partial lockdown periods in Nigeria to improve the achievement of students in physics during this pandemic era, yet the performance was not excellent but better than the previous years.

The Lagos State government in partnership with TechHub developed an application named Renovative STEM-cell Application for teaching the three core science subjects in order to further assist the students to have excellent performance. Therefore, the App was adopted for use as an instructional strategy for teaching physics at the senior secondary schools in the state selected for the trial testing as a baseline. Therefore, to ensure that the Renovative STEM –Cell Application achieves what it was set out to achieve. There is a need to consider the students' dispositions (which include perceptions, challenges, ease of using the application, and usefulness) to the Renovative STEM-cell Application and its

effect on their achievement in physics. Also ideally, gender should not be a factor in the disposition and achievement of students in physics; male and female students are expected to show positive disposition towards physics and also perform excellently in physics in both internal and external examinations. However, research reports show deviation from the ideal situation with inconclusive results. Some researchers obtained significant difference in disposition to physics and achievement in physics while some obtained no significant difference in the two variables as reported above. Hence, there is a need for further investigation on the disposition of physics students to the App and the effect of gender on the achievement of students in physics in the post COVID -19 Era.

Purpose of the Study

The purpose of this study is to examine the effects of physics students' disposition to Renovative STEM-Cell Applications for teaching physics in the post-COVID-19 lockdown period on achievement in physics.

Objectives of the Study

Specifically, the study seeks out to determine the:

i. overall disposition of the students to the Renovative STEM-Cell Application in post-COVID-19 lockdown period;

ii. contributions of ease of using the application, challenges, usefulness, and perception on Renovative STEM-Cell Application in post-COVID-19 lockdown period;

iii. overall contribution of all the dimensions of dispositions to the Renovative STEM-Cell Application in post COVID-19 lockdown period;

iv. effect of Physics students disposition to the Renovative STEM Cell application on achievement in physics;

v. effect of gender on disposition of students to the Renovative STEM-Cell Application used in post COVID-19 lockdown period; and

vi. effect of gender on the achievement of students in physics with the use of the Renovative STEM-Cell Application used in post COVID-19 lockdown period.

Research Questions

i. What is the overall disposition of physics students to the Renovative STEM-Cell Application used in the post-COVID-19 lockdown period?

ii. What are the contributions of the dimensions of disposition (Ease of using the application, challenges, usefulness, and perception) to Renovative STEM-Cell Application on achievement of students in physics?

iii. What is the overall contribution of all the dimensions of dispositions to the Renovative STEM-Cell Application in post COVID-19 lockdown period?

iv. What is the effect of physics students' disposition to the Renovative STEM-Cell Application on achievement in physics?

v. What is the effect of gender on the disposition of students to the Renovative STEM-Cell Application used in post COVID-19 lockdown period?

vi. What is the effect of gender on students' achievement in physics?

Research Hypotheses

The following research hypotheses were tested in the study;

Ho_1: Physics students' disposition (Ease of using the application, challenges, usefulness, and perception) to Renovative STEM-Cell Applications will not significantly predict the achievement of students in Physics.

Ho_2: The dimensions of physics students' disposition to the use of the Renovative STEM-Cell Application will not jointly predict the achievement of students in physics**.**

Ho3: There is no significant difference in the disposition of physics students to the Renovative STEM-Cell Application and achievement of students in physics.

Ho_4: There is no significant effect of gender on the disposition of students to the Renovative STEM-Cell Application used in the post-COVID-19 lockdown period

Ho_5: There is no significant effect of gender on the achievement of male and female physics students exposed to the Renovative STEM-Cell Application used in teaching Physics post-COVID-19 lockdown period.

Theoretical Framework

This study is anchored on the attribution theory proposed by Fritz Heider (1958). The theory explains the interpretive process by which students make judgments about the causes of their own behaviour and the behaviour of others. Attribution theory is related to this study in the sense that it explains the disposition of students to STEM-Cell application and its effect on their achievement in physics. The achievement of students in this study represents behaviour of students in attribution theory. In essence, much of the students' performance is evaluated by self-reflection since their disposition to the instrument (STEM-Cell) is critical to their achievement. The judgment students make in attribution theory represents the students' disposition. This disposition affects students' emotional and behavioural responses, aids in shaping their environmental views and forms beliefs about those environments. However, a student's disposition can either be positive or negative. For instance, a student who is positively disposed to an instrument would have a better academic achievement compared to a student who is negatively disposed to such an instrument.

The reason for this is not far-fetched because a positively disposed physics student will develop more interest, interact better with the instrument, and rate the instrument high which will ultimately lead to better academic achievement of the student. In contrast, a student who is negatively disposed would appear to be uninterested, interact poorly and rate the instrument low which would result in the student's poor academic achievement in the subject.

Methodology

The study is an expo facto form of descriptive research design. The targeted population of the study comprised all physics students in the school using Renovative STEM-Cell Application in Education Districts IV and V of Lagos State. Multi-stage sampling technique was used to select one Education District (IV) out of the two Districts (IV and V) where the app is being trial-tested. Also, purposive sampling technique was used to select five (5) schools among the ten schools in education district IV out of a total of 15

schools using the STEM applications in the two districts. The selection was based on the readiness of physics teachers to assist in data collections and students' readiness to participate in the study. A simple random sampling technique was employed to select fifty-six (56) students from SSII in each of the schools selected. This made up two hundred and eighty (280) students used as the sample size for the study.

A self-developed achievement test selected randomly from WAEC past questions on topics (Energy, Heat and Specific heat capacity) the students have been taught with the use of the Renovative STEM-Cell Application termed Physics Achievement Test (PAT) and a 40 item, 5scale points (strongly Agree, Agree, Neutral, Disagree &Strongly Disagree) Questionnaire termed Physics Students' Disposition To the Renovative STEM-Cell Application Questionnaire (PSDTRSCAQ) were the instruments used for collecting data. The reliability coefficients (r = 0.88 & 0.85) for PAT and PSDTRSCAQ were calculated using Kuder-Richardson (KR) 20 because the items have varied difficulty level and ordinal alpha, respectively. The PAT was a twenty-item question as multiple choice questions with a key and three distracters with difficulty index and discriminating index of 0.65 and 0.61 respectively. The schools were visited to discuss with the principal and physics teachers for approval and assist in distributing the instruments in their respective schools. Intent forms were filled to ensure they consented to participate in the study. The rating of PSDTRSCAQ) ranges from 5, 4,3,2,1 respectively for positive responses and the reverse for negative responses. PAT was scored 1 and 0 for correct and wrong answers respectively.

Results

1. What is the overall disposition of physics students to the Renovative STEM-Cell Application used in post-COVID-19 lockdown period?

Table 1: Descriptive Statistics on the Overall Disposition of Physics Students to the Renovative STEM-Cell Application Used in Post-COVID-19 Lockdown Period

	N	Minimum	Maximum	Mean		Std. Deviation
	Statistics	Statistic	Statistic	Statistic	Std. Error	Statistic
PHYSICS STUDENTS' DISPOSITION	280	40.00	200.00	144.10	.97383	16.29535
Valid N (listwise)	280					

Table 1 shows the calculated mean as 144.10. The estimated mean is (40 + 200)/2 = 120.00. The calculated mean is greater than the estimated mean. Hence, the overall disposition of physics students to the Renovative STEM-Cell Application used in post-COVID-19 lockdown period is favourable, high and positive.

2. What are the individual contributions of the dimensions of disposition (Ease of using the application, challenges, usefulness, and perception) to Renovative STEM-Cell Application to achievement of students in physics?

Table 2: Descriptive Statistics on the individual contributions of the dimensions of disposition to Renovative STEM-Cell Application on achievement of students in physics

	N Statistics	Min. Statistics	Max. Statistics	Mean Statistics	Std. Error	Std. Deviation Statistics
PERCEPTION	280	10.00	50.00	32.8500	.40262	6.73718
USEFULNESS	280	10.00	50.00	39.0000	.46219	7.73393
CHALLENGES	280	10.00	50.00	36.6500	.37449	6.26640
EASE OF USING APP	280	10.00	50.00	35.6000	.44456	7.43893
PAT	280	0.00	30.00	21.3500	.15757	2.63673
Valid N (listwise)	280					

Table 2 shows that the mean and standard deviation of perception is 32.85 and 0.40262, usefulness is 39.00 and 0.46219, challenges 36.65 and 0.37449, ease of using app is 35.60 and 0.44456 while PAT is 21.35 and 0.15757. The mean of each of the dimensions of disposition is greater than the mean of the achievement of students in Physics. Hence, each of the dimensions of disposition to Renovative STEM-Cell Application contributes to the achievement of students in Physics.

3. What is the overall contribution of all the dimensions of dispositions to the Renovative STEM-Cell Application in post COVID-19 lockdown period?

Table 3: Regression Statistics on Joint Contributions Disposition to the Renovative STEM-Cell Application on Achievement in Physics

	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.588[a]	.346	.336	2.14858

a. Predictors: (Constant), EASE OF USING APP, CHALLENGES, USEFULNESS, PERCEPTION

Table 3 shows that the adjusted r is 0.336, which implies that physics students' disposition made a total of 33.6% to the achievement of students in Physics.

4. What is the effect of physics students' disposition to the Renovative STEM-Cell Application on achievement in physics?

Table 4: Descriptive Statistics on Effect of Students' Disposition to the Renovative STEM-Cell Application on Achievement in Physics

	N Statistics	Min. Statistics	Max. Statistics	Mean Statistics	Std. Error	Std. Deviation Statistics
PHYSICS STUDENT DISPOSITION	280	40.00	200.00	144.10	.97383	16.29535
PAT	280	0.00	30.00	21.35	.15757	2.63673

Valid N (listwise)	280					

Table 4 shows the mean and standard deviation of physics students' disposition and achievement in physics are 144.10; 21.35 and 0.97383; 0.15757, respectively. This implies that the physics students' disposition has effect on their achievement in physics.

5. What is the effect of gender on the disposition of students to the Renovative STEM-Cell Application used in post COVID-19 lockdown period?

Table 5: Descriptive Statistics on Effect of Gender on the Disposition of Students to the Renovative STEM-Cell Application

	GENDER	N	Mean	Mean Difference	Std. Deviation	Std. Error Mean
PHYSICS STUDENT DISPOSITION	MALE	112	135.250	14.75	15.44563	1.45948
	FEMALE	168	150.00		14.05379	1.08427

Table 5 indicates that the mean and standard deviation of male and female physics based on their disposition to the Renovative STEM-Cell Application are 135.25; 150.00 and 15.45; 14.05, respectively with a mean difference of 14.75. This shows that gender has effect on the disposition of students to the Renovative STEM-Cell Application used in post COVID-19 lockdown period.

6. What is the effect of gender on students' achievement in physics?

Table 6: Group Statistics on Gender and achievement in Physics

	GENDER	N	Mean	Mean difference	Std. Deviation	Std. Error Mean
PAT	MALE	112	21.2500	0.16	2.59764	.24545
	FEMALE	168	21.4167		2.66810	.20585

From table 6, the mean and standard deviation of male and female students based on achievement in Physics are 21.25, 21.41 and 2.59764, 2.66810 with a mean difference of 0.16. Hence, gender has no effect on the students' achievement in Physics.

Testing of Hypotheses

Ho_1: Physics Students disposition (Ease of using the application, challenges, usefulness, and perception) to Renovative STEM-Cell Application will not significantly predicts achievement of students in Physics;

Table 7a: Regression Analysis on Dimensions of Disposition and Achievement in Physics

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	T	Sig.
1	(Constant)	11.985	1.174		10.205	<.001
	PERCEPTION	.163	.020	.416	8.097	<.001
	USEFULNESS	.052	.017	.153	3.055	.002

	CHALLENGES	-.052	.021	-.123	-2.436	.016
	EASEOFUSINGAPP	.109	.018	.308	6.207	<.001

a. Dependent Variable: PAT

Table 7a indicates that the beta value of ease of using Renovative STEM-Cell Application is 0.308 and it is significant at 0.05 level of significance. The ease of using Renovative STEM-Cell Application made 30.8% contributions to the achievement of students in physics. The students' perception on Renovative STEM-Cell Application made 41.6% contributions to their achievement in physics, the usefulness of Renovative STEM-Cell Application made 15.3% contributions to the achievement of students in physics.The beta value of challenges of using Renovative STEM-Cell Application is -0.123 which is significant at 0.05 level of significance. The beta value of usefulness of Renovative STEM-Cell Application is 0.153 and it is significant at 0.05 level of significance. The beta value of students' perception on Renovative STEM-Cell Application is 0.416 and it is significant at 0.05 level of significance. This shows Physics Students disposition ('Ease of using the application, challenges, usefulness, and perception) to Renovative STEM-Cell Application significantly predicts achievement of students in Physics. Hence, reject Ho1.

Ho_2: The dimensions of physics students' disposition to the use of the Renovative STEM-Cell Application will not jointly predict achievement in physics**.**

Table 7b: ANOVA Statistics on the Ease of using the application, Challenges, Usefulness, Perception and Achievement of Students in Physics

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	670.188	4	167.547	36.294	<.001[b]
	Residual	1269.512	275	4.616		
	Total	1939.700	279			

a. Dependent Variable: PAT

b. Predictors: (Constant), EASE OF USING APP, CHALLENGES, USEFULNESS, PERCEPTION

Table 7b shows that $F_{(4,280)} = 36.394$ which is significant at 0.05 level of significance. This implies that the dimensions of physics students' disposition to the use of the Renovative STEM-Cell Application jointly predict achievement in physics. Hence, Ho2 is rejected. Table 9 further shows the joint contribution using regression statistics.

Table 7c: Regression Statistics on Joint Contributions Disposition to the Renovative STEM-Cell Application on Achievement in Physics

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.588[a]	.346	.336	2.14858

a. Predictors: (Constant), EASE OF USING APP, CHALLENGES, USEFULNESS, PERCEPTION

Table 7c shows that the adjusted r is 0.336 which implies that physics students' disposition made a total of 33.6% to the achievement of students in Physics.

Ho_3: There is no significant difference in the disposition of physics students to the Renovative STEM-Cell Application and achievement in physics.

Table 8: One-Sample Statistics on Physics Students' Disposition towards the Renovative STEM-Cell Application on Achievement in Physics

	N	Mean	Std. Deviation	Std. Error Mean	Df	T	Sig.
DISPOSITION	280	144.1000	16.29535	.97383	279	147.972	.001
PAT	280	21.3500	2.63673	.15757			

The table 8 above shows that mean and standard deviation of disposition and achievement in physics are 144.10, 21.35 and 16.29535, 2.63673 with a t-value of 147.972 which is significant at 0.05 level of significance. This implies that there is significant effect of physics students' disposition to the Renovative STEM-Cell Application on achievement in physics. Hence, reject the null hypothesis.

Ho_4: There is no significant effect of gender on the disposition of students to the Renovative STEM-Cell Application used in post COVID-19 lockdown period.

Table 9: Independent t-test on Gender and Disposition of Students to the Renovative STEM-Cell Application

	GENDER	N	Mean	Std. Deviation	Std. Error Mean	df	T	Sig.
PHYSICS STUDENT DISPOSITION	MALE	112	135.250	15.44563	1.45948	278	78.23	.004
	FEMALE	168	150.00	14.05379	1.08427			

From Table 9 the mean and standard deviation of male and female physics based on their disposition to the Renovative STEM-Cell Application are 135.25, 150.00 and 15.45, 14.05 respectively with a t-value of 78.23 which is significant at 0.05level of significance. This revealed that there is significant effect of gender on the disposition of students to the Renovative STEM-Cell Application used in post COVID-19 lockdown period. Hence, reject the null hypothesis.

Ho_5: There is no significant effect of gender on the achievement of physics students exposed to the Renovative STEM-Cell Application used in teaching Physics post-COVID-19 lockdown period.

Table 10: Independent Sample t-test of achievement of Physics Male and Female Students Exposed to the Renovative STEM-Cell Application used in Teaching Physics post-COVID-19 period

	GENDER	N	Mean	Std. Deviation	Std. Error Mean	df	t	Sig.
PAT	MALE	112	21.2500	2.59764	.24545	278	.517	.087
	FEMALE	168	21.4167	2.66810	.20585			

Table 10 shows that the mean and standard deviation of male and female physics students are 21.25, 21.42, 2.60, 2.67 respectively with a t-value of 0.517 which is not significant at 0.05 level of significance. This implies that there is no significant difference in the achievement of physics male and female students exposed to the Renovative STEM-Cell Application used in teaching Physics post COVID-19 period. Hence, accept Ho_4.

Summary of findings

1. Physics students show positive and a high level of disposition to the use of Renovative STEM-Cell Application.
2. Physics Students disposition (Ease of using the application, challenges, usefulness, and perception) to Renovative STEM-Cell Application significantly predicts achievement of students in Physics.
3. The dimensions of physics students' disposition to the use of the Renovative STEM-Cell Application jointly predict achievement in physics.
4. There is significant difference in the disposition of physics students to the Renovative STEM-Cell Application and achievement in physics.
5. There is significant effect of gender on the disposition of students to the Renovative STEM Cell Application.
6. There is no significant effect of gender on achievement of physics students exposed to the Renovative STEM-Cell Application used in teaching Physics post COVID-19 period.

Discussion

Students have positive and high disposition to Renovative STEM Cell Application. This is as a result of the Renovative Stem Cell Application, which is a form of instructional strategy that is simulating, interactive, student friendly and very easy to use. This stimulates students' interest to physics and changed their negative conception about physics as a difficult subject. Hence, it makes them to develop positive disposition to physics. The result of this study is in support of the research reports of Areepattamnnil, Cairns and Dickson (2020), Cairns and Areepattamannil (2019), Njah et al., (2022), Chua (2021), Lockee (2021), Lalmuanzuali and Lalchhandami (2019), Narmadh and Chamundeswari (2013), Ebenezer and Kaya (2007) who found that teacher's methods of instruction is related to students' disposition in science and mathematics. The positive disposition of students to the Renovative STEM Cell Application stimulated them to be punctual and regular in physics classes, love to study physics, listen to the teacher attentively during physics lessons, and make the learning of physics concepts easy to comprehend. It also encourages collaboration amongst students, they study physics together, the stronger ones helping the weaker ones in their topics, solving physics problems together. The software increases students' zeal to study physics because it is very interactive and hence, makes the learning of physics more active, interesting, real, and enjoyable the implication of these findings is that the positive disposition of students is statistically related to the improved achievement of students in physics, Positive commitment brings in positive disposition which leads to improved achievement and negative dispositions leads to poor achievement in physics.

The study also shows that physics students' disposition (in relation to the usefulness and the ease and challenges) to Renovative STEM-Cell Application significantly predict the achievement of students in Physics. The application is self-explanatory and easy to comprehend with basic computer knowledge. The ease of using the application helps the students to virtually carry out experiments which usually take time to set up in real-time. The result supported the findings of Njah et all (2022) who found that students taught in flipped classroom performed better in chemistry than those taught without. Juskaite et al. (2020) also found that the use of mobile app in teaching physics allow the students to learn physics within their capabilities and talents and making the learning of physics to be autonomous .Hence, students can measure, do calculation and research with ease. Sakariyan, Taiwo and Ajagbe (2016) emphasized that attention, relevance, confidence, and satisfaction all come into play with educators and students for any technology to be introduced and used effectively in the classroom. Harris and Jones (2020) reported that technology immersion had a positive effect on students' technology proficiency and frequency of their technology-based class activities and small-group interactions.

The usefulness of the application reflected in the physics students' academic achievement during the study is an indication that computer simulation is very important in promoting learning at the Secondary School level. It has facilitated many effective educational methodologies such as self-directed, independent, and collaborative learning. Also, it can provide the opportunity of receiving immediate feedback and assessment, making learning appear comparatively more achievable than it would without instant feedback (Harris & Jones, 2016; 2020). The study indicated that challenges of Renovative STEM-Cell Application significantly predicted achievement of students in Physics. Although, the physics students' opinion shows that they are not experiencing difficulty in using the application to learn physics but there is a negative correlation between challenges in using the application and their achievement in Physics. Hence, as the challenges increase, it would discourage the students in using the application to learn physics.

It was shown that the students' perceptions, which are indexes of disposition to Renovative STEM-Cell Application, significantly predict their achievement in Physics. Jointly, an App made a contribution of 33.6 % to the achievement of students in physics. This means there are other variables which are not investigated in this study that accounted for the remaining 66.4%. This result is in line with the findings of Awofala et al who reported that mathematics productive disposition significantly predicted achievement of students in mathematics. The participants' responses indicated that they have a favorable view on the intervention of Renovative STEM-Cell Application in learning physics at senior secondary schools.

There is a significant effect of gender on the disposition of physics students to the Renovative STEM-Cell Application used in teaching Physics post-COVID-19 period. Female students showed high disposition to the App than their counterpart male students. This result is in line with the findings of Narmatha & Chamundeswari (2013) who found a gender difference in the disposition of science in favour of female students but it is invariance with the results of Lalmuanzuali & Lalchhandami (2019), Sakariyau, Taiwo

and Ajagbe (2016) who obtained no gender difference on disposition of students in science.

Lastly, the study revealed that there is no significant effect of gender on the achievement of students in Physics in the post COVID-19 period. The application promotes gender equity. Irrespective of the gender, the appropriate usage of the application promotes effective learning in Physics and improves performance in the subject. This is supported by Lalmuanzuali and Lalchhandami (2019); Sakariyau, Taiwo and Ajagbe (2020) but contradicts the findings of Narmadh and Chamundeswari (2013) who reported that using computer applications empowers male physics students. However, the ease of using the application, challenges, usefulness, and perception of students on Renovative STEM-Cell Application significantly predicts achievement of students in Physics, and there is no significant difference in the achievement of physics male and female students exposed to the Renovative STEM-Cell Application used in teaching Physics post-COVID-19 period.

Conclusion

Based on the results, the researcher concluded that physics students had a positive and high disposition to Renovative STEM-Cell Application. Physics students' disposition (that is, the ease of using the application, challenges, usefulness, and perception) to Renovative STEM-Cell Application significantly predicts the achievement of students in Physics. Gender has a significant effect on the disposition of physics students to the App but has on significant effect on the achievement of students exposed to the Renovative STEM-Cell Application used in teaching Physics in the post COVID-19 period.

Recommendations

Based on the findings of the study, it is recommended that physics teachers should adopt the use of the Renovative STEM Cell in teaching physics in Lagos state and in other states in Nigeria. Also, the teachers should be encouraged to learn how to effectively deploy the application in the teaching and learning at the senior secondary schools. Frequent workshops and training on the deployment of digital applications should be organised for teachers to make it easier for students to learn. In addition, a technical support person should be assigned to each school using the application to assist teachers and students whenever they encounter challenges using the application. Finally, the best graduating student in physics in each school should be awarded a scholarship to study the development of different Apps used in science classroom. This will ultimately enhance the teaching and learning of physics and science across all levels of education.

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CREATIVITY IN THE MOZAMBICAN EDUCATIONAL CONTEXT: AN INCLUSION OF HOME EXPERIENCES IN THE TEACHING AND LEARNING OF SCHOOL PHYSICS

Adriano R. Sacate[1], Inocente V. Mutimucuio[2], Marina Y. Kotchkareva[3], Amélia Munguambe[4]

[1,2,3&4]Eduardo Mondlane University, Faculty of Education, Maputo Mozambique

Corresponding email: professorhamelane@gmail.com

Abstract

This study focused on developing creativity in the teaching and learning of secondary school physics through the inclusion of home experiences in the educational context of Mozambican students. The study is an explorative form of research using qualitative method for data collection and analysis. A sample of 21 Escola Secundária da Igreja do Nazareno-Maputo was selected, using convenience method participated in the study. Practical teaching materials were the instruments used in data collection. Findings showed that students were interested and motivated by home experiences. Based on the findings, the replication of creativity activities of this genre in other secondary schools in the country was recommended.

Keywords: Home experiences, Teaching and learning, School Physics, Creativity

Introduction

The present study aims to include home experiences in the teaching and learning process of Physics in the first-grade secondary school (ESG1). The need to include home experiences is justified by the fact that the teaching of STEM subjects and especially the teaching of Physics at the school level has characteristics that have changed very little over time. There is still a predominance of teaching disconnected from people's reality, historically decontextualised, based on memorisation and taught in a traditionalist conception, in which the teacher, in the condition of "subject of the process", presents and explains the contents. As a consequence, there is disenchantment with Science, a feeling of uselessness of what had been studied, disinterest and disappointment in realising that the Science studied in classes is divorced from its reality. In this context, the student's involvement in the learning process demands that he assumes an active role, his motivation for the investigation, exploration and sharing of his discoveries, thus looking for the significant construction of his knowledge (Ausubel, 2010).

Aiming to understand the reality of Physics teaching in the Mozambican context, the researchers attended classes of six teachers in an equal number of secondary schools in Maputo Province. The results of the preliminary observations made, witnessed the

prevalence of the teaching and learning process of Physics, dominated by lectures and equally the teacher as the center of the process. This way, the researchers thought about the need to include home experiences in the teaching and learning of physics, aiming to fill the gap linked to the lack of interest and creativity of students in Physics classes.

Literature Revision

According to several authors (Neves, 2002; Petrocola, 2000; Araújo & Abib, 2003), among the aspects taught in our schools about Physics, an understanding of its nature is usually not reached. This is because what is disseminated is often the product of scientific activity, which after successive recontextualisations, further segments the knowledge to be taught. In practice, pupils receive enormous amount of information, the vast majority of which include the memorisation of formulas, calculation methods, words and symbols. That is, they do not question the knowledge they must learn.

In a time marked by uncertainty, such as COVID-19, and by rapid and complex changes, creativity has been identified as an indispensable human capacity. Despite the social appeal, confirmed by the teaching of the discipline of entrepreneurship, creativity has received little attention in educational practice and also in national research in scientific education. Researchers such as Barbosa and Baptista (2020) point out that in the educational system of different countries and even in Mozambique, there are a series of barriers that inhibit expression and the ability to create, largely because too much emphasis is placed on reproduction and memorisation of knowledge. On the other hand, those who defend a "creative education" believe that this aspect brings benefits: (i) emotional, such as raising self-esteem, (ii) behavioural, such as being more autonomous (self-regulation) and open to new experiences, and (iii) intellectuals, such as the ability to develop original and unusual ideas (Wechsler, 1998; Alencar, 2003).

According to Vanzin and Cardoso (2015), creativity is the ability to generate ideas, images and things, or to give existence to something new, unique and original, despite existing rules and examples. In another way of looking at it, "creativity is the ability to give new answers to old problems, and/or adequate answers to new problems" (Sacate, 2021 p1). An important characteristic of creativity is to break with pre-established models, promoting and provoking discontinuities and signaling, in one way or another, a new stage, a renewal. Creativity is also the ability to create a solution that is both innovative and appropriate, constituting new knowledge in the minds of individuals.

According to the World Economic Forum report (2017), many of today's education systems are disconnected from the skills needed in the market. This is because schools tend to focus primarily on developing children's cognitive abilities, rather than skills and competencies such as problem solving, creativity and collaborative work. Nakano and Silva (2012) comment:

> (...) both pupils and teachers are already beginning to awaken to the impact of creativity and its contributions not only to the teaching-learning process, but also given the increasingly present demand of creative and innovative individuals and professionals, prepared to deal with current challenges and the job market, so that important gains can arise from the incorporation of this type of vision during the schooling process. (Nakano & Silva, 2012: p.11).

Within this scenario in which the school environment and the observation of models are important for the development of creativity, an essential element for this study stands out. Professor Michelotto (2018) comments:

> Great teachers are the heart of great schools. In their various tasks, they manage to fulfill three essential purposes for students: *inspiration* (they inspire students with their own passion for the disciplines and to reach the highest levels within themselves), *confidence* (they help students acquire the skills and the knowledge they need to become confident, independent learners who can continue to develop their understanding and expertise) and *creativity* (they enable learners to experiment, question, ask questions, and develop the skills and willingness for original thinking). (Michelotto, 2018: p. 17).

The importance of the teacher as a facilitator of the learning process is also mentioned by other authors. Saccomani (2016) said:

> Adult intervention is the engine of this development. Therefore, school education not only interferes with development, but is decisive, insofar as it gives it paths and directions. Thus, the quality of mediation is not a minor issue. Development, therefore, is not the result of any type of teaching, but depends on the contents and the ways in which teaching is organized. For learning and development to take place, there must be organized and planned teaching for that purpose. (Saccomani, 2016: p.174).

The teacher, a key element in the teaching and learning process, needs to be prepared and willing to promote creative thinking in the classroom. It also needs to fight one of the main obstacles to its own creative process and that of its students: the fear of making mistakes.

According to Pinto (2014: p. 830), creativity as a methodological principle is essential in teaching. It is an extremely complex peculiar attribute when considering moments of doubt and uncertainty in educational environments. No reference is made to the complex educational process without mentioning creativity and creative thinking. In the conception of Torres (2006), there are four central components that configure creativity; they are indicated below:

The first is *ideational fluidity* (ability to produce a number of appropriate ideas quickly and freely), *hierarchy* (association of remote elements) and *intuition* (ability to develop consistent conclusions from minimal evidence). The second is the *cognitive style*, information processing habits in which *problem detection* stands out, a tendency to focus attention on the problems that need to be faced, and to consider alternatives and explore them before making a definitive choice more than in the ability to resolve them, such as the willingness to change direction, *deferred judgment* to deepen understanding, reserving valuation and judgment for later and *the ability to think in opposing terms*, looking at opposite directions. The third is *creative attitudes* that include: *originality*, which presupposes a predisposition towards the original, autonomous valuation, independence from social influences and conventional values, and the *exercise of criticism* and the *productive use of criticism from others*, which needs to be recovered

and applied, but this does not prevent the elaboration of a conclusion of its own. The fourth *are strategies*, among which would be *analogy*, the ability to see similarities not discerned by others, *brainstorming*, carrying out imaginative transformations, *enumerating attributes, submitting assumptions to analysis, delimiting a problem*, *seeking a new point of view access*, make interactions autonomously (Torres, 2006).

Based on the foregoing, the use of home experiments as a teaching and learning strategy for school Physics should be used as one of the possibilities that can allow the development of experimental activities that teachers in the classroom do not usually perform. Furthermore, carrying out home experiments in Physics teaching is justified as an auxiliary tool in the process of building scientific knowledge, creativity and a positive contribution to the student's education process.

Methodology

To carry out the present work, the investigation began with a bibliographic search for the theoretical foundation. The basis of the proposed methodological procedures is an exploratory research on the experiences considered important in accordance with the ESG1 physics program. The second moment established was the identification of possible subjects who benefit from these experiences, as well as seeking to know, based on official programs, how teachers are working with the themes/subjects of School Physics, which materials they are using, what are their strategies of teaching, how they evaluate their pedagogical work and how the curricular reorganization takes place to include teaching content in laboratory experiments. This would allow us to know the field better and help us to better define our own object of study as researchers. The methodology was developed with the aim of producing didactic material, seeking to broaden students' interest and knowledge for Physics and STEM classes in general.

In the pilot study, a convenience sample of 21 students from *Escola Secundária da Igreja do Nazareno - Maputo* participated. For data collection, the demonstration of two experiments aided by observations and recording of information and comments from students was used.

Expected Results

With the materialization of this "mini-project", it is expected to contribute with a guiding document on creativity in the context of educational processes, containing a set of "home experiences in Physics" and other STEM subjects and content capable of guiding managers and educators in the development of creative processes as a result of participation in projects of this nature, in Education.

In practice, to make creativity an element present in the day-to-day of the classroom, a two-pronged approach is necessary: in relation to the teacher, who must be willing to find teaching alternatives, and in relation to the student, who needs to be sensitive to the creation processes. Next, two experiments on electricity are presented, which were demonstrated and later replicated by students individually and in groups outside the

classroom, namely, “Cage for cell phones (electrical shielding)” and “Generation of electric current based on “cell batteries” of lemon or potato”.

Cell Phone Cage Experiment (Electrical Shielding)

Goals

Observe the working principle of the Faraday cage using a cell phone.

Materials

Aluminum paper;

Two cell phones in operation;

A wallet or a desk

(a) the BDQ cell phone rings before being wrapped in aluminum foil

(b) the BDQ cell phone does not ring after being wrapped by aluminum foil

Figure 1: Experimental scheme

Procedures

1. Wrap one of the cell phones with aluminum foil, taking care not to leave any holes and not leave the cell phone in “silent” mode;

2. Using another cell phone, make a call to the cell wrapped in aluminum foil;

3. Observe what happens during the call.

Fundamentals involved

The telephone signal waves received and emitted by the cell phone are electromagnetic in nature. Aluminum is capable of reflecting this type of wave. By completely wrapping a cell phone with aluminum foil, an electrical shield is created around it, preventing it from suffering any kind of disturbance produced by electric fields or, in this case, external electromagnetic fields. Therefore, the cell phone is not able to receive any calls. When checking the cell phone right after unwrapping it, it can be noticed that it has no signal.

Electromagnetic waves are produced by variations in electric and magnetic fields, and the variation of one of these fields gives rise to the other. These waves are capable of

traveling in a vacuum with the speed of light, about $3\times10^{8}\,m/s$. They are classified as electromagnetic waves: visible light, microwaves, gamma rays, X-rays, etc.

Electricity Generation Based on "Lemon Cells"

Goals

Using lemons to generate an electric current to light a light bulb

Materials

4 lemons or 4 potatoes

1 knife;

1 LED bulb (can be replaced by a voltmeter, if you don't have the LED bulb);

1 copper plate, copper coin or steel wool;

1 zinc plate, zinc nail or steel wool; and

2 electrical wires with alligator clips or copper wires

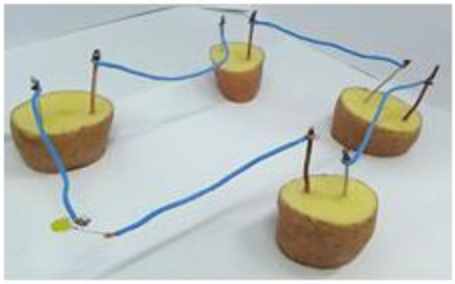

Figure 2: Experimental scheme on the generation of electric current

Procedures

1. Cut the lemons or potatoes in half and place a copper plate and a zinc plate on each piece (the metals must not touch), as shown in figure 1;

2. Connect the wires with the alligator clips on each of the boards and to the lamp on the other side. If you don't have alligator clips, cut the copper wire shield at the end and wrap the bare wire around the plates. The other end of each of the two wires must be connected to the lamp;

3. Watch the light come on. In the case of the voltmeter, it will show how much electrical current is being produced.

Fundamentals involved

When the two plates (zinc and copper) are immersed in an electrolyte (conductive solution), which can be an acidic, alkaline or saline solution, the reaction between the electrodes takes place continuously. The lemon electrolytic battery works because the lemon juice is acidic, and a process of continuous production of electrical energy takes place. Oxidation takes place at the zinc anode and reduction takes place at the copper cathode. Electrons flow spontaneously from the negative anode to the positive cathode. The electrical circuit is completed by the movement of ions from the solution.

Electric current is the movement of electric charges, such as electrons, that takes place inside different materials, due to the application of an electric potential difference.

Final Considerations

The precursors of the study of creativity define it as a natural process inherent to the human being, arising from strong essentially human needs. Contemporary studies are guided by a wider field of scope and vision, listing the creative process to disparate but correlated resources, such as: intellectual capacity, knowledge, thinking styles, personality, motivation and environment. The attempt to include home experiments in the teaching and learning of Physics carried out with students and aiming to instigate students' creativity and interest in STEM subjects, allowed achieving the objectives proposed in the study. Students from the sample involved in the demonstrations were able to replicate at home, individually and in groups, the cell phone cage and lemon pile experiments. Bringing their home experiences to demonstrate with the teacher in the classroom, it was possible to observe their interest and satisfaction with the successes already achieved.

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TEACHERS' DIGITAL LITERACY AND POST COVID-19 BLENDED METHODS OF TEACHING IN NIGERIA IN THE MEDIA AGE: EDUCATIONAL COUNSELLING FOR SUSTAINABLE DEVELOPMENT

[1]Olabisi T. Precious Killian & [2]Atinuke Titilayo Effiong
[1&2]Faculty of Arts and Education
Lead City University, Ibadan, Nigeria

Abstract
The COVID-19 pandemic lockdown brought about srious lacuna educational systems across the world, including secondary schools in Nigeria. As part of efforts to bridge the lacuna, most schools determined blended methods of teaching and learning which necessarily requires digital literacy. This study investigated the influence of teachers' digital literacy on teaching in private and public secondary schools in Ibadan North Local Government Area of Oyo State. Convenient simple random sampling was used to select 50 teachers from three public and 50 teachers from three private secondary schools. Two hypotheses were tested at 0.05 level of significance. Independent t-test analysis revealed significant difference between the digital literacy of teachers; private schools mean ($\bar{x}$ 28.22) SD = 5.81, while public schools mean ($\bar{x}$ 25.06) SD = 1.03. Also, t-table (2.37) has a p-value of .023. There was also significant difference between the use of ICT in private schools mean ($\bar{x}$ 27.47) SD = 6.82, while public schools mean ($\bar{x}$ 22.25) SD = 4.79. Independent t-test showed that t-table (4.44) has a p-value of .015. The study recommended that government and all stakeholders should invest in ICT tools in schools; while teachers in public and private schools should upgrade knowledge in emerging technologies for teaching to stay relevant in post Covid-19 era.

Keywords: Teachers' Digital Literacy, Covid-19 Blended Methods of Teaching, Educational Counselling for Sustainable Development

Introduction

Teaching is a set of activities or instructions designed to support the process of learning. It involves aligning all three major components of instruction which includes learning objectives, assessment and instructional activities (Sequeira, 2018). In teaching, a teacher passes information and knowledge through certain skills such as questioning, listening, giving information, explaining some phenomenon, demonstrating a skill or process, testing understanding and capacity, and facilitating learning activities such as note taking, discussion, assignment writing, simulations and practice (VIjayalakshmi, 2019). Teaching is commonly undertaken using varying techniques, approaches and model. The techniques, approaches and model used by a teacher to pass knowledge across to the learners is subject to the learners' coping ability, level, stage and understanding. In these days of technological advancement, information communication technology (ICT) has become very fundamental in teaching-learning processes in many schools. The emergence of ICT is fast shaping teaching and learning processes among teachers and students in schools these days in developing countries (Jan, 2018). There is a gradual shift from the traditional methods of using chalks and wooden boards with more

emphasis on the use of educational technologies such as smartphones and tablets, among others in teaching and learning processes among schools in developing countries, especially in the Nigeria clime. Teachers are steadily motivated to be tech-savvy in order to be globally competitive and relevant.

Day to day observation sometimes shows that some teachers are a bit good in the use of basic technology skills for communication but appears to lack the ability and confidence in using educational devices or technologies as instructional tools to provide students with adequate learning experiences that allow them to analyze information, collaborate, communicate and create products (Wineburg & McGraw, 2016; Sabado, 2018). The lack of ability and confidence in using educational devices as instructional tools by teachers to provide students with adequate learning in conventional classrooms may not be unconnected with lack of digital literacy. For successful integration of ICT in secondary schools, the need for teachers themselves to be digitally literate is imperative (Kumari & D'Souza, 2016).

The term digital literacy is the ability of a person to understand and use technology appropriately (Sabado, 2018; Anderson & Jiang, 2018). It is also the ability of the students to comprehend electronic ideas, to store these ideas, to retrieve and share these ideas as the situation demands (Cohen et al, 2020). Digital literacy is a lifelong process and dynamic as the use of technology/internet to create and communicate new ideas is not static. In the view of Ferrari (2012), being digitally literate in our contemporary society today involves the knowledge, attitudes and skills required for operating technologies, ability to effectively make use of the internet, understand the media and effectively manage information. However, the convergence of literacies into the digital is more than the sum of its single elements (Jan, 2018). Establishing digital literacy quickly has become an important concern for today's educational system. Contextually, digital literacy in school pedagogy is the insightful knowledge and ability of the secondary school teachers to use digital technology, communication tools or networks to locate, evaluate, use and create information in order to enhance the learning experience of students and prepare them to face the future global demands (Killian 2020). Thus, digital literacy is more than just embedding technology into lesson plans; it is about using technology to understand and develop modern communication, to locate oneself in the digital space and to manage knowledge and experience in the age of information for the benefit of students (Kumari & D'Souza, 2016). Computers, mobile phones and tablet are the three major digital devices more often used in the pedagogy (Kumari & D'Souza, 2016).

The need to use modern educational technologies in teaching may primarily be due to globalisation, policy initiative by policy makers and regulators, the quest to promote competitiveness by proprietors of schools as well as a result of certain unpredicted systematic factors such as the current pandemic (COVID-19). Prior to the outbreak of corona virus disease in 2019 (COVID-19), there was already a gradual shift in paradigm, from the traditional methods of using chalks and wooden boards to the use of educational technologies such as smartphones and tablets, among others in teaching and learning processes among schools in developing countries and specifically in the Nigeria setting.

The governments at both federal and state levels by way of policy gear towards controlling the spread of the deadly novel corona virus, mandated schools to employ the virtual platform of teaching and learning among students in schools.

The virtual teaching-learning platform has steadily become the new normal in the educational system of the world and Nigeria inclusive amidst COVID-19. While the COVID-19 pandemic brought to fore the imperative of using modern educational technology in teaching and learning among teachers and students, its success basically hinges on the digital literacy of the former (the teachers). Although teachers have access to technology for personal use, it is not used as an effective instructional tool for students to cultivate the intellectual competencies needed to function effectively as global citizens (Fahser-Herro & Steinkuehler, 2009; Henderson, 2011). Thus, most teachers lack the cognitive digital literacy skills necessary to function and compete with the pace, complexity, and intensity of technological society. Recent empirical studies revealed that most teachers are not adequately preparing students with these challenging, relevant learning experiences using technology to develop digital literacy skills (Ertmer & Ottenbreit-Leftwich, 2010; Fahser-Herro & Steinkeuhler, 2009; Lee & Tsai, 2012; Sabado, 2018). There is a difference between implementing technology as a teaching tool and integrating technology into teaching and learning practices to engage students in authentic learning experiences by teachers (Sabado, 2018; Vosoughi, Roy & Aral, 2018). Simply introducing various technical modalities into the classroom does not guarantee successful or meaningful integration unless teachers are trained to use technology to enhance student learning and transform their pedagogical practices (Harris, Mishra, & Koehler, 2009; Koc & Bakir, 2010; Tee & Lee, 2011).

Research studies conducted by Liaw and Huang (2011); Rhema and Miliszewska (2014) indicated that teachers' skill in the use of technologies is a significant predictor of attitudes towards technology in teaching. This attitude may influence the teachers' perceived and actual digital literacy (DL) as well as ICT skills (Liaw & Huang, 2011; Rhema & Miliszewska, 2014; Jan, 2018). Better educational technology (ICT) skills tend to have a positive impact on teachers' motivations and attitude in the use of technology (Abdullah et al., 2015; Hussain, 2007). On the contrary, Boser, Palmer and Daugherty's (1998) experimental study revealed that the variation in attitude among teachers is correlated with an increased level of digital literacy (DL). This presupposes that the more positive attitude teachers have towards the use of technology, the better their digital literacy. This view is in consonance with the expression of (Roy & Aral, 2018)

In the Nigerian context, it is pretty difficult to ascertain the extent of digital literacy among teachers and their effectiveness in the use of educational technological devices in government owned secondary schools. Most teachers have a poor understanding of the use of technologies and also lack basic skills to successfully operate the various online learning platforms. In developing countries, teachers lack the technological pedagogical content knowledge to integrate digital literacy skills into student learning (Sabado, 2018). Most government owned secondary schools in Nigeria do not have computer laboratories (Sabado, 2018). There is little or no budgetary allocation for the operation of the computer laboratories. Thus, the poor commitment of the government at increasing the

numbers of computers, tablets and smartphones and other teaching-learning devices in most public secondary schools in line with global best practices is a major challenge worthy of investigation on the empirical fronts in the context of Nigeria.

The concept of digital literacy was first introduced by Paul Gilster in 1997. The term however, has different meanings and can be distinguished from other literacy terms such as media literacy, computer literacy, Internet literacy and so on (Bawden 2008). As emphasized by Gilster, digital literacy is much more and much wider than mastering technical skills (Gilster, 1997).

Digital Literacy is defined in various ways depending on the use of ICT. Digital literacy may be defined as the ability of individuals and communities to understand and use digital technologies for meaningful actions within life situations.

Aim of this Study

The aim of this study is to investigate the nexus between digital literacy and the use of technology in the teaching–learning process among public and private secondary schools in Ibadan North Local Government Area, Oyo State, Nigeria. Specifically, the objectives are to:

1. ascertain the level of teacher's digital literacy and their operative skills in disseminating knowledge in both government and private owned secondary schools;
2. compare the extent to which modern educational technologies are being deployed in teaching students in government and private owned secondary schools in Ibadan; and
3. establish the factors which have adversely affected digital literacy and the use of technology over time in both government and private owned secondary schools in Ibadan.

Hypotheses

Two null hypotheses formulated for investigation are stated as follows:

$H0_1$: There is no significant difference between the digital literacy level of teachers in government and private owned secondary schools in Ibadan.

$H0_2$: There is no significant difference between the use of ICT among teachers of government and private owned secondary schools in Ibadan.

Theoretical Framework

This study is anchored on two theories namely: Innovation Diffusion Theory and Unified Theory of Acceptance and use of Technology.

Innovation Diffusion Theory

Diffusion is a social process that occurs among people in response to learning about an innovation such as a new evidence-based approach for extending or improving teaching and learning (Dearing & Cox, 2018). In its classical formulation, diffusion involves an innovation that is communicated through certain channels over time among the members of a social system, such as a school system (Dearing & Cox, 2018). Diffusion Innovation theory, developed by Rogers in 1962, is one of the oldest social science theories. It originated in communication to explain how, over time, an idea or product

gains momentum and diffuses (or spreads) through a specific population or social system. Diffusion of innovation is a theory that seeks to explain how, why, and at what rate new ideas and technology spread (Dearing & Cox, 2018). Rogers (1962) proposes that four main elements influence the spread of a new idea: the innovation itself, communication channels, time, and a social system. This process relies heavily on human capital.

Unified Theory of Acceptance and Use of Technology

Unified theory of acceptance and use of technology (UTAUT) was introduced by Venkatesh et al. (2003) as an accumulation of various research efforts represented in different models and theories of Technology Acceptance. The UTAUT is considered as a trial to unify terminology of variables of different models and theories of technology acceptance. The theory was established on four theoretical constructs representing determinants of intention to use or usage behavior, which play essential roles as surrogates of technology acceptance. These constructs are performance expectancy, effort expectancy, social influence and facilitating conditions. In addition to these variables, the theory considers also moderating factors which moderate the relations between various variables and intention to use.

Performance expectancy is the degree to which an individual believes that using the system will help him or her to attain gains in job performance (Venkatesh et al., 2003). For example, a teacher often believes that using ICT is more effective than the traditional methods of teaching. This theory has been a key driver of ICT usage in schools by teachers to promote learning among learners in schools. Social influence is the degree to which an individual perceives that others believe he or she should use the new system to promote teaching and learning. In our contemporary times, a lot of schools now perceive the use of ICT as a major tool to enhancing teaching-learning among teachers and students. This is the driving aim of the social influence. *Effort expectancy* is the degree of ease associated with the use of the system. ICT is a system which requires mastery in order to permit the use of it by both teachers and students in teaching-learning processes (Venkatesh et al., 2003). However, if the model does not include effort expectancy as a predictor of intention to use ICT in teaching and learning, then, facilitating conditions will have high predictive power of intention to use it (Venkatesh et al., 2003). Plethora of studies have investigated the association between the use of information and communication technology (ICT) and teaching in schools with inconclusive findings (Kumari & D'Souza, 2016; Jan, 2018; Anderson & Jiang, 2018; Cohen et al., 2020). On the empirical fronts, researches on the nexus between digital literacy and use of technology in teaching have not gained prominence in literature in developing countries such as Nigeria.

Few of the researches that have examined this aspect of research are mixed. For instance, Jan (2018) investigated the association between students' digital literacy and their attitude towards the use of information and communication technology (ICT) in a private secondary school in Karachi, Pakistan. Data were collected through survey questionnaire using google forms on a sample size of 344 secondary school students having almost equal ratio of male and female. The study used the bivariate and multiple regression method to undertake the data analysis. The finding indicates that through bivariate correlation analysis, digital literacy was associated with students' attitude towards using

information and communication technology (ICT) and other ICT related demographics. The result of the multiple linear regression analysis showed that digital literacy (DL), use of the tablet and smartphone, prior training in the use of computer and frequency of computer use significantly affect students' attitude towards using ICT. Killian (2020) interrogated the use of information and communication technology (ICT) for scholastic learning in selected secondary Schools within Ibadan Metropolis in Oyo State, random sampling technique was used to select participants from different privates and public secondary schools, findings showed that there was a significant influence of ICT on the academic learning of public and private secondary school students who were taught with ICT than those taught with conventional methods.

Observations of the educational sector in Nigeria revealed that many government-owned secondary schools are yet to embrace the use of technology with a view to ensuring effective teaching and learning process. During the pandemic, a lot of secondary schools in Nigeria, despite government directives to use the virtual platform to engage students in academic activities could not successfully meet up with the requirements. Many causative factors, among others which contribute to digital illiteracy among secondary school teachers include lack of knowledge in a given subject, lack of attitudes and skills required for operating technologies, inability of teachers to effectively make use of the internet, poor motivation by the government and proprietor of schools, inability of teachers to understand the media and ineffectiveness in managing information. The ineffective use of technologies is a function of poor internet connections (WIFI availability and supply; cost of data usage), epileptic power supply, poorly trained, lack of technological infrastructure, high cost of maintenance and socio-cultural belief that technology leads to vices in the lives of students. Given the advancement in quality technology in the global space, the use of digital technologies for learning appears to be constituting great challenges in many schools in contemporary society such as Nigeria. Lack of easy access to modern technology, cost of acquiring ICT skills and facilities, the right attitude towards technology and knowledge of operation are major among many factors hampering the use of technology in teaching in our various educational systems particularly in developing nations of the world including some public and private secondary schools in Nigeria.

Methodology

This study uses the survey research design. This "survey design was chosen because it ensures that reliable empirical data is obtained to test the relationship that exist between the dependent and independent variables in order to achieve the research objective and test the hypothesis formulated" (Dada, 2014)

Population of the Study

The elements of the population considered in this study comprises of professionally trained teachers in both public and private secondary schools in Ibadan North Local Government Area of Oyo State, Nigeria. The Local Government Area was selected for the study because of its high concentration of teachers. According to Oyo State 2018/2019 annual school census report which was released May 2020, the estimated number of professionally trained teachers in the public secondary schools was 1,299 in

Ibadan North LGA within the 42 public secondary schools in Ibadan North LGA. As at the time of this study there was limitation in accessing information about the total number of private schools and the numbers of private schools teachers in Ibadan North Local Government Area. The researchers therefore made used of convenience sampling technique to randomly select three private and three public secondary schools from the available population, and a total of 100 respondents (50 public secondary school teachers and 50 private secondary schools teachers) constituted the sample size for the study. The sample size was selected using the convenient simple random sampling technique.

Research Instrument for the Study

A four-point scale Likert-type questionnaire titled: Teachers' Digital Literacy and Covid-19 Blended Methods of Teaching in Nigeria in the Media Age (TDLAC-19 BMTINMA) was employed to elicit responses from the respondents. The measurement is indicated so in that the higher level of positive responses takes the value 4 and 3, while the non-affirmative or low responses takes the value 2 and 1. Therefore, the scaling took the form: 4-strongly agree, 3-agree, 2-disagree and 1-strongly disagree. The questionnaire was sub-divided into two sections: A and B. Section A captures basic biographic information of the respondents, while Section B contains the number of questions used to provide answers to the main research questions raised under the introductory part of the study. This test was developed by the researchers to determine the extent to which a teacher's digital literacy and his / her use of technology would impact teaching.

Method of Data Collection

The primary data was generated through the administration of questionnaire and it was administered to the respondents and collected immediately. The data collected were coded and analyzed using descriptive statistical tools such as frequency, percentage, mean and standard deviation. The acceptance point for the item was 2.50 and mean below 2.50 was regarded as rejected, not prevalent and as unpopular view. Statistically computed mean was used in answering the research questions. Independent t- test was used to analyse the stated hypothesis at 0.05 level of significance.

Results

Test of Hypothesis

H_{01}: There is no significant difference between digital literacy level of teachers in government and private owned secondary schools.

Table I: Independent T-test of digital literacy in private and public secondary schools

	School	N	Mean	StdDev	Mean ErDf	T	Sig	(2tail)
	Private	49	28.22	5.81	0.83	98	2.37	0.023
Digital literacy	Public	51	25.06	1.03	1.03			

Source: Field work 2021

Table (I) shows the digital literacy level of teachers in public and private secondary schools. The private schools have a mean rate of 28.22 with a standard deviation of 5.81, while public schools have a mean of 25.06 with a standard deviation of 1.03. Independent t-test analysis showed that t-table (2.37) has a p-value of .023. Since the $p<0.05$, the null

hypothesis is rejected and concluded that there is a significant difference between digital literacy of teachers in public and private secondary schools.

H_{02}: There is no significant difference between the use of ICT among teachers of government and private owned secondary schools.

Table II: Independent T-test between the use of ICT among teachers of public and private secondary schools

	School	N	Mean	StdDev	Mean ErDf	T	Sig	(2tail)
	Private	49	27.47	6.82	0.97	98	4.44	0.015
Use of ICT	Public	51	22.25	4.79	0.67			

Source: Field work 2021

Table (II) shows the use of ICT in the teaching-learning process of teachers in public and private secondary schools. The private schools have a mean rate of 27.47 with a standard deviation of 6.82, while public schools have a mean of 22.25 with a standard deviation of 4.79. Independent t-test analysis showed that t-table (4.44) has a p-value of .015. Since the $p<0.05$, the null hypothesis is rejected and concluded that there is a significant difference between the use of ICT among teachers of public and private secondary schools.

Discussion

The analysis and test of hypothesis one indicated that there was a significant difference between digital literacy level of teachers in government and private owned secondary schools. In other words, teachers in private owned secondary schools are more digitally literate compared to their counterparts in the government owned schools. The finding suggested that teachers in private secondary schools are more adequately digitally savvy and prepared to teach students with challenging, relevant learning experiences using technology to develop digital literacy skills. The result is in tandem with the research finding of Ertmer and Ottenbreit-Leftwich (2010); Fahser-Herro and Steinkeuhler (2009); Lee and Tsai (2010); Sabado (2018).

Result obtained from the testing of hypothesis two analysis showed that there was a significant difference between the use of ICT among teachers of government and private owned secondary schools. The study's finding suggested that the use of ICT in teaching-learning process is more common among teachers in private owned secondary schools as against those owned by the government. The finding further revealed that unlike public secondary school teachers, the teachers in private owned secondary schools possess the ability to understand and use technology appropriately; they also have the ability to comprehend electronic ideas, to store those ideas, to retrieve and share these ideas as the situation demands. Furthermore, the finding connotes that the respondents have the knowledge, attitudes and skills required for operating technologies, ability to effectively make use of the internet, understand the media and effectively manage information. The research finding tallies with the findings of Cohen, et al. (2020); Sabado (2018); Anderson and Jiang (2018); Ferrari (2012).

Conclusion

Observations of the educational sector in Nigeria revealed that many government owned secondary schools are yet to embrace the use of technology with a view to ensuring

effective teaching and learning process. During the pandemic, a lot of secondary schools in Nigeria, despite government directives to use the virtual platform to engage students in academic activities could not successfully meet up with the requirements. Given the advancement in quality technology in the global space, the use of digital technologies for learning appears to constitute great challenges in many schools in contemporary society such as Nigeria. Lack of easy access to modern technology, cost of acquiring ICT skills and facilities, the right attitude towards technology and knowledge of operation are major among many factors hampering the use of technology in teaching in our various educational systems particularly in developing nations of the world including some public and private secondary schools in Nigeria.

The outbreak of the pandemic has snowballed to a gradual paradigm shift from the traditional methods of using chalks and wooden boards to the use of educational technologies such as smartphones and tablets, among others in the teaching-learning process among schools in developing countries and specifically in most parts of Nigeria. However the nexus between the use of these modern technologies and digital literacy remains under-researched especially in the developing countries such as Nigeria. This influenced the need to ascertain the extent of teachers' digital literacy and the use of technology in some selected private and public owned schools. From the empirical analysis carried out, the study concludes that teachers' digital literacy and the use of technology for teaching is more prevalent among the private owned secondary schools than in public schools in Ibadan North Local Government area of Oyo state.

i. It was ascertained that teachers in private owned secondary schools are more digitally literate compared to their counterparts in the government owned schools in Ibadan North Local Government Area.
ii. It was found that the use of ICT in teaching-learning process is more common among teachers in private owned secondary schools as against those owned by the government in Ibadan North Local Government Area.

Counselling for quality education on digital and ICT use for sustainability in the life of secondary school students who will contribute to the national development to get us to the next level is focused on educational advocacy that public and private school teachers in Nigeria secondary schools need to be motivated intrinsically and extrinsically for regular skill acquisition, systematic training and self- development to improve on the soft skills of digital literacy so as to provide quality education, positively enhance the life of their learners for innovation sustainability and prepare them ready for global competence and relevance in the new media age.

Recommendations

Based on the findings obtained, the following recommendations are put forward:

i. The state government should regularly train and re-train teachers in public schools to be digitally literate in order to effectively use modern technology in dispensing knowledge to students with a view to meeting up with global best practices.

ii. The state government through the ministry of education should make it compulsory, a prerequisite during recruitment for teachers being employed to be digitally literate and proficient in the use of modern technologies in teaching.

iii. The state government should increase yearly budgetary allocation on ICT as this will foster the purchase, deployment and use of modern technologies in teaching-learning process in schools.

iv. The state government through the ministry of education should set up a monitoring and supervisory committee on ICT usage among schools in order to check mate teachers' compliance with a view to promoting digital literacy in line with global best practices.

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STUDENTS' PERCEPTION OF ONLINE LEARNING OF ECONOMIC AND MANAGEMENT SCIENCES (EMS) IN A RURAL UNIVERSITY IN THE EASTERN CAPE, SOUTH AFRICA

[1]Motsi Qoyi, [2]Pretty Thandiswa Mpiti, & [3]Bulelwa Makena
[1,2&3]Walter Sisulu University, South Africa

Abstract
The purpose of this study was to explore the students' perceptions of online learning of Economic and Management Science (EMS). This is done against the background that education has drastically changed with the distinctive rise of online, whereby teaching and learning are undertaken remotely and on digital platforms. The focus was on year two EMS students enrolled at a rural university. The study was guided by Siemens and Downes's connectivism theory in which knowledge is actuated through the process of a student connecting to and feeding information into a learning community. A qualitative case study was employed to gain in-depth knowledge of students' perceptions of online learning of EMS. Data was collected through individual interviews, and the interviews were subjected to thematic content analysis. The findings revealed that students perceived online learning as useful, convenient, and flexible. Moreover, the findings reveal that online learning lack the practical side of learning and limits students who prefer to learn practically. As a result, it is recommended that some more friendly platforms like blended learning can be adopted so that students' participation can increase.

Keywords: Online learning, Students' perceptions, Economic and Management Science

Introduction

Due to the Covid19 pandemic, the use of online learning has increased within the past three years to play a key role in pedagogical concerns (Suanpang & Petocz, 2022). Online learning is described by Zhu and McKnight (2016) as "any formal educational process in which the instruction takes place while the student and the instructor are not in the same location and Internet technology is employed to offer a communication link between the instructor and students." The modern online learning environment is described by Downes (2016) in the context of tertiary organizations. The most popular learning technology used today is a system that plans and delivers online courses, known as a learning management system (LMS). In the educational setting, this piece of software has virtually become commonly used. Organizations like Blackboard and Moodle have put their products in tens of thousands of universities and colleges, where they are used by thousands of teachers and students.

LMS has been marketed as being more affordable and practical than traditional educational models, and it has also been asserted to provide prospects for lifelong learning (Skelton, 2017). Online learning has been suggested as a practical means of giving students and instructors in higher education learning and teaching experiences. Online learning can accommodate the need for efficiency, adaptability, and outreach to

distant learners (Balawi, 2017). Learning materials are now provided differently by tertiary educators as a result of the growth and rising popularity of online learning as a method of information distribution (Skelton, 2017). The face-to-face component of teaching and learning has also been partially replaced by online learning, and in other situations, the online learning has completely replaced the face-to-face teaching delivery method (Udas & Brown, 2015). The learning management system (LMS), for instance, is one of the online learning tools utilised by tertiary institutions most frequently in online learning environments (Carvalho, Areal & Silva, 2017). This learning management system, which includes Blackboard, WebCT, and Moodle, maintains educational materials and enables them to be standardized and supported by slides, exams, and discussion boards. A "distinct, pedagogically meaningful, and complete system via which learners and faculty can participate in learning and instructional processes at any time and any place" is how the term "LMS" is used (Chang, Chow & Jia, 2017). LMS is a strong tool with a variety of capabilities that may be used to build a customisable online learning environment (Clark, 2019). It can be used to post materials that complement online-only courses or to develop a whole course online (Chang, Chow & Jia, 2017).

When compared to traditional learning, online learning has shown to provide a number of advantages, especially the ability to learn "anytime, anywhere" (Iverson, Colky & Cyboran, 2015; Skelton, 2017; Filimban, 2018). According to a study by Nopa Yusnilita (2016) titled "Impact of online learning," this method of instruction has many advantages for students because it is flexible, emphasizes student-centeredness, and can enhance communication with them by offering asynchronous and synchronous tools like email, forums, chats, and video conferences (Anstine & Skidmore, 2019).

In contrast, Zhang and Nunamaker (2016) contend that there are some factors that are barriers to students' learning processes when using online learning platforms, such as decreased motivation, delayed feedback or help because instructors are not always available when students need it during learning, or feelings of isolation due to classmates' virtual absence, particularly in classes for economics and management science. According to Martly (2016), economic and management science is a dynamic area of study that includes business, accounting, and economics. Furthermore, Department of Basic Education (2011b:8) claims that EMS is concerned with the effective and efficient use of various types of private, public, or collective resources to meet people's needs and desires. According to Damalie (2018), the future viability of a country's economy makes EMS vitally significant. The goal of the EMS is to produce responsible citizens and capable decision-makers (Wyk, 2015). Although there are advantages and disadvantages to online learning generally, there have not been many studies done to examine how EMS students perceive it. This study investigated how EMS students felt about learning EMS online based on the information provided above. It specifically explored students' perceptions of online learning of Economic and Management Science (EMS) and also provide recommendations that can improve online learning experience.

Literature Review

Usefulness, Convenience and Flexibility of Online Learning

Numerous studies have shown that online learning gives students innovative learning opportunities and removes location and time restrictions as well as discriminatory

elements including age, attire, disability, racism, and gender (Illinois Online Network, 2018; Wallhaus, 2017). Online learning gets beyond the challenges that traditional education presents to students who are unable to attend class for whatever reason. The ability to provide students chosen learning styles, expand institutional resources to suit educational demands, and give students the chance to explore a wide range of study options are all made possible by online learning (Chin, 2018; AL-Augab, 2017). Seok (2016) claimed that for the workforce at the socio-cultural community level, online learning enhanced self-directed learning, problem-solving skills, and higher thinking skills. For students, teachers, institutions, and communities, online learning may present fantastic opportunities that would not otherwise be possible.

Additionally, studies have been carried out to look into the viability and use of online education in South African higher education institutions (Nguyen, 2015; Balawi, 2017). The majority of these researches have described how South African tertiary teachers and students feel about using online lessons. The successful deployment of online education in South Africa has been recommended along with a number of hurdles and encouraging elements surrounding participation in online learning settings. An organized and thorough evaluation of the literature on the integration and adaptation of online lessons in South African higher education found that participants consistently valued and were eager to engage in online learning (Tastle, White & Shackleton, 2017). For instance, a study by Balawi (2017) found that the University of South Africa (UNISA) and Tshawe University of Technology (TUT) held favorable attitudes toward online learning because it offered students opportunities and access, and it opened higher education to a wider range of students with interaction resulting in engagement and active learning experiences. Nguyen's (2015) research found that students valued and supported online learning due to its adaptability, practicality, and emphasis on self-directed learning. The study's participants thought that integrating technology in the classroom will enhance and value their teaching and learning abilities. One of the primary factors encouraging the adoption of online learning was the promise of flexibility, giving students the option to learn at their own time, pace, and/or location (McCann et al., 2017; Chin, 2018).

However, despite widespread claims of success in the use of online education, there is no proof that these technologies have actually benefited teaching and learning in this type of setting (Russell, 2019; Yatrakis & Simon, 2017). Universities in particular raced into the delivery of courses online on the presumption that academics could instruct students online and that student could learn online (Palloff & Pratt, 2016). However, according to Finger, Russell, Jamieson, and Russell (2017), there needs to be a valid educational justification for using technology in teaching and learning. When the two learning environments are contrasted in terms of student and lecturer performance satisfaction and outcomes, there has been discussion about the differences between online learning and conventional learning. For instance, numerous research found that there is "no substantial relationship" between students' performance in an online learning environment and their performance in a face-to-face learning environment (Yatrakis & Simon, 2017; Carswell & Venkatesh, 2015; Motteram, 2018).

In his study, Chin (2018) found that despite the high level of satisfaction with online learning, both students and lecturers still preferred to prefer face-to-face learning for the effectiveness of the teaching and learning process. Blended learning, which combines

face-to-face and online learning, has lately gained popularity among instructional designers in higher education (Sparks, 2017). Online and face-to-face learning are combined as part of a blended learning strategy. In order to maximize the learning outcome and program delivery cost, Singh and Reed (2017) defined blended learning as a learning program that employs multiple modes of delivery.

Barriers to Online Learning

Numerous obstacles to effective student and instructor participation in EMS online learning have been highlighted in a few studies. Online learning was hampered by a lack of defined pedagogy for online instruction as well as a lack of information about how to create online training (AL-Augab, 2017; Balawi, 2017; Harley, Henke, Lawrence, Maher, Gawlik, & Muller, 2018). The results of a study by AL-Zamil (2015) evaluating the views and experiences of 256 male and female students toward online courses showed that students' perspectives on online courses were influenced by their lack of clarity regarding online instructions. They argued that for this type of learning, instructors needed to explicitly communicate the goals and homework for each class. Additionally, there are numerous challenges that online learning must overcome, including problems with students, instructors, and content. According to Dhawan (2020), it is difficult for institutions to enlist students and have them take part in the online teaching and learning process since they frequently exhibit behaviours that are both favourable and unfavourable to the online learning environment.

According to Sparks (2018), because some teachers lack technological proficiency, there are obstacles for instructors to transition from offline to online modes, change their teaching approaches, and manage their time. If students do not put what they learn into practice, the online learning experience will not be as effective as it could be. Additionally, according to Barr and Tagg (2015), EMS content is less theoretical and more practical, and online learning systems do not allow for successful practice and learning. Students believe that the biggest obstacles to online learning are a lack of community, technological issues, and difficulty understanding educational objectives (Nguyen, 2015). According to McInnerney and Roberts (2014), who support this point of view, there is a lack of community when students are unable to interact with their peers, are not computer literate, encounter technical issues, and frequently have academic deficiencies. These barriers may result in unsuccessful online learning experiences for EMS. Many impediments, including a lack of appropriate digital tools, unstable Wi-Fi, and no internet, can prevent many students from taking advantage of online learning options (Bharuthram and Kies, 2018). Additionally, AL-Gonaim (2015) did research on how instructors and students feel about the use of online instruction. The results of this study, like those of the earlier ones, indicated a high degree of satisfaction and favourable sentiments among students and instructors toward online training. However, there were two significant barriers: a lack of infrastructure and technology, as well as a lack of training that was efficient for online instruction. Prior to this, Regmi and Jones (2021) analysed publications on e-learning in business and grouped obstacles into four themes: lack of information technology skills, resource-intensiveness, inadequacy for all disciplines or materials, and low motivation and expectations. Other barriers to online

learning include having to fulfil obligations at home, having to alter learning methods, and educators not communicating well or giving clear instructions (Nguyen, 2015).

Theoretical Framework

Downes (2007) described connectivism theory as the thesis that knowledge is distributed across a network of connections, and learning consists of the ability to construct and traverse those networks. Connectivism is characterized as a reflection of our society that is changing rapidly. Society is more complex, connected socially, global, and mediated by increasing advancements in technology. It is the orchestration of a complex disarray of ideas, networked to form specific information sets (Siemens, 2007). According to Siemens and Downes (2009), the core skill is the ability to see connections between information sources and to maintain that connection to facilitate continual learning. Connectivism theory is relevant to the study for the following reasons. First, connectivism is characterized as the enhancement of how a student learns with the knowledge and perception gained through the addition of a personal network (Siemens, 2004). It is only through these personal networks that the student can acquire the viewpoint and diversity of opinion to learn to make critical decisions. Second, the sheer amount of data available makes it impossible for a student to know all that is needed to critically examine specific situations. Being able to tap into huge databases of knowledge in an instant empowers a student to seek further knowledge. Such a capacity to acquire knowledge can facilitate research and assist in interpreting patterns. Third, explaining learning by means of traditional learning theories is severely limited by the rapid change brought about by technology. Due to the fast change brought on by technology, classical learning theories are severely constrained in their ability to explain learning. In light of this, connectivism hypothesis helped the research identify the method students utilize to build knowledge when enrolled in online learning**.**

Methodology

The study adopted a qualitative research methodology involving interviews to elicit information from the participants in one rural university located in the Eastern Cape, South Africa. Additionally, individual interviews were used to collect data. The population comprised year two EMS students from the faculty of education. The population was purposively selected on the basis that they would provide rich data of perceptions of online learning of EMS. Eight year two students doing EMS in the faculty of education were purposively sampled. The data analysis that was used was content analysis and data was categorised thematically.

In order to ensure that the participants' rights were not infringed, informed consent was obtained, which included stating the objective of the study as well as any potential advantages (or lack thereof). The participants were informed that their replies would be kept private and anonymous, and that they may withdraw from the research at any moment.

Findings

Students overwhelmingly expressed satisfaction with their their interactions with online learning settings. The participants acknowledged several favourable perceptions through

their comments. These perceptions centered on issues of accessibility (useful, flexibility, convenience).

Useful, Accessibility, Convenience and Flexibility of online learning

Students expressed appreciation and praise for the flexibility, convenience, and autonomy offered by online learning settings, especially for non-traditional students, in their comments. The majority of the student participants thought that these aspects were important factors in their decision to study online. One of the aspects that students said they found highly enticing and advantageous was scheduling flexibility. During the interviews, one student mentioned:

> *I prefer to go over and over through the course materials and revise or back-up the information I need, I like not being tied down to a specific on-campus class schedule"*

Another student made the observation that the nature of online courses enables him to work freely and at his own pace within the allotted course time. The student remarked:

> *I like my space when I am studying, so online learning is good because I get to learn at my own pace at my own place. Online learning is so much flexible even if you have missed a class I can always go back to the class and learn independently.*

Students who had to juggle work and family duties said that the flexibility of online courses gave them the ability to complete their education comfortably and at their own speed, enabling them to fit the course work in with their commitments at home and at work. They stated that they preferred online learning as follows:

> *The ability to access course materials with flexibility is the biggest benefit for me because I can't visit the university campus owing to work commitments. This is a means to help students who have jobs or family responsibilities go to college and earn degrees.*

Online learning's accessibility features were valued more highly by certain students than 'real' life experiences. According to the minority of students who took part in this study, the main justification for choosing online learning is that it's their only chance. According to one student:

> *The only way for me to continue my degree is through online learning, as I have a job, business and personal matters.*

Another student also added that he has chosen to study online because he could not access campus due to distance. He said:

> *Online has been the better option for me because of the distance from campus. If I want to access campus, I have to travel more than 276 kilometres to access campus, so online learning has been helping me to carry on with my studies.*

Some students made positive statements about why they chose to study in an online mode. One comment made reference to the fact that online learning:

> *Opens new horizons of learning, self- improvement and achieving better outcomes. Moreover, this approach of learning is very useful and of a greater advantage than studying via the traditional way*

Some of the students expressed that online learning gives them an opportunity to be assessed at any time that is agreed by them and their instructor. One of the students said:

> *Online learning gives us opportunity to write a test at any time. Sometimes we write our test during the evening or sometimes in the afternoon and we get enough time to prepare for the assessment.*

Barriers in Online Learning of EMS

Although most student participants in this study indicated a positive level of satisfaction and achievement, they expressed many barriers that seemed to influence their learning achievement and success through their online learning environment. The barriers were in terms of prior knowledge, online pedagogy, social interaction, instructor's role and technical issues. The findings are revealed below.

Prior knowledge and experience of online learning appeared to be one of the barriers from the EMS students. Some of the students expressed that they were used to traditional face-to-Face learning where the teacher is in control of the class. The online learning became a barrier to them as they had to adjust to new experience of online learning. One of the participants said:

> *The introduction of online learning was a bit a problem because we were not used to learn in that kind of a way, and we had no experience of online learning. We used to listen to the teacher when teaching us and with online learning we could not grasp our roles as students properly.*

Interactive learning through discussions was seen as an absent element by the student participants in online learning environments. Students repeatedly expressed disappointment that online learning of EMS did not encourage discussion of course content and indicated that as a drawback of their online course. One of the student participants expressed that:

> *There was absence of any kind of digression to any theme we learnt in the course. Discussing course topics is not really there. Our focus is merely on how to pass the next test by downloading lectures and obtaining the printed material of course contents.*

The fact that students have various cognitive learning preferences—some prefer learning through doing practical exercises, while others prefer discussions—is one of the challenges that online students face in online learning environments. In order to provide more motivating, interactive, and engaging learning environments when teaching EMS online, students requested that teachers improve their pedagogies. The following comments illustrated this:

I advise lecturers to improve their teaching strategies and take motivation into account as a key consideration because the way the lecture is recorded is uninteresting. We require more dynamic and motivating learning environments, and they must inspire us as students and relate the EMS material to real-world situations.

In a collaborative and interactive learning setting, there was no evidence of genuine engagement with the course materials and content. Students claimed that their online EMS course did not promote collaborative engagement with classmates through conversational activities or group projects. One student said the following:

I didn't interact with other students because the LMS isn't designed to support any sort of practical exercises or even group discussion, which is a significant barrier to learning in this setting.

The majority of students expressed their dissatisfaction with their isolation and with the absence of social connection among themselves, their instructors, and their peers in their comments. The remarks given by students are as follows, which demonstrate this:

There are no social links with the course teacher and with other students in the course and I feel I'm the only one studying in the course.

Students emphasised the importance of having a sense of social links, particularly for them as distance learners:

Listening to a very long lecture electronically is really boring and lacks motivation and interaction, we need to feel such things especially when we learn through distance education.

Student participants expressed a frustration with the online discussion and practical activities. They reported a lack of instructors' utilisation of the communication catalysts and the scarce level of students' participation in the discussion forums.

Our instructors some of them could not provide us with platforms for discussions and collaborative or group discussions. Online learning lacked the practical part of leaning because if one of us as students want to demonstrate financial literacy for example, its difficulty to do that online because the platforms doesn't provide that space.

The students also expressed the lack of feedback, claiming that instructors do not provide online feedback. One of the students said:

The other barrier is the lack of feedback. Our instructors do not give us feedback and they do even show what we have done wrong for instance. This in a way demotivate us students.

The students also reported the technical issues that are associated with online learning. One of the students said:

Although the internet is wonderful and necessary for our online learning, it can also be cause problems. Without strong Wi-fi or

internet connection, online learning becomes nearly impossible and becomes frustrating.

The students expressed that there is lack of motivation with online learning and this is because online learning doesn't encourage academical competition. One of the students said:

There is lack of motivation in online learning, sometimes as students we compete academically and that serves as a strong motivation for us to do more to get better academic results but with online learning, we don't get motivated because each one of us gets his or her grading alone and we don't even get to see each other's performances as it used to be the case with traditional face-to-face learning.

Summary

The majority of participants believed that the accessible features of online learning environments—flexibility, convenience, and autonomy—were the main factors in their decision to study online. Few of the participating students understood the benefits of online learning for improving their learning results. Students emphasized that they had a fantastic opportunity to complete their postsecondary education due of the accessibility features inherent in online learning settings, especially for those who had employment and family obligations. Most students showed strong appreciation of online learning of EMS. However, a couple of students expressed barriers that are associated with online learning of EMS. Amongst other barriers expressed by students were prior knowledge where students reported that they lacked prior knowledge on how to make use of online learning. Moreover, it appeared that some students had a problem with the online pedagogy of their instructors. The online pedagogy of the instructors did not encourage discussions and interactive collaboration. It also appeared in the study that the lack of community and isolation amongst students was a barrier to the learning of the students. Students further expressed that online learning of EMS makes instructors to lack feedback.

Discussion of Findings

Useful, Accessibility, Convenience, and Flexibility of Online learning

The majority of the EMS students in this study's sample reported feeling satisfied, successful, successful, and enjoying their time in the university's online learning settings. The majority of the time, however, the kids did not rely solely on the internet. In spite of a few clearly defined problems mentioned by the participants, the study's findings showed that EMS students who were taking their classes online valued the majority of the resources already made available to them. For EMS students, especially those with family and work responsibilities, the flexibility of online education "anytime, anywhere" appears to offer a great deal of ease. The study's findings revealed a connection between accessibility factors and student participants' satisfaction and interest throughout their studies in online learning settings. Additionally, the results demonstrated that students' perceptions of their ability to learn more in online environments were highly influenced by the flexibility of those environments, particularly flexibility that allowed students to explore a variety of interests. This would suggest that students taking EMS courses online

are highly motivated to use and study in online environments. The literature study makes clear that learning is improved when people are motivated by intrinsic rather than extrinsic factors. Students that study online benefit from the strongest motivational aspects because this method calls for them to apply self-observation, self-reference, self-judgment, and self-checking. As a result, these pupils typically learn faster and more effectively. In online learning, the learner's level of autonomy and control is also a motivating aspect (Filimban, 2018; Clark, 2016).

The study demonstrated that because of its accessibility features, such as flexibility, convenience, efficacy, and autonomy, online education benefits students more. Anyone may learn at their pace and speed, regardless of time or location, thanks to the accessibility features of online education. Convenience is likely the primary reason why many students prefer to pursue more online learning as a rising number of students are unable to attend classes on campuses due to employment, family, or personal reasons (Pastore & Carr-Chellman, 2019). Students who participate in online learning are self-directed learners who can explore the e-learning content, have complete choice over the order of the pages they desire to access, and decide for themselves what information is significant. In terms of calculating the amount of time and effort needed to accomplish a task and the course requirements, students who are enrolled in online courses are in charge of their own learning (Filimban, 2018). These findings are consistent with assessments of the literature on online students' high levels of appreciation and favorable attitudes about the comfort, flexibility, and freedom of accessing online learning settings (Filimban, 2018; Skelton, 2017; Balawi, 2017; Brockbank, 2017; Clarke, 2016; AL-Gonaim, 2015)

Barriers of Online Learning of EMS

The study's findings showed that EMS students were still affected by the traditional face-to-face learning setting, which is based on a teacher-centered methodology and emphasises the teacher as the key figure in the learning process. Students who transitioned to a new distance learning environment felt uneasy and demanded more direction and follow-up from their instructors. This outcome brought to light the difficulty that online students face in comprehending the move toward student-centered learning settings because they lack expertise. They appeared to be less aware of their new responsibilities in online learning environments and how they might successfully manage their work to complete the course requirements. In order for online students to understand their roles, the institution and the instructors must support them. Some students stated that the course material was uninteresting, unmotivating, and lacking in opportunities for discussion and critical thinking. According to the literature study, instructors should take their students' requirements, learning preferences, prior experiences, and prior knowledge into account when designing online content and materials in order to promote active engagement with those resources (Johnson, et al., 2016; Ginns & Ellis, 2017, Filimban, 2018). The absence of engagement in vibrant online communities was consistently cited as a barrier to effective learning in an online setting by both student and instructor participants. This result is consistent with findings of extant studies emphasising the difficulties of building an authentic online community comparable to the campus community, where daily activities and spontaneous contact take place (Skelton, 2017; Guri-Rosenblit, 2015; Maltby and Whittle, 2018).

The literature review argues that the absence of participation in a learning community, which was repeatedly mentioned by the participants in this study, has a detrimental effect on the academic success of students learning in online environments (Anderson, 2016; Khan, 2015). Even if it is thought to be more convenient and adapted to students' requirements, online training has changed the student-teacher interaction and made it less personal. The students who took part in this study believed that social contact was a major problem with online learning environments. In this study, students' satisfaction with their ability to engage and work together in an online learning environment was shown to be low.

The results indicate that students in the majority of their EMS online courses did not seem to be encouraged by their teachers to use communication tools like emails, WhatsApp and chat lines as a way to spread knowledge and promote dialogue. Designing collaborative and cooperative activities can encourage interaction in online learning environments, which appears to be lacking in online learning design (Martinez et al., 2017). Students who participated in this study complained that discussion forums are not used to encourage meaningful debate of the course material in online learning. In the literature, discussion boards have been promoted as a key facilitator for asynchronous communication in online learning environments (Harden, 2016; Clarke, 2018; Filimban, 2018; Inoue, 2017). According to Filimban (2018), discussion boards are a perfect place for students who liked collaborative learning since they allow them to exchange ideas and perspectives and, if necessary, seek clarification. In order to increase students' sense of community and improve the overall effectiveness of the online learning environment, instructors should make efficient use of asynchronous communication tools. Skelton (2017) noted that although instructors can encourage this without having to have students submit to mandatory assessment requirements, there must be motivation for using group discussions or peer interaction just like in a traditional classroom setting.

Participants in their online learning environment have identified the active participation of the instructors in offering precise instructions and timely feedback as a critical component that is lacking. Students' happiness and motivation levels suffered throughout the course due to the lack of frequent feedback (Anderson, 2016). In their comments, students asked for active instructors who would create online courses with a variety of learning styles in mind and gave clear instructions, quick feedback, and active instruction. Students who took part in the study want quicker answers to their questions as well as more email contact to their teachers.

Conclusions

It is clear on the discussion of findings that online learning of EMS provides satisfaction to the students. Majority of the students expressed positive feedback by revealing that online learning of EMS was an advantage for them since many of them had to study while taking care of their families and business. The accessibility and flexibility of online learning provided students with an opportunity to study at their own comfortable time. Even when students have missed out lessons, they are able to revisit recorded online classes and begin to study. Moreover, students benefit from the online learning as shown in the discussion that students enjoy the comfort of self-directed learning which that encourage and motivate them. While students expressed gratitude and satisfaction of

online learning of EMS, some expressed frustrations and claimed that there are barriers that hinder the smooth process of online learning of EMS. From the findings it appeared that some students were still influenced by face-to-face traditional learning and lacked prior knowledge of online learning. In addition, students indicated that the online pedagogy by instructors lacked discussion and practical learning aspect as a result it gets boring.

Recommendations

Online instructors must comprehend the rationale for the change from a teacher-centered to a student-centered approach and put it into practice. They must devise methods that enable students to exercise control over the knowledge they create and the learning activities they partake in. In order to actively engage students, instructors must grasp their crucial roles as facilitators (or "e-moderators") and, more importantly, as creators of successful online learning environments. Instructors need to be aware of their responsibilities for helping their students understand their roles in the learning process and acquire the necessary skills to properly manage it in online learning settings. System navigation and addressing technological challenges during the course must be covered by the instructors.

The functionality of the LMS features and tools must be pedagogically customized by instructors to encourage students' participation in collaborative and dialogical learning and to create a flexible and dynamic learning environment. To achieve their objectives and intentions, students must work on meaningful assignments. By facilitating engaging group conversations, distributing materials and projects, and encouraging peer evaluation, instructors should work to foster a sense of community. They must devise pedagogical approaches that permit and promote students' participation in group projects in their online courses. For instance, students utilize blogs as an electronic portfolio or journal to reflect on, explain, and discuss their own learning experiences as well as to remark on significant postings written by other students in the course. Additionally, students could use wiki to create jointly revised materials or to record group projects.

The course material, assignments, and assessments must be tailored to each student's needs, past knowledge, experiences, and aspirations in order for instructors to increase student motivation. It is essential to provide students more freedom and choice over how they learn. Along with providing frequent feedback that reflects students' progress, instructors must also focus on encouraging course extensions and other perspectives. With regard to both its substance and delivery, feedback should be appropriate, timely, and relevant. By offering virtual office hours and teleconferences throughout the semester, instructors should boost student connection in real time. They should also increase and promote student participation in class discussions using Microsoft Teams and the BlackBoard (students need to know that participation in discussion is an integral part of the class). Throughout the entire course, the instructor should be engaged and present in the discussions. Instructors should use asynchronous communication methods to respond to questions from students and offer support right away as needed. The possible use of real-time learning environments, where interactions and reactions are more effectively increased, should be studied and is strongly suggested (for example, live chat classes, Second Life environments).

Institutions should devise plans that identify and address students' technical skills and requirements while also giving them timely and adequate feedback. Prior to enrolling in online courses, students' technological proficiency and understanding of how to use online spaces must be evaluated. Students who don't possess the necessary degree of skills should be given training. For online students, orientation programs must be created and crafted. Students' orientation programs should emphasize the benefits of online learning for improving their academic performance, highlight their roles, and offer instructions for building successful study techniques in online settings. Additionally, the institution has to step up blended learning to give students the option of pursuing their academic goals both online and in person. Both teachers and students can pursue their goals of learning and teaching through blended learning. The institution's adoption of blended learning helps students and teachers feel at ease while they are studying and imparting knowledge.

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SCIENCE INQUIRY AS AN APPROACH TO PROMOTE NATURAL SCIENCES LEARNING AND TEACHING, SOUTH AFRICAN PERSPECTIVE

[1]Nomxolisi Mtsi, [2]Shakespear, M. Chiphambo & [3]Nomaroma Kumanda

[1,2&3]Walter Sisulu University (South Africa)

Abstract

Science Inquiry is an approach that provides students with opportunities to do investigations of problems, make predictions and observations, ask questions, test out ideas and come up with findings. The objective of this study is to interrogate if teachers use Science Inquiry as a teaching approach in their respective classrooms. The study identified students' lack of understanding of the practical part of natural science learning and teaching. Literature confirmed the gap in the learning and teaching of science as most classes lack practical exercise because of the lack of resources that hinder science inquiry activities. The study was guided by two theories, social constructivism, and pedagogical content knowledge. The two theories interconnect with science inquiry as an approach. The study adopted a case study design and followed a qualitative approach. Using convenient sampling based on proximity to researchers, 10 Natural Science teachers were sampled and interviewed, and their responses were subjected to thematic content analysis. The findings revealed that some Natural Science teachers were aware of the approach, others were not aware, while others lacked the practical part of the content. The study further revealed the lack of resources, the laziness of teachers and their attitudes, and the lack of pedagogical content knowledge. The study recommends that natural science teachers need more training and support from their school management as well as subject specialists.

Keywords: Science Inquiry, Teaching approach, Natural Science learning

Introduction and Background

Learning science is something that students do, not something that is done for them. Literature confirms that students should be motivated to actively participate in science activities both physically and mentally (Salama & Chennaoui, 2016). The term inquiry is defined as an investigation of a problem, finding the truth or knowledge that entails thinking critically, analytical thinking, making observations, asking questions, doing experiments, and stating conclusions (Hiang, 2005; Aji & Budiyono, 2018). Constantinou, Rybska and Tsivitanidou (2018) also regard Science Inquiry as an approach that is strongly encouraged for learning and teaching of science. The approach challenges students to be more active and apply critical thinking before they come up with results. Given our teaching experience, we understand that science needs relevant teaching approaches that will enhance science learning through practical activities.

South African literature notes that the inquiry-based based approach remains a challenge in some rural schools in South Africa (Ramnarian & Hlatswayo, 2018). A study conducted in Gauteng Province in South Africa explored the nature and extent of inquiry practices in science classrooms (Habteselassie, 2015). The findings revealed that only

two classrooms out of ten confirmed its use. It clearly shows that the approach is used at a slow pace. Another study conducted by Bantwini (2017) on science and technology in South Africa's Eastern Cape Province reveals that teachers do not effectively encourage inquiry abilities in learners as they learn through (chalk and talk) transmission of recognised knowledge. However, in other countries like United States of America, a study conducted by Nesmith (2017), science inquiry was found to be progressing very well, though there are a few challenges such lack of literacy methods, and reluctance to integrate literacy strategies. In Malaysia, a pilot programme was applied on Inquiry Based Science Education (IBSE) and it revealed that IBSE had positive outcomes for teachers and learners (O'Connell (2014).

A study conducted in Nigeria on the effects of inquiry-based teaching approach on students' science process skills (Ghumdia, 2016) mentioned the study sample of one hundred and sixty senior secondary schools, and it used an instrument called biology student process skill acquisition test for data collection. The study revealed that the inquiry approach contributed significantly to a better understanding of biological concepts by learners than their counterparts treated with a conventional approach. However, Mugabo (2012) further mentions that teachers had a positive attitude towards the introduction of inquiry even though they indicated some challenges such as traditional classroom activities dominating inquiry-based activities.

The present researchers observe that, although the status of science inquiry from other countries is very positive, there are some few challenges experienced. Thus, schools need to organise workshops that will empower teachers with new pedagogies that will promote inquiry-based activities. Considering both the status of science inquiry in South Africa and other countries, it confirms that in South Africa we still encounter more serious challenges than other countries. Hence, the researchers in this current study saw a need to explore the application of science inquiry among teachers in their science classrooms. It is also important to note that science inquiry is the approach that needs to be embraced as it engages students more in a lesson. Moreover, science inquiry is aligned with social constructivism which emphasizes interactive learning and supports the leaner to reach the level that is expected regarding the knowledge. As established in the literature, science inquiry needs someone who understands the approach to involve students more. An instance is Vygotsky's zone of proximal development (ZPD) whereby the more knowledgeable assists the student (Vygotsky, 1978). Subsequently, the theory stresses the students' contribution in the practical activities, of which the present researchers believe that once the student is allowed to handle the learner materials and fully participates in the task, science learning becomes successful and students develop a positive attitude.

Attitude refers to the ways students behave regarding an issue; it is a very important aspect. Attitude can be positive or negative; when it is negative, motivation is needed. However, , both the teacher and the student need to develop a positive attitude so that learning and teaching can progress very well. Once an individual (either teacher or student) is negative about the task, it means the content to learners will be negatively affected. Moreover, the knowledge grasped by students is very important; to be . Hence,

one needs to be well versed with the content knowledge so that students do not acquire wrong information.

Problem statement

As experienced researchers in the field, we noticed that there is a challenge in the science field. Some teachers in deep rural schools are given the subjects to teach, due to workload or lack of specialists in the field. Then they experience the content gap or lack of knowledge of the subject, and it becomes worse when it comes to the implementation of the relevant approach to drive the content. Literature confirms that data collected in the science classroom observations reveal that, teaching in most classrooms implemented discouraging instructional approaches that lacked practical activities that enhance analytical thinking (Bantwini, 2017). In the trends in International Mathematics and Science Study TIMMS latest 2019 results, data revealed that South Africa ranks regularly low in mathematics and science (TIMMS, 2020). Moreover, in South Africa, Natural Science students' performance in Particulate Nature of Matter (PNM) is generally poor (Reddy, 2017). This implies that teachers need a lot of support and training to familiarise themselves with such a curriculum shift that incorporates students' engagement in inquiry-based learning which many teachers were not trained in (Ramnarain & Schuster, 2014). Hence the present researchers are interested in digging deeper into the matter.

Question

How do teachers use science inquiry to promote learning and teaching in South African schools?

Objective

To explore how teachers use Science Inquiry as a teaching approach in their respective classrooms

Theoretical Framework

The study was informed by Vygotsky's social constructivism and Shulman's pedagogical content knowledge (PCK). The Social constructivism theory emphasizes that students need to be actively involved in learning and they need to apply practical activities using their hands. The theory also claims that the teacher is regarded as the more knowledgeable person, therefore, he/she is expected to help the students to reach the level expected. The second theory is Shulman's pedagogical content knowledge (PCK) which emphasizes the following aspects: (i) knowledge of the content (ii) understanding of students' conception of the subject matter (iii) general pedagogical knowledge. The three aspects prove that content knowledge goes with pedagogy and if these aspects are treated separately then teachers will encounter challenges. For instance, an individual can have the content knowledge, but if it is driven by an irrelevant pedagogy it means students may find it difficult to understand. Literature confirms that pedagogical content knowledge is a teacher's understanding of how to help students to know a specific subject (Magnusson, Borko & Krajcik, 1999). These two theories complement each other in the sense that teachers need to encourage a student engagement approach. Once student engagement and the more knowledgeable (teacher) are positively integrated, learning and teaching can be improved. Therefore, the Departmental Officials also need to inspire these aspects

mentioned above when giving support. The present researchers are of the view that there should be a balance between the content, pedagogy, and practical tasks so that the science curriculum implementation becomes a success.

Literature Review

Curriculum Assessment Policy Statement (CAPS) specific aims and science inquiry

To go deeper into the natural science curriculum, three specific aims in natural sciences are emphasized in CAPS by the Department of Basic Education or DBE (2011c:10) Senior Phase and these are:(i) Specific aim 1: "Learners should be able to complete investigations, analyse problems and use practical processes and skills in evaluating solutions (ii) Specific aim 2: "Knowing the subject content and making connections'(iii) Specific aim 3: **"**Understanding the uses of Science'**:** Learners should understand the uses of Natural Sciences and indigenous knowledge in society and the environment

Science inquiry links with specific aim 1 by stating that : (a) Learners should be able to complete investigations, (b) analyse problems, (c) use practical processes and skills in evaluating solutions, (d) plan simple investigations, (e) do simple investigations and (d) solve problems that need some practical capability. Specific aim 1 also stresses attitudes and values that underpin these skills. An example cited in the specific aim in this regard is respect for living things (learners should not damage plants; if they examine small animals they should care for them and release them to the place where they found them). Therefore, during inquiry skills in promoting science learning and SL, there is a merger of practical activity and skills with attitudes and values. As such, a science-literate person is just not skilled but also has a positive attitude and values embedded with the responsibility to nature and other living beings.

Science inquiry links also with Specific aim 2, that is, knowing the subject content and making connections in that (a) learners should have a grasp of SL, technological and environmental knowledge; and (b) be able to apply it in new contexts. This aim guides educators by stating that the main task of teaching is to build a framework of knowledge for learners and to help them make connections between the ideas and concepts in their minds – this is different from learners just knowing facts. When learners do an activity as part of SL inquiry (Specific aim 1), questions and discussion must follow and relate to previously acquired knowledge and experience, and connections must be made. Questions and discussions promote the interconnectedness necessary to enhance science learning and SL.

Science inquiry links also with Specific aim 3 as it alludes to understanding the uses of Science and specifies that (a) learners should understand the uses of Natural Sciences and indigenous knowledge in society and the environment, (b) science learned at school should produce learners who understand that school science can be relevant to everyday life. Examples cited are issues and applications such as improving water quality, growing food without damaging the land and building energy-efficient houses. An appreciation of the history of SL discoveries, and their relationship to indigenous knowledge and different world views ought to enrich the understanding of the connections between Science and Society.

As such, CAPS also notes that science learned at school should produce learners who understand that school science can be relevant to everyday life. The reference to indigenous knowledge is also pertinent as there is a wide variety of useful indigenous knowledge in Africa in general and South Africa in particular. Links to indigenous knowledge during teaching and during inquiry activities are considered as significant ways to relate to society. All the aspects under inquiry have interconnectedness and they link with the former two natural science-specific aims in the CAPS document.

The Importance of Science Inquiry

A purposeful practical work has the potential to develop important high-order learning skills in high school such as asking questions, developing critical thinking, and developing metacognitive skills. The approach is very useful as it empowers the students to be able to use the learned information at home and in the world of work e.g. learning about the electric circuit in school, students can be able to determine the right connection of electric wires in fixing electric cattle etc. In the world of work, they can be established electricians, etc. Thus, Ramnarian and Hlatswayo (2018) state that Inquiry-based learning is also key in preparing a labour force that is flexible in its thinking and able to operate with greater independence. Therefore, it means there will be an improvement in the economy of the country. In terms of the knowledge domain, "learning-by-doing" is the key to the core business of the school and inquiry-based learning activities should enhance experiences that develop thinking skills required by the workplace (Ramnarian & Hlatswayo, 2018). Inquiry is an important aspect of understanding the nature of science (Lederman & Lederman, 2014), and offers knowledge into the world of the scientist (Breslyn & McGinnis, 2012). Ofsted (2016) argues that these types of skills for science inquiry can be restricted due to teachers' lack of expertise. Thus, the teacher's content knowledge, as well as pedagogical content knowledge, is vital to be proficient in the discipline and be able to transfer the knowledge successfully. The statement above is also avered by Shulman (1986) who stresses that a proficient teacher can teach excellently if he/she has knowledge and understanding of the subject content.

Nicol (2021) trusts that teachers can improve the pace of tuition time as well as science curriculum implementation, if only they can invest enough time in thorough preparation of the content before they can go to class. As the present researchers, we concur with the author above, time management is the key. A well-planned lesson with clear and strait forward activities and the correct time allocation will serve as good guidance for the teachers (Nicol, 2021). Hence, Chichekian et al. (2016) also recommend consistent in-service training to support both new and less prepared teachers through inquiry-based instructional techniques is needed. Moreover, constructivism promotes active learning of which science inquiry needs to be allocated enough time so that teachers can do justice.
The importance of science inquiry: The comparison and contrast are shown below.

TABLE 1: COMPARISON BETWEEN INQUIRY-BASED AND TRADITIONAL TEACHING METHODS

Characteristics	**Inquiry-based**	**Traditional**
Principle Learning Theory	Constructivism	Behaviourism
Student Participation	Active	Passive
Student Involvement in Outcomes	Increased Responsibility	Decreased Responsibility
Student Role	Problem solver	Direction follower
Curriculum Goals	Process-oriented	Product-oriented
Educators' Role	Guide/facilitator	Educators' Role Guide/facilitator Director/ Transmitter

(Franklin, 2002)

Table 1.1 shows the importance of the science inquiry approach in promoting science learning. The approach engrosses learners more in a lesson and equips them with problem-solving skills. However, the traditional method engenders learners' passive involvement highlighted in the above table, showing that the teacher is seen as the transmitter of knowledge. The nature, processes and methods of science, which need the application of inquiry skills, need to be established within varying contexts of science across the disciplines of biology, chemistry, and physics (DfE, 2014). There is interconnectedness in the three subjects hence teachers need to apply inquiry skills to boost the learning and teaching of science. Under the science inquiry approach, five inquiry-based methods are used in the learning and teaching of science. They are Simulation, Experiment, Demonstration, Project work, and Fieldwork. All these mentioned inquiry-based methods involve critical thinking and solving problem skills. For instance, when conducting experiments, physical laboratories are needed, they need to be of good quality with current resources.

Tesfamariam (2015) stresses that experiments are important for science learning but most developing countries often neglect that part of science teaching due to time and budget constraints. This is a serious concern, an important subject that needs to be prioritized is neglected, therefore it gives a clear indication that the time to organise good quality resources is not available and students will be the ones suffering. Literature asserts how technology changed our lives today, whereby, there are virtual laboratories that are taking up space in the twenty-first century (Abubakar & Salmanu, 2018). This means that even the teachers who developed attitudes regarding interactive science approaches will be able to be flexible in using both physical and virtual laboratories even during their extra time.

Resources and Challenges

Resources also play a very prominent role in science. CAPS document highlights that resources needed for the learning and teaching of science are listed alongside each unit or topic to support teachers when preparing for the implementation of the science curriculum. Moreover, CAPS (2011) emphasizes that every learner should own a textbook and schools should ensure that all the resources needed for learning and teaching are available and kept safe and secured. Experiments in science inquiry need resources so that students can participate actively, Bruner's theory explains that active

engagement, enhances drive, accountability, creativity and problem-solving skills (Bruner, 1961).

Literature confirms that when there is a lack of resources, learning and teaching cannot be implemented effectively. O'Connell (2014) reveals that the Inquiry-Based Science Education (IBSE) approach stimulates students and builds critical thinking, however, there are challenges in the use of the approach such as a lack of resources for training educators to use ISBE successfully. The present researchers are of the view that resources needed for learning and teaching need. As indicated by Mtsi, Maphosa and Moyo (2016), teachers in South Africa face challenges regarding science resources, content knowledge and infrastructure. Furthermore, the lack of resources is inhibiting the implementation of the science curriculum.

Methodology

The study followed a qualitative approach, as an inquiry process of understanding based on district methodological traditions of inquiry that explore a social or human problem (Creswell, 2008). The approach was used to seek understanding from science teachers in connection with the implementation of science inquiry approach in their respective classrooms. The study used convenient sampling based on proximity to researchers. Out of 30 teachers, 10 Natural Science teachers were interviewed, and data were collected through semi-structured interviews. Content analysis was utilized to analyse data collected for the study and the data were coded and categorised to enable thematic analysis.

Results

Science Inquiry

Inquiry is a technique of understanding the features of science through Science Learning experiments and tryouts and testing. Some teachers comprehend the concepts, though, there are some aspects they do not conduct in class. Others are aware of the approach but claim that it is time-consuming. Science inquiry is an approach that provides students with the skills to apply practical tasks that involve experiments and project work, thus teachers need to embrace the approach and use it in class. Consequently, it shows that an important subject that opens doors for the science field in higher education cannot be ignored because it is time-consuming, instead professional development is needed to support the teachers. Many teachers shared their experiences by stating that:

> *I do not know the approach, but I am aware of the experiment under the approach, but I do not conduct practical tasks due to a lack of apparatus and resources (T1). I am aware but is time-consuming, I need to plan and come up with resources that are not available (T4).*
> *I am aware but there are tasks that I do not use (T5). Aware of some aspects but most of them I do not use (T3), I use only demonstrations and experiments in science inquiry, others I do not use because I do not know them and I have never seen and heard about them even in workshops (T6) and (T8).*

When teacher 10 (T10) was asked about giving the reasons for not using other aspects in science inquiry, the educator articulated like this:

> *I am aware of the approach to science inquiry, but I am not using all the categories under the approach, and I don't want to blame other people I blame myself. At times I become lazy to prepare. I don't give myself enough time, so I just leave it like that. Secondly attitudes of us as educators it is about preparations, not that we do not know, it is just attitudes (T10).*

It is clear that educators use the approach but there are challenges that they encounter in some aspects, while other educators do not attempt to apply them in class due to their negative attitude.

Summary of the Findings

The participants raised different issues regarding science inquiry; some of the teachers were Aware of the experiment that forms part of science inquiry and others were not aware of the approach, however, there is another challenge that is laziness among the teachers since it takes a lot of their time when doing the practical activities. They also emphasized the issue of resources that inhibits the learning and teaching of science. As the present researchers with the background and experience in teaching science, we understand that resources are a problem and can have a negative impact on science learning.

Discussion

The participants revealed that teachers were aware of the experiments as part of Science Inquiry. The policy documents indicate that CAPS indicates formulating hypotheses as well as designing and carrying out experiments to test the hypotheses is very important for science enhancement (CAPS, 2011). Bruner's theory encourages active engagement as well as problem-solving skills (Bruner, 1961).

Moreover, the study indicates that teachers were aware of the science inquiry approach, however, due to laziness they blame themselves because they are not implementing the approach in science lessons. Literature reveals that Science inquiry promotes learning by doing (Ramnarian & Hlatswayo, 2018). Subsequently, learning activities should augment experiences that advance thinking skills crucial for the workplace (Ramnarian & Hlatswayo, 2018)

The study revealed that teachers were having a challenge of the lack of resources. Tesources are the key drivers when it comes to science inquiry that uses mostly experiments. CAPS (2011) highlights that every learner should own a textbook and schools should ensure that all the resources are available for learning and teaching. Mtsi, Maphosa and Moyo (2016) revealed that teachers in South Africa face challenges regarding science resources, content knowledge, and infrastructure. Hence, schools need to provide resources and good infrastructure so that the science curriculum can be implemented successfully.

Time-consuming is another factor that was raised by teachers. In principle, science is a very important subject that opens doors for University level, of which teachers need to be serious when teaching the subject, moreover, some many aspects or methods need to be considered hence teachers may think that it is time-consuming. Nicol (2021) trusts that teachers can improve the pace of tuition time as well as science curriculum implementation, if only they can invest enough time in thorough preparation of the content before they can go to class. Moreover, these teachers also mentioned attitudes are donating to the challenge of not using science inquiry.

Conclusion

The study confirmed that some teachers understand the science approach while others are still struggling, and they need support. The study revealed some serious concerns regarding the use of science inquiry, lack of resources that are very scarce, the approach is time-consuming, and they mostly skip the practical part of the curriculum. However, some teachers are confident they understand the approach sometimes they are not implementing it because they are lazy.

Recommendations

The study recommends that teachers need frequent training that will focus on teaching methodologies. If Universities can form collaborations with the schools in different centres whereby, they will assist the science coordinators who will go back and train all the teachers from their circuits. The Higher Education academics in the province need to plough back to the schools in the communities so that there will be an improvement that will also promote the grade 12 results.

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GENDER AND LEARNING STYLES AS CORRELATES OF GRADE 6 MATHEMATICS PERFORMANCE IN SELECTED SCHOOLS IN SOUTH AFRICA

[1]Kemi O. Adu & [2]N. Duku

Faculty of Education
University of Fort Hare

Abstract

Mathematics is an important subject that promotes science and technology. The knowledge of Mathematics has contributed to the economic development of many nation. However, learners underperform in Mathematics as a subject in school. Many factors have led to this. This paper investigates the relationship between two variables (gender and learning styles) and the Mathematics performance of learners at the Grade 6 level in Buffalo City. The research design adopted in this paper is correlational because it is a quantitative approach. A stratified sampling technique was used to select 1225 from the population of Grade 6 learners in Buffalo City Education District. Descriptive and inferential statistics were used to analyse the data. The findings showed that learning styles have a positive impact on Mathematics performance ($r = 0.999$; $p>0.05$). Nevertheless, these styles affect mathematics performance in the following order; visual learning style ($\bar{x} = 13.242$, $SD = 5.565$), takes the lead followed by learners with auditory learning style ($\bar{x} = 12.996$, $SD = 3.883$), and Kinaesthetic learning style ($\bar{x} = 11.525$, $SD = 3.800$). There is no significant difference between male and female Grade 6 Mathematics performance in Buffalo city ($t = -.217$, $df = 1218$, $p>0.05$). The study concludes that one of the most fundamental issues to consider in improving Mathematics performance is the understanding of the learners' learning styles.

Keywords: Gender, Learning Styles, Mathematics, Performance

Introduction

The knowledge of Mathematics by the recipient promotes social and economic development. Our lifestyle involves calculation and planning which we learn from Mathematics. There is a need for us to look at how the teaching and learning of Mathematics in schools is been done. The effective teaching and learning of Mathematics are determined by so many factors. For proper dissemination of Mathematics, the learners' characteristics should be taken into consideration. Every learner is very unique in his or her way (Adu, Pylman & Adu, 2021).

The assimilation rate of the learners is not the same; the type of skills and the structure of learners' brains are not the same. Suffice to say that learner learns and acquire knowledge of Mathematics differently. The behaviour and attitude of learners in the classroom during the teaching and learning of Mathematics are very important. Learners learn differently and exhibit different styles. A teacher needs to interact with learners to discover which learning style can promote understanding of the subject matter. Every teacher is interested in fulfilling or achieving the learning objectives and

promoting desirable learning outcomes. Each learner tends to have a particular learning style that influences how they learn. According to Dunn and Dunn (2011), there are learners' characteristics that can influence learners' styles, such include personal experience, culture, maturity, and background of the learners.

Each learner has a preferred way of retention, organisation, and perceptions. The learning style exhibited by the learners could be described as their preference for how they regurgitate, assimilate, and process information (Adu & Duku, 2021). They identified three major learning styles that may inform learner's preferences; these are visual, auditory and kinesthetic. Visual learners remember and understand Mathematics concepts by seeing; auditory learners understand and retain knowledge and information through hearing and listening while kinesthetic learner does not hear or see but by doing, put up an action. Apart from learning styles as one of the major characteristics of the learners that can affect the performance of Mathematics, literature has revealed gender as another factor to be considered about learners during the teaching and learning of Mathematics. Males and females have different preferred learning styles. Litzinger, Lee and Wise (2005) as cited in Adu, Pylman and Adu (2021) succinctly said that females are more flexible and independent about their learning styles than their male counterparts. In their study, females scored high with the use of visual learning styles while males preferred auditory and kinesthetic styles. Adom and Adu (2018) reiterated the fact that females preferred diverging learning whereas, males opted for analytical learning that focuses on abstraction.

Learning styles are very important factors that can enhance the performance of any subject apart from Mathematics. Learning styles involves the feeling, behaviour, and how learners process information during the classroom activities. Females and males differ in learning styles because of what they are comfortable with. The ability to hear, read, see and act is embedded in the psychological traits of the learners. Learners can possess all the learning styles depending on their state of mind and readiness to learn. Scientists found out that female learners hear sounds much softer than male learners (depending on the frequency tested). That is, girls have a sense of hearing which is four times better than boys. Female Learners' hearing has been proved systematically beyond reasonable doubt that is significantly better than male learners (Russell, 2011).

Objective of the paper

The sole objective of this paper is to examine gender and Learning Styles as a correlate of Grade 6 learners' Mathematics performance in Buffalo City.

Hypotheses

1. There is no significant influence of Grade 6 learners' learning styles (visual, auditory, and kinesthetic) on their mathematics performance.
2. There is no significant difference between male and female Grade 6 learners' performance in Mathematics.

Kolb's Experiential Learning Theory

This paper is anchored in Kolb's experiential learning theory. According to Kolb, experiential learning calls for strengths such as self-initiative and self-assessment. To be timely, experiential learning should use the wheel of full learning, from setting targets to testing and observing, evaluating, and finally acting. This complete process allows students to learn new skills in many subjects particularly Mathematics, new attitudes, and new ways of thinking. Kolb's experiential theory involves four stages of learning: do, observe, think and plan. These stages help students to participate actively in learning (Akinoso, 2012; Adu & Duku, 2021). Among the different models of learning style, Kolb's Experiential Learning Model (ELM) has been commonly used and updated to reflect the different educational contexts. Kolb proposes a hypothetical, four-stage learning cycle. Based on this model, individuals may show a preference for all the stages or may cope better with one particular stage.

Obara (2012) admits that learning is viewed as a continuous, interactive process in all these stages. The four stages of the ELM are described as: λ Concrete experience (CE; experiencing) that promotes experiential learning Abstract conceptualization (AC; reasoning) in which conceptual and analytical thinking is preferred to attain understanding; λ Active experimentation (AE; doing) involving active learning through trial and error; and λ Reflective observation (RO; reflecting) where the task and possible solutions are given thorough consideration before there is any attempt at action (Obara, 2012 cited in Adu & Duku, 2021). To understand the importance of instructional materials concerning the teaching and learning of Mathematics, it is important to briefly explain Kolb's learning theory.

With its prime focus on learning, this theory is underpinned by the following basic tenets: concrete experience (experimenting); active implementation (doing); abstract conceptualisation (thinking); and reflective observation. In line with Kolb's reasoning, the use of concrete instructional materials provides learners with hands-on opportunities to explore and actively engage in the study of Mathematics. The manipulation of concrete materials provides learners with opportunities to experiment and learn through trial and error and as such taking control of their learning (Akinoso, 2012). Moreover, with every child having a unique way of learning and processing information, instructional materials may enable learners to learn by doing, which is congruent with Kolb's principle of "active implementation". The use of instructional materials activates learners' abstract thinking and their interests by giving them something practical to see (observe); touch (learn by doing) and reflect on the connections between the mathematical problems they have seen and the correctness of the mathematical solutions provided to these problems (reflective observation) (Adu & Duku 2021: 415).

Literature Review

The following concepts from the research questions will be reviewed:

Learning Styles and Mathematics Performance

When the learner uses an appropriate learning style and the teacher uses a commensurate teaching style, effective learning and teaching will surely take place. Nevertheless,

according to Adu et al. (2020), the issue of environmental factors influencing the teaching and learning styles cannot be neglected. Learners do interact with their environment in unique ways. The behaviour or character exhibited by the learners is influenced by their environment, for example, the location of the school and availability of instructional materials can influence the learner's preferred learning styles. In South Africa, most schools are far from where the learners stay. Such learners will prefer listening (auditory) to the teachers to calm their nerves after long trekking as well as looking at what the teacher is showing (visual) (Adu & Duku, 2021). A learner with varied style preferences will engage with, react to, and perceive a difference way to ways to the environment (Ma et al., 2013).

Learning styles influence effective teaching and learning by determining learning behaviours. The learning environment can influence the learners' preferred learning style and behavior. Learners perceive, interact with, and respond to their surroundings in unique ways. The characteristics and personalities presented by their students, as well as the variances in their students' learning styles, must be the priority of the teachers. Such characteristics and personalities can go a long way in assisting the teacher and making classroom activities more meaningful and interactive (Adu et al., 2020). In addition, since the needs of the learners are different, the knowledge of learners' characteristics will assist the teacher to set up the classroom. When we consider a typical classroom setting, we rarely see all three of these learning modes (visual, auditory, and kinesthetic) used together. While it may appear difficult, it is doable with careful teacher planning and preparation. What learners see and hear affect their behaviour. Therefore, the efficiency of learning is determined by what they see and hear. The organisation and usage of instructional materials are critical for effective teaching and learning as well as concept retention. In line with the aforementioned point, Mkpa (2015: 15) believes that "learners remember 20% of what they hear, 30% of what they see, 50% of what they hear and see, 70% of what they hear, see and talk about, and 90% of what they hear, see, talk about and do". The utilization of instructional materials, according to Wales (2011) and Nwichi (2013) cited in (Adu & Duku, 2021), is what keeps discovered facts securely bonded to the learners' memories.

In South Africa and beyond, the competitive learner implements an individualistic personal learning plan and employs learning strategies that enable the learner to achieve learning goals (Ma & Ma, 2014). Competitive learners often see all students in the class as working towards the same goal of learning. However, the competitive learner wants not to only become the first in achieving that goal but also to achieve that goal more outstandingly than the peers (Ma & Ma, 2014). Consequently, competitive learners often see academic performance as a system of few winners and many losers. The chief benefit of the competitive learning style is the motivation that stimulates great learning effort (Burguillo, 2010). On the other hand, some educational psychologists have argued that competitive learning may not be desirable because it produces high stress, low self-concept (in the case of failure), cheating, and aggression in the classroom (Adu, Pylman & Adu, 2020).

People are not born to share a genetic predisposition in terms of the learning approach; instead, they learn how to conduct learning through a socialization process that is

unique to each culture. Of course, some learning styles can be common to students around the world. For example, if tests require students mainly to reproduce knowledge, then memorisation dominates their learning styles (Adu, Pylman & Adu, 2020). However, other learning styles can be very culturally specific. They stated that every culture has unstated assumptions about people and how they learn, and these assumptions invisibly guide the educational process in that culture.

Learning behaviours are determined by learning styles and this has an effect on effective teaching and learning. The learning environment has a way of influencing the preference of learning style and behaviour exhibited by the learners. Learners have a different way of perceiving, interacting, and responding to this environment (Adu, Pylman & Adu, 2020). Teachers need to be conversant with the features and characters displayed by their learners; they also need to examine the variations in their students on the features of their learning styles, because the information about learner's preferences can help teachers become more sensitive to the differences learners bring to the classroom (Adu, Pylman & Adu, 2020). Adjustments can then be made to accommodate the learners' varied needs.

A different pattern of perception among the learners is because of the cells in their brain. There are different hemispheres of the brain, which, contain different perceptions avenues as claimed by some researchers (Iyunade, 2014). There are different types of learners, such as auditory, visual, and kinesthetic. The auditory appreciate listening to the teachers and sitting down close to the teachers in class. Visual learners like to see things physically during teaching. They learn by materials like charts, graphs, and pictures. Kinesthetic learners learn by doing. Students can prefer one, two, or three learning styles.

When we think about a typical classroom situation, it is rare to find all three of these approaches (visual, auditory, and kinesthetic) to learning incorporated into a class. While it may seem impossible to do this, it can be done through the teacher's thoughtful planning and preparation (Adu, Pylman & Adu, 2020).

The various inventories of learning styles allow teachers to gain insight into which areas they can use further development in and which are already well developed (Adu, Pylman & Adu, 2020). One of the most significant improvements in education has come from a considerable amount of research done in the area of learning styles, which recognizes that the students in classrooms have a variety of different learning profiles. Some of the magnitudes, which have been investigated in the area of learning style, are perceptual learning styles, field dependence/independence, analytic/global learning styles, and reflective/ impulsive learning styles. Some of the benefits of increasing learners' awareness of their learning styles: "higher interest and motivation in the learning process, increased student responsibility for their learning, and greater classroom community but little work could only be identified on the correlation of learning styles, and learner academic achievement" (Adom & Adu, 2018). Educational researchers and theorists mentioned above also generally agree that students learn in

different ways. Therefore, it is important to consider the student's particular learning styles to help them learn more easily and effectively (Bostrom 2012:11).

Gender and Mathematics Performance

Some different components are conspicuous when we are talking about Mathematics Education by and large. These incorporate among others; negative socio-social mentalities, family unit assignments at home, sexual orientation one-sided educational plan, poor instructive materials, absence of school offices (quarters), absence of sponsorship, unmotivated and unfit science instructors, absence of good and monetary parental help, absence of self-assurance among the young ladies, lacklustre showing in tests, and so on (Adu & Duku, 2021).

As indicated by the UNESCO Institute for Statistics report distributed in September 2010, the most minimal education rates were seen in sub-Saharan Africa, where the grown-up proficiency rate for males is 71.6 and 53.6 % for females, and in Northern Africa, it is separately 76.7 and 58.1 %. It ought to be featured that the greater part of the grown-up populace is as yet ignorant in the ten after nations: Gambia (55 %), Senegal (58 %), Benin (59 %), Sierra Leone (60 %), Guinea (62 %), Ethiopia (64 %), Chad (67 %), Burkina Faso (71 %), Niger (71 %), and Mali (74 %). The net enrolment proportion in the grade young populace in sub-Saharan African nations is around 52.3 % young ladies (and 60.7 % young men), aside from in not many nations where practically all young ladies of elementary school age are selected at schools. In any case, there is a generous dropout among young ladies at the optional school level; it is expected to socio-social (early marriage), monetary reasons, institutional boundaries, and lackluster showing of young ladies (Adu & Duku, 2021).

The Trends in Mathematics and Science Study of 2011 announced that somewhere in the range of 68 and 90% of African understudies in Grade 8 neglected to arrive at the low benchmark in Mathematics (Adu & Duku, 2021). Besides, tragically, no critical advancement was enrolled in TIMSS 2011. It is a pity that Africa so inadequately spoke to in such a significant worldwide evaluation of the arithmetic and science information on the sixth grade understudied

At the primary school level and in advanced education, there is particular sexual orientation contrasts have been found in various investigations concerning Mathematics evaluations and sex disparity in admittance to advanced education. The biggest college in Mexico detailed in 2009, that the level of female understudies was bigger than that of male understudies and that graduation rates supported ladies (56 % of ladies who graduated against 50 % of men). Notwithstanding, there is as yet a serious under-portrayal of ladies in science. Just 38 % of ladies join up with science programs, and 43 % of all understudies who move on from these projects are ladies. The sex hole is more noteworthy when considering admittance to post-graduate training. In 2008, just 30 % of understudies in postgraduate projects were ladies, even though in programmes identified with Mathematics Education female understudies involved 45 % (Adu & Duku, 2021).

In an examination including college professors, it was discovered that they considered male understudies more capable in arithmetic than females. They communicated similar convictions as those found among instructors in primary school about ladies being effective in arithmetic due to their exertion and control. Perception of classes recognized a more latent disposition of female understudies and an inclination of male understudies to be more participative. Even though outcomes show that, by and large, female understudies are more perseverant in their examinations, it appears to be that they despise everything to think about science as a male space, excessively serious for ladies and that educators' convictions will, in general, fortify this origination

Methodology

Research Approach

This study adopted a quantitative approach. The purpose of using this approach for this study is because it can predict human behavior or predict likely outcomes (identify relationships among variables). This approach is relevant to this study which is particularly aimed at exploring gender and learning styles as a correlate of Grade 6 Mathematics performance (Adu & Duku, 2021).

Research Design

A correlational research design was adopted by the researchers. A design for correlational research is a type of non-experimental quantitative design. The correlational design was, therefore, the most useful and acceptable research design for this research on the topic because of the high levels of uncertainty and ignorance; the paucity of existing research and literature on the research topic; and since this type of research is usually flexible without a formal structure (Adu, Pylman & Adu, 2020).

Data Analysis

Inferential statistics of Pearson Product Moment Correlation (PPMC) was employed to test the hypotheses raised in this paper as it measures relationships between the independent variables (Learning styles and Gender) on the only dependent variable (Mathematics performance)

Research Findings

Hypothesis 1: There is no significant influence of learning styles on Grade 6 learners' Mathematics performance.

Table 1: Descriptive Aspect of One-way Analysis of Variance of Gender and Mathematics Performance

Mathematics Performance

	N	Mean	Std. Deviation	Std. Error
Visual_Learning_Style	231	13.2424	4.56572	.30034
Auditory_Learning_Style	836	12.9964	3.88348	.13431

Kinesthetic_Learning_Style	158	11.5253	3.80027	.30233
Total	1225	12.8531	4.04060	.11545

Table 1 shows that Grade 6 learners with visual learning style ($\bar{x}$ = 13.242, SD = 5.565) had the best performance in Mathematics at Buffalo City, followed by learners with auditory learning style ($\bar{x}$ = 12.996, SD = 3.883), and learners with Kinaesthetic learning style ($\bar{x}$ = 11.525, SD =3.800). The above table is expedient. According to Amran et al. (2011), for any student to be empowered to perform better academically, their preferred learning styles must be considered. Learners' preferred learning styles will improve and enhance their understanding of what is being taught.

The finding supports the argument of Felder and Henriques (2009), which categorized visual learners as sensing learners. 'Sensing' learners are concrete and methodical; they are good at memorizing facts and doing hands-on work and are more comfortable with following rules and standard procedures, hence, they perform better than the other categories. However, it contradicts Chuah Chong-Cheng (2008), who says, learners, retain 30% of what they see and 50% of what they see and hear while 90% of what they say as they do something since visual learners learn visually using charts, graphs, and pictures.

Table 2: Output of ANOVA: the combination of the three types of learning styles understudy

Mathematics Performance

	Sum of Square	**Df**	**Mean**	**F**	**Sig.**	**Remark**
Between Groups	330.739	2	165.369	10.283	.000	Sig.
Within Groups	19652.812	1222	16.082			
Total	19983.551	1224				

Table 2 shows the combination of the three learning styles that influenced learners' Mathematics performance. It revealed that there is a significant influence of learning style (visual, auditory, and kinaesthetic) on Grade 6 learners' mathematics performance ($F(2,1222) = 10.283$, $p<0.05$). Therefore, hypothesis one is rejected.

The above findings are supported by Abidin et al. (2011), who are of the view that learning styles make an impact on the students' overall achievement, and students in their study possessed multiple learning styles or a combination of different learning styles, thus, they can learn effectively.

Hypothesis 2: There is no significant difference between male and female Grade Six learners' performance in Mathematics

Table 3: Output of T-test on differences between Male and Female performance in Grade 6 mathematical concepts

	Gender	N	Mean	Std. Deviation	T	Df	Sig(P)	Remark
Maths_Performance	Male	455	12.8198	3.96883	-.217	128	.061	Not Sig
	Female	765	12. 8719	4.09818				

Table 3 shows that there is no significant difference between male and female Grade 6 Mathematics performance in Buffalo city ($t = -.217$, $df = 1218$, $p>0.05$). The mean difference between male learners ($\bar{x}$ =12.820, SD = 3.969) and female learners ($\bar{x}$ =12.872, SD=4.098) was negligible. Therefore, hypothesis two is not rejected.

The finding of this study agrees with the findings of Josiah and Adejoke (2014) which revealed an insignificant effect of gender on Mathematics performance. It is however in contrast with the findings of Abubakar and Oguguo (2011) and Abubakar (2010) which, found that they considered male students more proficient in mathematics than females Overall, it is hoped that if both genders are given proper orientation, opportunities and training gender will no longer be an issue in mathematics achievement in general.

Conclusion

The study investigated the relationship between learning styles, gender, and Grade 6 Mathematics performance. There are different types of learners, such as auditory, visual, and kinesthetic. The auditory appreciate listening to the teachers and sits down close to the teachers in class. Visual learners like to see things physically during teaching. They learn by materials like charts, graphs, and pictures. Kinesthetic learners learn by doing. Students can prefer one, two, or three learning styles. The findings of the study revealed that all the three major types of learning styles have a positive effect on learners' academic performance in Mathematics. Nevertheless, the visual learning styles proved to be the best, this shows that learners need to see things before they can understand them better. This is in line with Chinese philosophers that say "what I see, I remember and what I hear, I forget. Teachers need to play a significant role in making sure that learners are shown what is relevant and what that can enhance their performance. The findings also revealed that gender has no significant effects on the performance of learners in Mathematics.

Recommendation

It is recommended that teachers should be trained to know the different types of learning styles exhibited by their learners to use them to impact knowledge and disseminate information to them since learning style could be described as a set of factors, behaviours, and attitudes that facilitate learning for an individual in a given situation. These styles influence how students learn, how teachers teach, and how the two interact during classroom activities.

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REFLECTIVE MODEL FOR TEACHING AND LEARNING OF GEOMETRY AMONG GRADE 8 LEARNERS IN SOUTH AFRICAN SCHOOLS

Shakespear M. Chiphambo[1], Nomxolisi Mtsi[2] & Nomaroma Kumanda[3]
schiphambo@wsu.ac.za, nmtsi@wsu.ac.za, nkumanda@wsu.ac.za

Walter Sisulu University, South Africa

Abstract

This paper explores the aspects of reflective learning and teaching models that enhance students' geometric conceptual understanding. The paper employed a quantitative method guided by an action research design. The study utilised both van Hiele's model of geometric thinking and its level extension by Clements and Battista to establish learners' thoughts when learning geometry. The theory provides framework of how learners learn geometry. From the cohort of 200 grade 8 students, 56 were selected using simple random sampling to participate in the study, they were of mixed sexual orientation (age range from 13-16). Fifty-six eighth graders were subjected to diagnostic and post-tests to assess their levels of geometric understanding and to evaluate the impact of the reflective model for teaching and learning geometry on the enhancement of students' geometric conceptual understanding. Descriptive analysis was employed using PSPPIRE statistical analysis software to conduct the t-test paired differences to test the null hypothesis at a 0.05 level of significance. The model developed students' geometric understanding because: (i) it was student-centred, (ii) the daily design of intervention activities was informed by students' previous activity results, (iii) the integration and use of the mathematics dictionary and polygon pieces into the learning and teaching of geometry, (iv) the reflective tests and reflective sessions that were administered daily before the beginning of a new activity enhanced students' retention. Therefore, the study recommends mathematics teachers utilise the reflective learning and teaching model, they must adhere to the aspect that made the model in this study work.

Keywords: Conceptual understanding, learning, model, reflective, students

Introduction

The South African high school Mathematics curriculum has many topics that relate to the principle of geometry. Some of these are Euclidean geometry, trigonometry, measurement, analytical geometry and circle geometry. Despite geometry's dominance in the curriculum, many students still struggle with the understanding of basic geometric concepts. This makes them fail to rise to the expected level of achievement. The research conducted by Chiphambo and Feza (2020) in the Eastern Cape Province of South Africa revealed that most students face numerous challenges in learning geometry because of: (i) lack of conceptual understanding of geometric symbols, (ii) geometric language barriers which make it difficult to comprehend what the question requires and (iii) lack of understanding of different types of shapes and their properties. Students without the basic conceptual understanding of geometry usually encounter challenges since high school geometry requires application of the prior education level knowledge to solve given geometric problems. Researchers argue that the concept of geometry taught at the junior high school level is the basic concept required to construct new schemes at a higher level (Alghadari, Herman & Prabawanto, 2020) and also in other geometry related topics.

Problem Statement

There is a global call for the development of innovative ways of teaching geometry as it poses a threat to many students. It is for this reason that an initiative to develop a reflective learning and teaching model that integrates mathematics dictionary and polygon pieces to teach geometry concepts was taken (Chiphambo & Feza, 2020). Literature reveals that models are not magic resources that can just work without considering aspects that drive them or following what needs to be done. It is against this background that this paper presents the aspects that made the reflective learning and teaching model able to enhance students' geometric conceptual understanding.

Research Question

This study was guided by the following research question:

What made it possible for Chiphambo's reflective model for teaching and learning geometry to enhance students' geometric conceptual understanding?

Objective

The study sought to explore the aspects that made it possible for Chiphambo's reflective model for teaching and learning geometry to enhance students' geometric conceptual understanding.

Hypothesis

The following null hypothesis was tested at 0.05 level of significance.

H0: There is no significant effect on the use of Chiphambo's reflective model for teaching and learning geometry on the enhancement of students' geometric conceptual understanding.

Literature Review

Literature is quite clear and confirms that geometry learning and teaching is problematic to most students. It is of note that not only do students struggle with geometry, but some Mathematics teachers lack confidence in teaching the subject. This implies that some of the challenges which students experience in geometry emanate from the teaching methods that teachers use and minimum time that teachers invest into the teaching (Clements & Sarama, 2011). To systematically deal with challenges that students experience, geometry teaching must involve the use of multiple representations, imagination and methodological skills for students' deep conceptual understanding of the subject (Bankov, 2013). The use of multiple representations when teaching geometry enhances students' conceptual understanding as concepts presented abstractly are easily lost to memory.

Mathematics topics are interlinked; failing to grasp the concepts of one unit have a negative impact on the other topics. Geometry emphasis comes to play because it forms part of the mathematics syllabus in South Africa. According to a "Trends in Mathematics and Science" study of 2015, researchers have argued that students' understanding of Mathematics assists them to successfully manage school, society and workplace

environments (Reddy, Visser, Winnaar, Arends, Juan, Prinsloo & Isdale, 2016). In addition, geometry develops students' capabilities to understand the environment around them and to utilise it for their benefit without causing any damage. To assist students to understand geometry better, hands-on activities need to be utilised.

The learning of geometry requires hands-on and minds-on learning. When the students are actively engaged in the lesson, they construct meaning. Theobald, Hill, Agrawal, Arroyo, Behling and Chambwe's (2019) comprehensive search on different articles and research projects to establish how Science Technology and Mathematics Education (STEM) students performed after being engaged in an active-learning approach compared to those in a traditional classroom setup, revealed that active-learning reduced achievement gaps in examination scores by 33% and narrowed gaps in passing rates by 45%. This confirms that geometry, as one of the STEM subjects, must be taught for higher order thinking as literature advocates. The benefits of the use of models or physical manipulatives in teaching of geometry are documented by several researchers. For example, in Chiphambo's (2019) study, it is shown that when students utilised mathematics dictionary and polygon pieces to learn geometry, their performance was enhanced.

However, as the teaching of geometry focuses on promoting hands-on and minds on learning, there must be an emphasis on the spatial configuration and visualisation skills rather than memorisation of formulae (Battista, 2007). Geometry is a real-life subject; research has emphasised that teaching must focus more on developing students' skills on how to apply geometry in real life settings (Gutierrez, 1992). Geometric thinking skills' limitations that exist in the classroom must be alleviated by following advancement in the educational technologies (İbili, Çat, Resnyansky, Şahin & Billinghurst, 2020), use of models and employing reflective teaching strategies. Even though numerous studies advocate for the implementation of reflective teaching practices, the response is worrying as many Mathematics teachers' use of reflective teaching lies at the low or medium level of the continuum (Bawaneh, Moumene & Aldalalah, 2020). The empirical evidence that exists in literature shows that this must not be the case as far as the teaching and learning

of geometry is concerned. There must be innovative methods developed to improve the teaching of geometry so that students can be engaged in a higher order level of teaching.

Theoretical Framework

The study utilised both van Hiele's (1986 & 1999) model of geometric thinking and its level extension by Clements and Battista (1991). van Hiele's theory has four levels of learning geometry, *Level 1 of geometry thinking – analysis:* students learn to describe the shapes as they test and reflect on the properties of the given. *Level 2 of geometry thinking – abstraction:* students are expected to differentiate figures using their orderly arrangement. *Level 3 of geometry thinking – formal deduction*: At this level the student is expected to prove theorems and justify why the given shape is, for example, a rectangle or a triangle. *Level 4 of geometry thinking – rigour:* At this level, the comparison between systems is made based on diverse axioms and can study geometric concepts without tangible mean (p. 311). In addition to the four levels of van Hiele's geometric thinking version of 1986, Clements and Battista (1991) extended a level, the pre-cognition level (level 0) to give us five levels of geometry thinking. At this level, students struggle to recognise one shape from the other. van Hiele (1999) and Clements and Battista (1991) highlight that for a student to acquire geometric skills, there must be a sequential way of learning, not just a haphazard approach.

However, to progress from one level as described by van Hiele and Clements and Battista, the student would have gone through the five phases as described here: *Phase 1: Inquiry phase*, more structured resources are used to guide students when learning geometry. *Phase 2: Direct orientation*, activities are presented in a way that the features of the shapes gradually come to light. *Phase 3: Explication*, geometric terminology starts to dominate, and students get encouraged to use them. *Phase 4: Free orientation*, varieties of activities are presented for students to work on them using different approaches. Such tasks empower students with different mathematical skills, for example estimating, calculation, justification, etc. *Phase 5: Integration*, Students have opportunities to recap the previously acquired knowledge, values and skills during the instruction are possibly lowered to create their own activities.

Methodology

The paper employed a quantitative approach guided by action research design. Action research was used as it involves collecting data regarding current educational programmes and outcomes, analyzing the data, developing a plan to improve it, collecting changes after a new plan is implemented, and developing conclusions regarding the improvements. From the cohort of 200 grade 8 students, 56 were selected using simple random sampling to participate in the study, they were of mixed sexual orientation (age range from 13-16). Simple random sampling gives every individual an equal chance of being selected in the sample from the population. Fifty-six grade 8 students' level of comprehension of properties of triangles was assessed using the diagnostic test. After that, the post-test was administered to evaluate the effectiveness of Chiphambo's reflective model for teaching and learning geometry to enhance students' geometric conceptual understanding, for details of the diagnostic and post-test refer to Appendix A.

Intervention

In every intervention activity, each learner was provided with an A4 paper. For instance, on the paper, triangle ABC was drawn – along with the A4 paper were the two copies of triangles ABC provided. Figure 1 below illustrates the aspects of Chiphambo's reflective model for teaching and learning geometry.

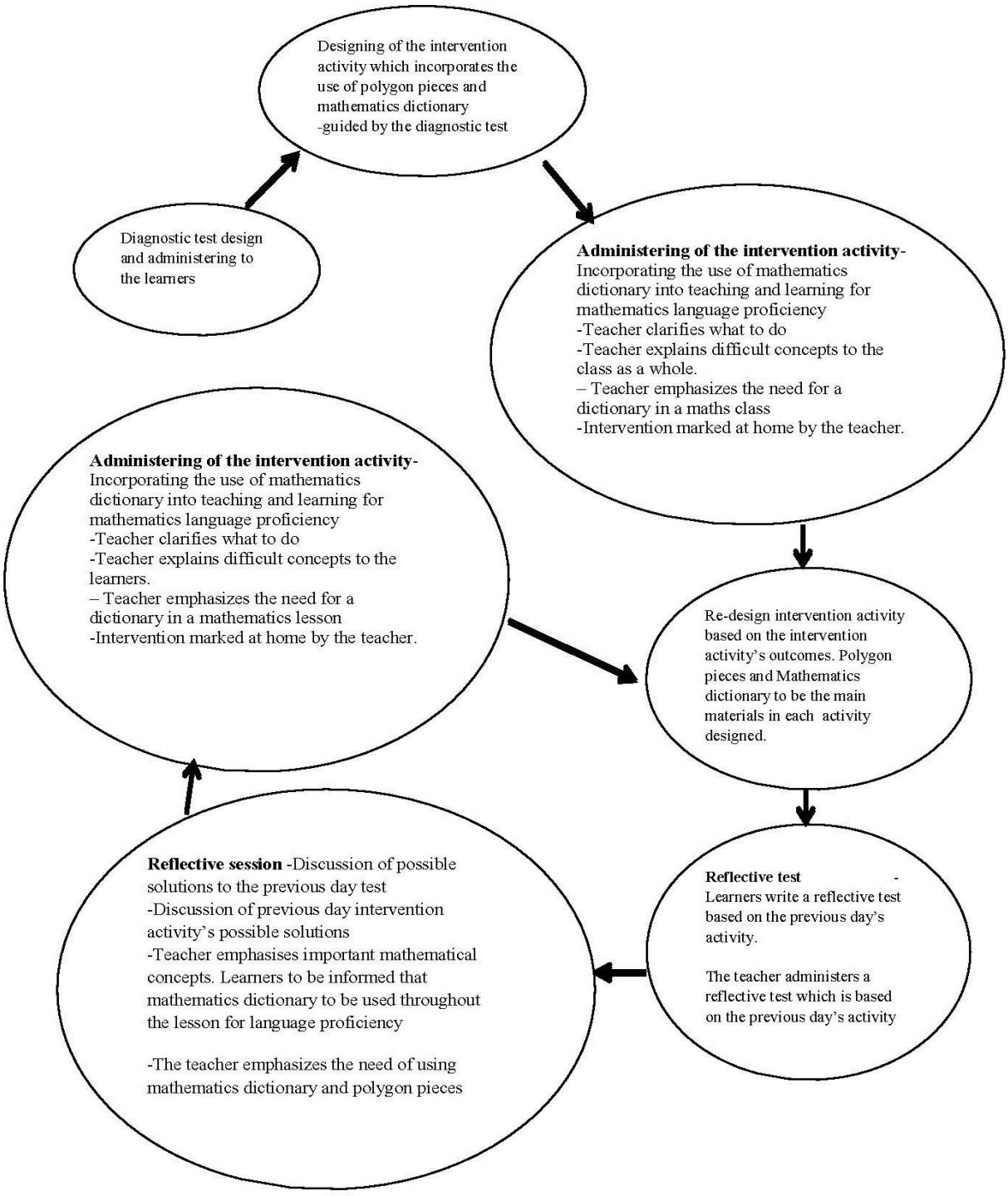

Figure 1: Chiphambo's Reflective model for Teaching and Learning geometry.

Figure 1 illustrates that line segments and angles from the given triangles were cut out and compared to the other line segments and angles in the original triangle, respectively,

by placing each of the cut-out line segments or angles one at a time on top of the original triangle and the results were recorded for every measure taken. Whenever students were faced with challenges to define and understand geometric concepts which were of a higher order level, the mathematics dictionary was utilised. Through the intervention described in Figure 1 above, students improved in their understanding of geometric concepts. Table 1 below shows that after the utilisation of Chiphambo's reflective model for teaching and learning geometry, students' results improved in the Post-Test (PT) as compared to their score in the Diagnostic Test (DT).

Ethical considerations

To avoid harm to any individual, students and parents were requested to complete consent forms. Parents of the participants were informed of the freedom to withdraw their children from the research project at any time. Both the diagnostic and Post tests were cleared by the ethics committee of the University of South Africa (UNISA).

The present researchers ensured that reporting the findings is free of prejudice towards any of these traits: age, ethnicity, sexual orientation, race, gender, etc by reporting in the third person pronoun. Lastly, the report covers the detailed trail of the research processes to allow anyone interested in critiquing the originality and ethical quality of the research.

Method of Data Analysis

The study employed the quantitative approach guided by the concurrent transformative case study design. To analyse quantitative data, the PSPPIRE statistical package was employed to analyse both the diagnostic and post-intervention data in the form of descriptive statistics. For the qualitative data, thematic analysis was employed to align the students' responses with the van Hiele levels of geometric thinking. The PSPP Statistical Analysis Software, release 1.2.0-g0fb4db software was utilised to conduct the t-test, paired differences to answer the research question and to test the null hypothesis of the study.

Results

Table 1: t-test paired differences analyses the influence of Chiphambo's reflective model for teaching and learning geometry on enhancing students' geometric conceptual understanding.

	Mean	Standard deviation	n
DT	9.8214	9.1951	56
PT	44.4464	23.3876	56

Note: Note: df, 55; t-value, -14.0925; p-value, 0.0000; SE, 2.457; Mean difference, -34.625

From Table 1 above, it can be noted that the values of df, 55; t-value, -14.0925; p-value, 0.0000; SE, 2.457; mean difference, -34.625 are not significant at $p < 0.05$. Since $p < 0.05$, therefore, evidently, we reject the null hypothesis:

H_0: There is no significant effect on the use of Chiphambo's reflective model for teaching and learning geometry on the enhancement of students' geometric conceptual understanding.

For this reason, we accept the alternative hypothesis:

There is significant effect on the use of There is no significant effect on the use of Chiphambo's reflective model for teaching and learning geometry on the enhancement of students' geometric conceptual understanding.

The results of descriptive statistics revealed that Chiphambo's reflective model for teaching and learning geometry, positively influenced students' understanding of geometry.

Below is the detailed description of the reasons that made Chiphambo's model for teaching and learning geometry enhanced students' geometric conceptual understanding. The following are a few pointers that made the model work:

(i) The model was driven by students. During the lessons, no one had to tell the students, for example, how an equilateral triangle looked like. Rather, the students were engaged in activities of cutting out line segments and angles and used them to explore, observe and experiment by comparison to establish the properties of the given triangle. The use of polygon pieces assisted by the mathematics dictionary for teaching and learning

geometry drew students' curiosity to learn and as a result, they were very much focused and curious to do the assigned task.

(ii) The daily design of intervention activities which was informed by students' previous activity's results provided a guide for the researchers of this study in areas in which students needed significant intervention.

(iii) The integration and use of the mathematics dictionary and polygon pieces into the teaching and learning of geometry were also a crucial part to be taken into consideration. Proper integration of mathematics dictionary and polygon pieces into the teaching and learning of geometry required the following: every student was given all the required resources, such as a pair of scissors, three A4 papers, one with the original triangle drawn and two copies of the original triangle. Instructions were ready and emphasised by the facilitator. During the lesson, regular supervision was done to ensure that all the requirements in doing each activity were adhered to by all the students.

(iv) The reflective tests and reflective sessions that were conducted daily before the beginning of a new activity also played a major role in ensuring that students' retention was enhanced. Reflective tests were tests which students wrote daily. The content of each of the tests was based on the previous day's intervention activity's content. After the reflection test, a reflection session was held where the previous day's alternative conceptions were rectified by the facilitator. After this session, the students were engaged in a new intervention activity for that day.

Discussion

The study found out that the Chiphambo's model for teaching and learning geometry enhanced students' geometric conceptual understanding. Most students in the study were assisted by the model to migrate from van Hiele's lower level of achievement to the advanced one. From the quantitative results, it was established that there is significant effect on the use of the RLT model in influencing students' geometric conceptual understanding. We conjecture that the use of the model in this study produced the results that agree with the argument by Theobald, Hill, Agrawal, Arroyo, Behling and Chambwe (2019) which states that meaningful reductions in achievement gaps only occur when course designs are designed to promote active learning.

The use of models allows students to deal with real life situations which are more meaningful to students' life. Since abstract concepts are not there in the student's natural environment, this makes it cumbersome for students to grasp any concepts present abstractly. The use of models in teaching geometry is crucial in that there are steps to be followed for the model to be implemented and for it to serve its purpose successfully.

The use of reflective tests and sessions in the reflective model is in response to the call by Bawaneh, Moumene, & Aldalalah (2020) who emphasised the need to implement reflective teaching practices to instil long life gains in students. Reflective teaching practices are said to have more advantages in the teaching field than rote learning methods of teaching.

Conclusion

The study was conducted in the Eastern Cape Province of South Africa. From this study we established that Chiphambo's model for teaching and learning geometry was able to enhance students' conceptual understanding of geometry because of the following aspects:

- The model was driven by students, it was student-centred.
- The daily design of intervention activities was guided by students' previous day's activities.
- The integration of the mathematics dictionary into the learning and teaching of geometry enhanced students' geometric vocabulary and terminology.
- The reflective tests and reflective sessions which were conducted daily before starting of a new activity.

In the next publication, we will present how students develop mathematically as they employed the intervention that made use of Chiphambo's model for teaching and learning geometry.

Recommendations

This study recommends that to ensure positive results, when Mathematics teachers utilise reflective learning and teaching, they must adhere to the aspects that made the reflective

learning and teaching model work for this study. In addition, the study highlights the importance of daily reflective tests, the use of the mathematics dictionary and polygon pieces; and that learner centred learning and teaching is essential in promoting geometric conceptual understanding.

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Appendix A: Diagnostics and Post-Tests

Instructions:

(i) Answer all the questions

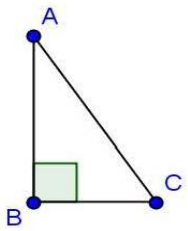
(ii) Write neatly

(iii) Provide your answers on the spaces provided under each question.

Question 1

Study the 2 Dimensional figures below and then answer the questions that follow:

1.1.



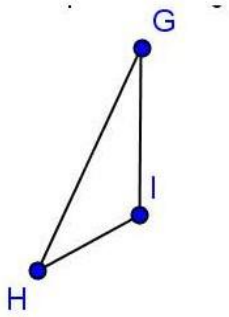
(iv) What can you deduce about the sizes of $\hat{A}$, and $\hat{C}$?

……

(v) What are the properties of triangle ABC in terms of: $\overline{AB}$, $\overline{AC}$ and $\overline{BC}$?

……

(vi) According to answers in 1.1. (ii) and (iii), what specific name is given to a shape with the properties mentioned above?



(iv) What are the properties of the triangle GHI in terms of $\hat{G}$, $\hat{H}$ and $\hat{I}$?

……

(v) Determine the properties of triangle GHI in terms of $\overline{GH}$, $\overline{HI}$ and $\overline{GI}$.

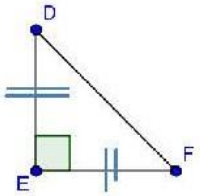
……

……

(vi) What name is given to a triangle with such properties?

……

1.3.



(iv) Write down the size of each of the following angles $\hat{D}$ and $\hat{F}$.

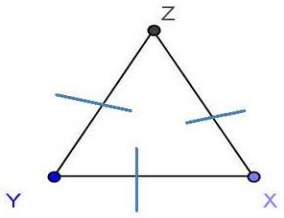
……

(v) Determine the length of $\overline{EF}$, $\overline{DE}$ and $\overline{DF}$ use terms: shorter, longer than, equal, the longest of all.

……

(vi) What name is given to triangle DEF?

1.4.



(iv) What type of a triangle drawn above?

……

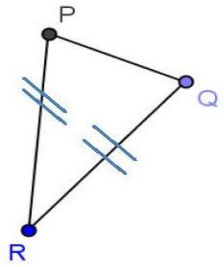
(v) Determine the size of: $\hat{X}$, $\hat{Y}$ and $\hat{Z}$.

……

(vi) Write down the length of: $\overline{XY}$, $\overline{YZ}$ and $\overline{XZ}$ use terms: shorter, longer than, equal, the longest of all.

……

1.5.



(iv) What name is given to triangle PQR?

……

(v) What is the relationship between $\hat{Q}$ and $\hat{P}$?

……

(vi) What can you conclude about the properties of triangles PQR?

THINKING BEYOND THE PRESENT: ADVOCATING CONTINUITY OF PRACTICE OF EMERGENCY REMOTE TEACHING IN HIGHER EDUCATION INSTITUTIONS IN NIGERIA

Adedeji Tella
Department of Science and Technology Education
University of Ibadan, Nigeria
Email: dejtell@gmail.com

Abstract
The COVID-19 pandemic led to the disruption of the education system and closure of schools of educational institutions all over the world. To ensure that teaching and learning does not stop during the period, higher education institutions (HEI) in Nigeria adopted emergency remote teaching (ERT) by moving their classes to online and distance education platforms. The expectation is that ERT will be jettisoned for the return of on-campus face-to-face pedagogies in the post COVID-19 'new normal'. This paper, therefore, advocated the continuity of practice of ERT in the 'new normal' given strong justifications to support the advocacy. It argued that higher education institutions should not completely discard emergency remote teaching and recommended, among others, that institutions should adopt blended learning model in the new normal and have a contingency plan for ERT in advance of a crisis, make it a compulsory part of academic staff skill set and professional development, build the capacity of academic and other campus support staff for ERT, and develop a strategic plan for solving the challenges associated with ERT. The paper concluded that ERT constitutes a positive pedagogical approach which could transform higher education in Nigeria.

Keywords: Emergency remote teaching, Continuity of practice, Higher education institutions

Introduction

Teaching and learning in the higher education institutions (HEI) in the pre COVID-19 period was predominantly conducted through the face-to-face physical presence of students with their lecturers in a confined classroom environment. The emergence of COVID-19 ushered in an alternative teaching and learning process and pattern globally termed emergency remote teaching (ERT) where students were taught online/e-learning through the deployment of various available information and communication technologies.

Before the emergence of ERT, online or e-learning for on-campus education was grossly underutilised in Nigeria. As a result, higher education lecturers encountered notable challenges in the use of ERT to its innovativeness. Some of these encountered challenges included unstable internet connectivity, inadequate computer laboratories, lack of/ insufficient computers/laptops, technical problems, low or insufficient technological skills of some lecturers to conduct ERT, and inexperience in conducting emergency remote teaching, among others. Due to these challenges, it may be imperatively difficult

to encourage higher education institutions to continue the practice of using ERT as the world gradually recovers from the devastating effects of COVID-19 particularly as regards the disruption in the educational system all over the world. This paper, therefore, discussed what must be done to ensure continuity of practice of emergency teaching remote in higher education institutions in Nigeria in the new normal.

COVID-19 and the Disruption of the Educational System

The aftermath of the 11th March, 2020 declaration of COVID-19 as a pandemic-led to the total lockdown of different sectors in many countries of the world, the closure of schools and other educational institutions in all continents, and the suspension of face-to-face teaching activities. These came as unprecedented global shocks to human activities. For example, in the education sector, COVID-19 pandemic created the largest disruption of education systems in history, affecting nearly 1.6 billion learners in more than 190 countries (United Nations, 2020). The Global Education Coalition (GEC), which UNESCO launched to ensure that learning never stopped, reported that "some 1 billion students and youth across the planet are affected by school and university closures due to the COVID-19 outbreak" (UNESCO, GEC, 2020). Lamenting the closing of schools to contain the COVID-19 pandemic, UNESCO Director-General Audrey Azoulay (2020) wrote:

> "Never before have we {Sic} witnessed educational disruption on such a scale, partnership is the only way forward. This Coalition is a call for coordinated and innovative action to unlock solutions that will not only support learners and teachers now, but through the recovery process, with a principle focus on inclusion and equity".

During the peak period of COVID-19 in Nigeria, all the higher education institutions adopted an unplanned transition to teaching called *emergency remote teaching (ERT)*, considered as a branch of distance education (Bozkurt, 2020), as alternative arrangement to facilitate continued teaching by teachers and continued learning by students. In other words, the COVID-19 pandemic forced teachers and instructors in higher education institutions across the country to move their content online and begin teaching remotely. ERT is different from online teaching (Bates, 2020) because it was a temporary shift from the normal modes of *teaching* occasioned by the disruption of educational system of COVID-19 pandemic. Emergency remote teaching ensures that teacher/instructors are separated from their *learners* in time and distance in the teaching and learning activities but provides opportunity for them to remain connected and engaged with the content while working from their homes (Bozkurt, 2020). The significant message emphasised with the adoption of emergency remote teaching in the higher education institutions were summed up by Crawford et al. (2020) in 15 ways:

- Education cannot wait and learning must never stop due to schools closure.
- Expansion of the definition of the right to education to include connectivity and removal of barriers to such connectivity.
- Educational delivery can no longer be solely facilitated by the physical presence of the teacher in a brick and mortar building.

- Learners do not necessarily need to be physically present as a group in a brick and mortar building.
- Home-schooling became a necessity.
- Widespread use of technology to ensure continuity of learning
- Online delivery of lessons by teachers.
- Online pedagogical readiness support for teachers.
- Online learning of subject content by students.
- Availability and accessibility of digital publications and resources for educational delivery.
- Increased levels of digital literacy among students, parents, and teachers.
- Expansion of flexible learning modalities across levels and types of education and training.
- Alternative modality for students' evaluation such as online testing for final exams.
- Innovative continuous assessment methods such as monitoring students' progress with mobile phone surveys, tracking usage and performance statistics from learning platforms and apps.
- The necessity of universal adoption of distance learning practices for educational delivery.

In some settings, emergency remote teaching is erroneously equated as online teaching. It is definitely not the thoughtful and science-based method of course design that is used to develop online courses. The cardinal differences between the two terms - emergency remote teaching and online teaching- are vividly discussed below.

Concept Clarification: Emergency Remote Teaching and Online Teaching

The word "remote" is derived from the Latin word *removere*, which transmuted to *remotus*, to mean "move away or move back" or simply "removed". In its basic form, "remote" therefore implies far-flung, or far afield, isolated and distant from the actual source or epicentre (Harms et al., 2014). Emergency remote teaching (ERT), therefore, entails delivering curricular contents, instructional material or educational resources to the target learning audience physically away from the centre or institution of learning (Nokukhanya et al., 2021). Emergency remote teaching (ERT) is, therefore, a temporary shift of instructional delivery to an alternate delivery mode due to crisis circumstances (Hodges et al., 2020). It provides solutions for instruction or education that would otherwise be delivered face-to-face which is not possible because of a crisis.

The special feature of emergency remote education is that it is an unplanned practice, with no option than to use any kind of offline and/or online resources that may be at hand (Bond et al., 2021).The whole essence of emergency remote teaching (ERT) is not to re-create a robust educational ecosystem but rather to provide temporary access to instruction and instructional supports in a manner that is reliably available, contextually more feasible, and quick to set up during an emergency, crisis, conflict or violence (UNICEF, 2020). ERT was the readily available option for instructional dissemination to the closure of educational institutions in a time of crisis such as the COVID-19 pandemic.

Online learning, on the other hand, is both a social and a cognitive process, not merely a matter of information transmission through remote information technologies (Conole, 2021). It requires careful planning not only in identifying the content to be covered, but also consideration of how different types of interactions will be supported and prioritised. Consequently, development of online courses may take up to nine months (Erlam et al., 2021). In essence, online teaching and learning is purposefully designed to be remote or distant in nature leveraging on the deployment of technology to enhance teaching. The major differences between emergency remote teaching and online teaching are summed up in a tabular form in figure 1:

Table 1: Differences between emergency remote teaching and online teaching

Emergency Remote Teaching	**Online Teaching**
Activated in response to a crisis or something beyond human control	Activated in response to permanent instructional delivery which is within human control
Designed temporarily to be remote and distant	Designed purposely and planned to be remote and distant
Regarded as an exception mode of education (not the main mode)	Regarded as a main mode of education (not an exception)
Meant to be a short-term/temporal solution	Meant to be a long-term solution
Very urgent	Not urgent
Most resources are inaccessible	All resources are accessible
Has temporal faculty support	Has full faculty support
Students are compulsorily enlisting (Students do not have a choice)	Students are voluntarily enlisting (Students do have a choice)

The concise summary of emergency remote teaching and online teaching is that ERT is a temporary instructional responsive teaching to crisis, differing from the planned online learning or an unexpected short-term instructional delivery model because of a mammoth catastrophe. Online teaching is originally planned and designated to be delivered virtually.

Dividends of Emergency Remote Teaching

The benefits of ERT are inexhaustive. They include:

1. ERT signifies open, unrestricted, and liberated tuition; it envisages intellectual autonomy with far-reaching implications on the social, economic, physical, and institutional developments for both students and lecturers (Toquero & Talidong, 2020).
2. The primary benefit of ERT is social c-existence and cohesion. ERT promotes peaceful coexistence and harmony between higher education institutions and students who would comfortably study from home or at least away from campus where their chances of participation in the social rivalry will be barely present, as they will be united with their families and perpetually be under their watchful eyes. The rate of social injustice and moral decadence on campus could drop abruptly; therefore, the institutional image of higher institutions will be sustained (Nokukhanya, Chuks & Mfundo, 2021).

3. ERT reduces the financial burden of hostel accommodation with related costs (maintenance, transportation, provisions, etc) for students. It also reduces teaching and administrative costs for higher education institutions.
4. The quality of higher education will be upheld through ERT. Students will be studying at their own pace and their lecturers will have limited physical contact with them, which invariably reduces incidents of abuses, blackmail, exploitation, and gender-based violence (Bond et al., 2021).
5. ERT emphasises academic meritocracy and students' performance as opposed to the traditional physical class system where each learner's survival is tempered in collective friction and degenerated by bullying, equal to a survival-of-the-fittest scenario (Hodges, 2020). Marginal costs of a real-place class system, including interpersonal complications, students' unhealthy politicking at the expense of their studies, cliques and nonconformist, campus gangsterism and occultism, are non-occurrent in ERT mode of higher education (Nokukhanya, Chuks & Mfundo, 2021).
6. The shift to ERT significantly promotes healthy academic competition among students with no social or physical cost. ERT, therefore, ensures learners' responsibility by placing them in control of their studies with their academic and professional destiny in their own hands (Nokukhanya, Chuks & Mfundo, 2021).
7. ERT enhances access to higher education since concerns of controlled students' enrolments attributable to limited space in classrooms and hostel accommodation will become a thing of the past (Toquero and Talidong, 2020).

Necessity for Continuity of Practice of Emergency Remote Teaching in Nigeria

The necessity for continuity of ERT practice in higher education institutions in Nigeria is advocated based on the following justifications.

1. ***The possibility of occurrence of another gravest public health crisis or conflicts of catastrophic consequences in the future*:** ERT emerged as a result of the closure of educational institutions due to the COVID-19 pandemic which forced academic staff in higher education institutions in Nigeria to move their teaching online. As human civilisation continues to grow, there is the possibility that another public health crisis or conflicts of catastrophic consequences could emerged in the future. To get adequately prepared for such possibility, ERT should not be discarded in the new normal.

2. ***The flexibility of ERT in combination with face-to-face teaching:*** The bitter experience of the disruption of the educational system by the COVID-19 pandemic clearly shows that higher education institutions cannot predominantly rely on face-to-face classroom education any longer. As the new normal emerges, there is need for higher education institutions in Nigeria to adopt blended learning model- the combination of face-to-face classroom education with emergency remote teaching.

3. ***ERT is replacement for fully online teaching and learning:*** Despite the advancement and use of technologies in educational practice, the possibility of making courses go fully online in higher education institutions in Nigeria is not feasible for now. The best that such institutions can adopt is blended learning

delivery mode that is, the combination of emergency remote teaching with face-to-face teaching.

4. ***ERT will serve as a rich reservoir for using open educational resources*:** As the new normal emerges, academic staff in higher education institutions in Nigeria can no longer predominantly rely on specific textbooks for their teaching. As ERT has made academic staff to take their teaching online, so also it becomes imperative for them to source for materials and contents of their teaching online too. The competence of academic staff to use ERT will also enhance their competence to source and search for easily and freely available online open educational resources.

5. ***ERT will help to build academic staff technological/technical skills and competences:*** With continuity of ERT practice, technological or technical skills of academic staff in higher education institutions in Nigeria will continuously be built. Technological skills refer to an individual's ability to interact and complete tasks using computer-based technologies and other associated technologies. These skills include word processing skills, spreadsheets skills, database skills, electronic presentation skills, web navigation skills, and email management skills, among others. With ERT, academic staff members who already possessed these skills will continue the use of the skills in their teaching activities while those with insufficient skills will strive to possess them.

6. ***ERT will enable tutors to engage students in synchronous and asynchronous teaching and learning*:-** Synchronous learning allows tutors to engage students with class materials at the same time as long as they can connect to the internet using videoconferencing technologies like Google Meet, Google Hangouts, or Zoom. Synchronous learning allows for greater engagement between tutors and students, immediate responses, dynamic learning opportunities, and direct communication with tutors. On the other hand, asynchronous learning allows students the flexibility to study in a self-paced manner, that is tutors and students don't get engaged online at the same time. Asynchronous learning allows for schedule flexibility, individually dictated pace, more democratic and accessible, and more time with learning materials. With continuity of practice of emergency remote teaching, tutors in higher education institutions in Nigeria will develop the skills on conducting synchronous and asynchronous teaching and learning with students rather than complete reliance on face-to-face teaching and learning delivery mode.

7. ***ERT will help tutors to identify the challenges students face in online learning:*** There is no doubt that going online to teach by tutors and going online to learn by students is more stressful and students encounter some challenges during this process. Such challenges for students include the difficulty of staying motivated, the difficulty of staying in contact with tutors, the difficulty of interacting with peers, the difficulty of staying connected to the internet at all times, and the difficulty of getting immediate feedback, among others. However, if continuity of

practice of emergency remote teaching is sustained, it will be relatively easy for a tutor to identify these challenges and develop strategies that will help the students to overcome these challenges.

8. ***ERT can help in making academic staff to become digital scholar*:** According to Weller (2018) a digital scholar is someone who "employs digital, networked and open approaches to demonstrate specialism in a field". Scholarly authorship represents the core business of higher education – namely the creation and dissemination of knowledge. Academics, as authors, are expected to continuous read, analyse, assess and compare written texts, such as reports, academic papers and books, undergraduate assignments, as well as postgraduate dissertations and doctorates. They also produce written teaching materials and textbooks for student consumption along with research reports, monographs, articles and textbooks for publication" (French, 2019). These practices remain critical in the daily operations of academic scholars but are becoming increasingly complex with the rise of digital technologies in education (Weller, 2018). With continuity of practice, ERT can help in building the capacities of academic staff to become digital scholar.

Working with Students while Using ERT: What Tutors must know and do

Every tutor in higher education institutions in Nigeria must take into consideration the following when using ERT with students.

1. ***Must communicate frequently with students*:** Communication is very essential to emergency remote teaching. Students should be allowed to ask questions and communicate with tutors/instructors/lecturers outside of teaching hours through phone calls, emails, and school forum boards, etc.

2. ***Must prioritise needs*:** Emergency remote teaching can happen at any time which means a tutor is likely to be in the middle of teaching something and must have plans for what he/she wants to achieve. As such, every tutor must prioritise what has to be done and what must let go in all teaching circumstances.

3. ***Must be flexible***: All policies of higher education institutions in Nigeria are designed for the traditional setting of face-to-face teaching. Therefore, when a tutor has to remotely teach, he/she has to be flexible and be creative with instruction and processes.

4**. *Must establish routines***: A tutor has to try to adhere to a regular routine as much as possible. He/she must have class time at different times every day and hold meetings regularly.

5. ***Must collaborate with others*:** A tutor must work together with school faculty and staff to learn from one another. This will allow for sharing of ideas that work.

6**. *Must develop contingency plans***: This is because technology may not work as planned and things may likely not always go as planned. Therefore, tutors must have back up plans when things fail.

7. ***Must practice and promote their well-being*:** Shifting to an online environment, occasioned by the adoption of emergency remote teaching, from face-to-face teaching can be stress inducing. Tutors must remember to take breaks and give themselves time to adjust. They must practice self-compassion and patience.

8. ***Must learn:*** Tutors must take time to take a step back from all the challenges of what may be going on when emergency remote teaching comes into play. They should evaluate what works and what doesn't work and learn from each experience every day to get better over time.

Recommendations for Continuity of Practice of Emergency Remote Teaching in Higher Education Institutions in Nigeria

COVID-19 is gradually becoming a thing of the past (with the discovery of vaccines and the growing massive vaccination of people across the world), and face-to-face teaching is being restored as it was before the pre COVID-era. However, it is suggested that higher education institutions should not completely discard emergency remote teaching, for face-to-face teaching, because of the likelihood of another grave public health crisis occurring in the future which will necessitate ERT again. Based on this submission, it is recommended that higher education should do the following for the continuity of practice of ERT; more so, that it has been hailed by some as a positive one which could transform higher education (Govindarajan & Srivastava, 2020).

1. ***Adoption of Blended Learning Model by Higher Education Institutions (HEI):*** Continuity of practice of emergency remote teaching can be further ensured when it is combined with face-to-face teaching to form a blended learning model. Therefore, higher education institutions are advised to adopt blended learning model in post COVID-19 new normal. Blended learning model can be practiced through synchronous and asynchronous modes of delivery. For example, in one week, students could work asynchronously by reading the learning resources and writing the posts at their own convenience. In the second week, students would read the learning resources before coming to the synchronous session at a specific time. In synchronous sessions, students would talk to each other, share their viewpoints, and interact with others in the learning community.

2. ***Higher education institutions should have a contingency plan for ERT in advance of a crisis***: Public health crisis and conflicts of wider magnitude and catastrophic consequences, which could disrupt the education system again, can arise in the future. Therefore, higher education institutions should have a contingency plan for ERT in advance of these possibilities. The purpose of ERT, as a contingency plan, is to allow institutions to have a pedagogical model to ensure teaching and learning doesn't stop in the emergence and context of recovery from an unforeseen crisis.

3. ***HEI should make ERT a compulsory part of academic staff skill set and professional development*:** Professional digital skill development of academic staff in higher education institutions is a necessity in the 21st Century. To develop or enhance the digital competences of academic staff in higher education institutions, ERT, as a cardinal driving

force for innovations in teaching and learning, should be made a compulsory part of academic staff skill set and professional development. Similarly, ERT can be used by HEI to develop digital scholarship framework of their institutions.

4. ***Identification of the likely areas where academic staff and students struggle the most with ERT*****:** The sudden transition from classroom education to emergency remote teaching in HEI brought along numerous challenges and left many academic staff and students unprepared. Some of the difficulties faced by academic staff relate to their digital competence in using information and communication technology (ICT) for teaching, for lesson planning and creation of teaching materials, for giving assignments and evaluating student progress, for encouraging student self-education, and for providing a positive and supportive atmosphere for students in the online environment. Some of the difficulties faced by students include taking online classes, acquiring knowledge, and maintaining good emotion state and mental health for learning. Therefore, it becomes imperative for HEI to identify the likely areas where academic staff and students struggle the most with ERT and develop strategic plans for solving the educational challenges associated with ERT

5**. *HEI should determine internal and external resources that are necessary in supporting ERT*****:** Higher education institutions should determine and collate internal and external resources that are necessary in supporting ERT for continuity of practice in the new normal. The compilation of these resources will tremendously help these institutions to get adequately prepared for any crisis or emergency that could disrupt the educational system again and lead to the closure of educational institutions in the future.

6. ***ERT will help motivate academic staff to use open educational resources in teaching:*** If academic staff are continuously exposed to ERT in the new normal, they are more likely to embrace and utilise open educational resources in their teaching rather than relying predominantly on using specific textbooks as they do in classroom education. HEI should put in place mechanisms that will motivate academic staff to use open educational resources that reside in the public domain and intellectually licensed for free use. Such easily and freely available online resources can be extensively searched for through Google search engine to enrich their teaching materials and contents.

7. *Provision of sufficient digital technological infrastructure to enhance digital competences of academic staff*: In order to enhance the digital competences of academic staff, HEIs should provide sufficient technological infrastructure for ERT practices. Academic staff members need to possess digital competences to foster effective, inclusive and innovative learning strategies, using digital technologies. The Digital Competence Framework for Educators 1995-2021 developed by the European Union and licensed under CC BY 4.0 can be adopted by HEI to build the digital competences of academic staff. However, this is only possible if HEI provide sufficient digital technological infrastructure. For example, HEI can buy license from the Zoom to engage teachers and students in live discussion when using ERT. Zoom has a very good feature of breakout rooms where tutors can divide the whole class in small and large groups (Kohnke & Moorhouse, 2020; Serembus & Kemery, 2020).

8. *Building the capacity of academic staff for ERT*: HEIs should endeavour to continuously build the capacity of academic staff for ERT along the following areas: word processors and spreadsheets, file management, email access, Internet browsers, access to WiFi, development of Powerpoint and the use of digital whiteboards to teach, teaching through video instruction (i.e. Zoom), using media tools and record videos, strategies for uploading lessons in a higher education institution's learning management system, strategies for recording student's grades online, and strategies for giving feedback digitally. The need for the acquisition of these capacities should encourage HEIs to continue the practice and use of ERT in higher education institutions in the new normal.

Conclusion

It is easy to predict that teaching and learning in the post COVID-19 new normal will not be the same it were before the pandemic. It is also safe to advocate that higher education institutions should not be in hurry to discard emergency remote teaching in the new normal considering the factors that could necessitate it continuity of its practice in the new normal. Therefore, higher education institutions in Nigeria should think beyond the present and work-out modalities for ensuring continuity of practice of emergency remote teaching.

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FOUNDATION ISSUES IN EDUCATION

COVID-19 AND RETIREMENT COUNSELLING: PARENTS WHO RETIRED EARLY WITH LITTLE CHILDREN'S PERSPECTIVE AND IMPLICATIONS FOR INCLUSIVE POLICIES

[1]Moses Onyemaechi Ede & [2]Chinedu Ifedi Okeke

[1&2]Department of Education Foundations,
Faculty of Education, University of the Free State, Bloemfontein, South Africa

Abstract

Life after the world of work has been consistently reported to be unpleasant. Upon this, COVID-19 became a huge threat to people, especially older citizens who are seen as at-risk population. Given this, the present researchers reviewed related literature to explore and understand COVID-19 pressures on retirees and draw inferences about possible retirement counselling services. Related extant studies on COVID-19, retirement counselling, and policies were reviewed. The review shows common perspective that COVID-19 pressures were more on older population compared to others. It also indicated that retirement counsellors could provide information, persona-social, counselling, career services and among others to the retirees to cushion the adverse effects of COVID-19 pandemic. Retirement comes with a slew of obstacles both before (pre-retirement), after (post-retirement) and notably during COVID-19. Hence, it recommends that would-be retirees should plan ahead and make suitable adjustments to cope with this unavoidable stage of life and its upheaval. Retirees should consult social welfare officers and counsellors for professional assistance. In conclusion, this paper encourages support service providers to educate, re-orient, re-direct, and re-channel these senior retirees, a professional retirement counsellor is desperately needed to help them acquire better tactics and adjustment abilities so they can fit in correctly.

Keywords: COVID-19 pressures; Parents with little children: Retirement Counselling: Inclusive policies

Introduction

The subject of aging has fascinated public discourse from all walks of life, abd the the crux is based on the challenges it poses on retirees or withdrawn employees. As a result, commissions and agencies have been established, to design modalities and schemes through which the guilt, anxiety and depression which retirement has created in retirees can be identified and addressed. Invariably, private individuals, researchers, and professional bodies did not relent in salvaging, re-orientating, restructuring, and educating prospective retirees and retirees both private and public employed employees' perception of retirement. Of course, counselling profession is one of those professional bodies that seek to ensure that those retirees and prospective retirees suffering from psychological problems are helped out. This paper tries to present the conceptual framework of retirement counselling, destructive characteristic, applicability, constraints/ limitations, implication for inclusive policies, and conclusion.

Conceptual Framework

Retirement is an inevitable phenomenon for every worker; all workers must retire at one time or the other in their lives (Dada & Idom, 2004). Asonibare and Oniye (2008) posits that retirement is a significant change in an individual's lifestyle and, like any change, comes with an element of emotion. According to Omeje (2007), retirement appears to be a universal phenomenon that lays its own imperious claims in the world, and therefore it is the duty of all nations to prepare themselves against its onslaught by taking proper precautions. In essence, retirement is concomitant with developmental change in the lifetime of every worker as far as life is concerned. In the view of Asonibare and Oniye (2008), retirement generally implies the terminal cessation, relaxation, or changeover of financial remunerative employment. They said it is a life stage because it is a period of economic inactivity or a change over in one's economic activity, socially illegally prescribed for workers in later life. Dada and Idowu (2004) define retirement as a transition from the world of work into a world of less rigorous work activity and rest, especially in respect of retirement due to old age or long years of service. Omeje (2007) opines that retirement is the act of withdrawal from work or giving up one's occupation either through comprise with the employer or forewarning. The above definitions are marked by a common ideology, which is the change in the economic status of retirees. Therefore, retirement could be seen as a transitional stage by which a worker is withdrawn as a result of age, unproductivity, illness, and comparison in order to pave way for new intake or incoming workers (Oniyi, 2001; Asonibare & Oniye, 2008).

Retirement can be controlled and maintained by the office of establishment and management services (Omeje, 2007). Omeje avers that the entailment to retire depends on the tone of retirement. He listed the following as conditions of retirement.

1. Old age, mostly at 60 years of age
2. 35 years and above in service
3. Ill health or sickness
4. Documented cases of indiscipline
5. Redundancy
6. Contract officer whose services are no longer wanted

Retirement can be voluntary or involuntary. It is voluntary when the employee willingly decides on it before the age of 60 years or 35 years of working experience here in Nigeria (Oniyi, 2001). But it is involuntary when the employer forces the decision on the employee either due to compulsory retirement, retrenchment, illness, or negligence of responsibility (Asombare & Oniye, 2008). In essence, the retrenchment, withdrawal or retirement may be by compulsion or force, and/or decision. In view of this, Asonibare and Oniye posit that the import of this awareness is that the typical employee must properly prepare for this eventuality, bearing in mind that 25% of his adulthood is likely to be spent in retirement.

COVID-19 and Retirement

Governments have taken a number of quick actions in response to COVID-19, to increase the sustainability and resilience of pension arrangements. These include extending to other skill-based programs that could assist parents of children who retire very early in

their services. In pursuance of this, Federal government of Nigeria has approved institutionalization of several financial organisations to assist public workers to have retirement savings. Though the government of Nigeria has issued a slew of economic palliatives or reliefs to help reduce the economic impact of the covid-19 pandemic, a number of questions still trail the experiences of Nigerians especially retired adults. These include: What are the possibilities available to Nigerians who have retired during the covid-19 pandemic? What steps can the government take to ease the financial hardships that pensioners with children suffer as a result of the covid-19 pandemic?

According to the pension reform act, pension scheme in Nigeria is a contributory pension arrangement which entails both the employer and employee making statutorily prescribed monthly contributions into the Retirement Savings Account (RSA) of the employee. As stated in section 1 (d) of the Act, it is to cater and serve as retirement benefits which can be utilized by employees when they are retired or in their old age. However, an incisive look at section 7(2) and 16(1) of the Act evinces the clear fact that individuals can access their pension funds when they voluntarily retire or disengage from work or are disengaged from work. Section 7 and 16 of the Act lays down the conditions upon which an employee can make withdrawals from his pension account.

Given the current inflation of basic necessities and commodities, as well as the effects of lockdown businesses and the economic crunch that a large portion of the population is experiencing, it is necessary for the government to provide some form of economic relief or concession to mitigate the negative economic impact of the covid-19 pandemic. Across societies, COVID-19 presents a range of particular risks for older persons.

Life and death: Although people of all ages are at risk of getting COVID-19, older people are at a much higher risk of death and serious disease as a result of infection, with those over 80 dying at five times the typical rate (World Health Organization, 2020). According to estimates, 66 percent of adults aged 70 and up have at least one underlying disease, putting them at higher risk of severe COVID-19 effects (World Health Organization, 2020). Age discrimination may also occur in medical care and life-saving therapies for the elderly. Because of global inequities, as many as half of the elderly in some developing nations did not have access to basic health treatments prior to COVID-19 (World Health Organisation, 2015). The pandemic may also result in a reduction in key services unrelated to COVID-19, increasing the risk of death.

Vulnerability and neglect: Some older persons are more vulnerable than others. The proliferation of COVID-19 in care homes and institutions is wreaking havoc on the lives of the elderly, with disturbing accounts of neglect and cruelty (World Health Organisation, 2020). Violence, abuse, and neglect may be more likely in elderly people who are quarantined or locked up with family members or care givers. Due to overcrowding, restricted access to health care, water and sanitation facilities, and potential issues receiving humanitarian help and aid, older people living in precarious settings – such as refugee camps, informal settlements, and jails – are particularly vulnerable (World Health Organisation, 2020). Additionally, elderly people are

frequently among the caregivers responding to the epidemic, increasing their risk of infection.

Social and economic well-being: The pandemic not only puts older people's lives and safety at jeopardy, but it also jeopardises their social networks, access to health care, jobs, and pensions. Physical separation measures may disproportionately affect those who traditionally receive care at home and in the community, such as women over 80 who are more than twice as likely to live alone as men (World Health Organisation, 2020). Long periods of isolation may have a negative impact on older people's mental health, and older people are less likely to be digitally included. Given that the global share of older people in the labor force has increased by over 10% in the last three decades, the impact on income and unemployment will be significant (ILO Spotlight on work statistics, 2018; World Health Organisation, 2020). Social protection can provide a safety net, but in some developing nations, coverage gaps are significant, with less than 20% of older people receiving a pension. Given the associated risks, there social and psychological services become imperative. Part of questions the services is counselling that help to cushion the effects of the risks. However, that is the focal point of retirement counselling. But when the retirees failed to prepare for this eventuality and problems set in, there will be a need for a counselling.

Counselling is defined, according to Okeke (2008), as the process whereby the counsellor uses his professional training and relevant psychological skills to help the counselee perceive this problem more clearly so that he (the counselee) can apply the understanding of himself and his problems to the solution of his problem. Counselling can be defined as an interpersonal helping procedure, which starts with a client exploring for the purpose of identifying those thinking, feeling, and doing processes that are in any way self-defeating or which require improvement. In operational terms, counselling is the systematised efforts of a counselor which seeks to reposition, rechannel, and re-orientate the self-inflicted injury, anxiety, and depression by the counselee through the use of therapeutic techniques and skills.

Retirement counselling, as Asoinbare and Oniye (2008) put it, is the process of providing prospective retirees with factual information needed to make a pleasant transition from the world of work into the world of less rigorous occupational schedules-retirement for them. The concept includes a review of all insurance policies, management of personal income during retirement, explanation of the retirement process, general information about social security medical coverage, and acquisition of life skills needed for optional adjustment to retire roles. Retirement counselling provides information on pre-retirement and post-retirement to the retirees and for them to make the economic and psychological adjustments. Statistics have shown that 90% of retired persons look miserable, confused, and helpless (Ndaman, 2004) as a result of lack of pre-retirement planning or improper pre-retirement planning. Ndaman puts that 10% of those who are tired, who are living well, and probably in high spirits and are able to maintain their status quo, are those who planned ahead.

Just like every other life process is crowned with stage, retirement occurs in stages (Asonibare and Oniye, 2008). Asonibare and Oniye (2008) cited Omoresemi (1987) who gave three stages of retirement, viz: preparation stage (36 – 45 years); period of immediate retirement (46 – 55 years); real retirement state (56 – 65 years).

According to Adeloye (1999), the preparation stage is characterized by the need to educate all the children, acquire a piece of land and start building a house, have a life insurance policy, and recognize the fact of aging. Prior to retirement (pre-retirement stage), the prospective retiree begins to develop physiological changes such as skin, face, hairs, and the individual begins to get acquainted with *dos* and *do not* in retirement (Asonibar & Oniye, 2008). This preparatory stage prepares the individual to be ready and get adjusted for a real retirement. At this real retirement stage, the individual can now decide what to do with life, either to use the period to change career or enjoy leisure.

The Role of a Counsellor

According to Asonibare and Oniye (2008), the retirement counselor would seek to ensure reasonable management of issues like accommodation, feeding, children's school fees (for those who are still raising a family close to retirement or during retirement, which of course is not advisable), maintenance of the property e.g. vehicles or taking care of aged parents.

A retirement counsellor's services should cut across both pre-retirement and post-retirement periods. That is, he should help workers to plan ahead of retirement, assist the retired in coping with the 'new phase'. Ideally, workshops and seminars should be organized by professional counselors to sensitize workers. Asonibare and Oniye (2008) posit that these could be accomplished through services like:

Information service: This refers to valid and reliable information patterning retirement policies, expectations, pension, and other related retirement issues.
Vocation Service: This refers to giving assistance to retirees' vocational information on issues concerning other opportunities in the world of work and to exploring career alternatives.

Planning, placement, and follow-up services: Asonibare and Oniye (2008) points that assisting the retirees to plan their lives realistically and effectively. The counselor should take cognizance of the retirees' abilities, interests, personality depositions, and value system. This can help him (retirement counselor) to place the retirees appropriately.

Referral service: This required a retirement counsellor to send special cases to specialists for appropriate treatment for e.g. medical doctors.
Furthermore, Omeje (2007) asserts that the major task of a counselor should be to help the individual adjust to his rroleand status. Omeje thus maintains that counselors can provide retirement assistance both before and after what is generally termed an abrupt event. In essence, retirement counsellor should help retirees to acquire coping strategies. Retirement counselor is obliged by virtue of profession should assist retirees to develop interest and new activities that suit their gender and capacities (Omeje, 2007). Transition into temporary employment, part-time work can help to meet their interests. The author

adds that counselors need to debunk the view of the ideal man as a one-dimensional procedure to that of a three-dimensional person who combines work, study and plays into a coherent pattern through his life. That is, it is the retirement counselor's duty to disorientate retirees from circumscribing their opportunities into one particular area of life but rather educate them to diverse talents.

Developmental Plan for Retirement

There is no doubt that there is structural and operational challenges retirement posed to people, therefore, there is a need to develop a plan to assist the retrenched, withdrawn, or retired individual to enable them to have awesome retirement years. According to Asoribare and Oniye (2008), the retirement planning advocated herein involves identifying your wants and needs, developing a plan to achieve them, acting on your plan, and continually reviewing and revising your plan as you approach retirement. In order to start meaningfully, start by defining your goals. They gave the following questions for a more practicable way of retirement planning. These are

1. At what age do I plan to retire?
2. Will I start a new part-time career during retirement or never work again?
3. How long do I think I will need my money to last?
4. How much money will it take to support my household?
5. What type of lifestyle do I hope to lead after retirement?
6. Where will I live when I retire?

Applicability of Retirement Counseling in Nigerian Context

It is important to ask if there is a need for retirement counselling. It is noteworthy that since the retirement period has several challenges there are also needs for psychological and social supports. The federal government of Nigeria reported that no fewer than 74,000 civil servants will lose their jobs in the federal civil service, as the federal government is insisting that some workers have to go in readiness for the implementation of its civil service reform. Data and Idowu (2008) assert that this action and statement are obviously anxiety-provoking especially to workers who are yet to retire or be retired. In view of this retirement, counselling is highly needed in the Nigerian context. In Nigeria, any government may come up any day and develop a policy to checkmate workers' (civil servants) performance and authenticity of certificates which may result in involuntary retirement. As a matter of fact, the use of retirement counselling is obvious for proper adjustment.

In Nigeria's situation, the status of our hospitals is nothing to talk about, while it is clear that the health status of a worker can make him/her go for involuntary retirement. In essence, there is a need for retirement counselling, especially referral services. The attitudes of friends and family members and even society at large seem to be a problem to retirees in Nigeria. Therefore, both retirees and societal members need these counsellors' informational, vocational, and planning services. The focus of retirement counselling at this stage or period is to assist the retiree especially if he is the head of the family and thus the principal victim and all family members who are equally victims to gain insight into their feeling concerning retirement so that they can explore alternative ways that could help to enhance their emotional stability.

Constraints/Limitations

This stage is associated with problems. Some of these problems could be from the government, family members, retirees, and other agents in society. On other hand, it may be psychological, economic, accommodation, poor self-concept, managerial problems, and other related issues.

Findings and Discussion

According to the findings of the literature research, COVID-19 pressures disproportionately affect the elderly population. It also stated that retirees could benefit from knowledge, psychosocial counseling, career services, and other services provided by retirement counsellors in order to mitigate the negative consequences of the COVID-19 epidemic. Because retirement is fraught with challenges both before (pre-retirement), after (post-retirement) and particularly during COVID-19, would-be retirees and retirees plan ahead and make appropriate adaptations to cope with this inescapable chapter of life and its disruption. Retirees should seek expert help from social welfare officers and counsellors. If parents are saddled with responsibilities of providing children with educational and psychological needs, that is expected to be done irrespective of our age (Jeong & Kim, 2020). As parents, it is our duty to provide our kids with the tools they need to develop into adults who can live independently and thrive (Adebambo, 2020). When we decided to have and raise our children, we took on the duty of providing for them (Adebambo, 2020). Visits between parents and their adult children are affected by retirement (Szinovacz & Davey, 2001). The impact of retirement on visits is complicated and depends on a number of factors (Szinovacz & Davey, 2001).

Implication for Inclusive Policies

Currently, social inclusion is gaining more attention than ever. The increasing attention could be attributed to a high incidence of inequality ravaging social settings. We suggest that retirees who are exposed to retirement counselling could get advanced information that can prepare them adequately during retirement experiences. Therefore, policymakers in relevant agencies should make it standard of operation that every employee receive retirement counselling. This paper advocates that of policies are drafted for all populations including retirees the unfavourable experiences of the retirees would be changed. Such policy will help deal with the perceived social exclusion of retired workers. The social exclusion experiences of the retired have created inequality in retired workers. We suggest that social support organisations and other related government agencies should establish counselling centres that will champion the wellbeing of retirees. This paper suggests that whenever government is initiating policies for the citizenry, the interests and wellness of retired workers are also very important.

Conclusion

Since the problem is inevitable in the human race, the period of retirement cannot be left out. As retirement faces a lot of challenges ranging from before (pre-retirement) and after (post-retirement) especially in the time of COVID-19, the would-be retirees and retired should make proper preparation and appropriate adjustment in order to cope with such an inevitable period of life and its turbulence. In a bid to educate, re-orientate, re-direct, and

re-channel these elderly retired individuals, a professional retirement counsellor is highly needed to assist these individuals to develop better strategies and adjustment skills to enable them to fit in properly.

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MORAL ADOLESCENT DECADENCE IN THE SOCIETY: IMPLICATIONS FOR PARENTING STYLES FOR EDUCATIONAL SUSTAINABLE DEVELOPMENT

[1]Eunice B. Bakare & [2]Afolakemi O. Oredein

[1&2]Department of Educational Management
Faculty of Arts & Education
Lead City University, Ibadan
Oyo State, Nigeria

Abstract
Sustainable development is a process that advances and accommodates the needs of the present and future generations. For such meaningful development to become a reality, the issues of moral adolescent decadence need to be dealt with to the lowest minimum as the role of good parenting cannot be over-emphasized. Conversely, moral adolescent decadence is rotting in the morals, standards, values, ethics and belief of the adolescent, where what was right, becomes wrong and what was wrong becomes right. The parenting styles adopted by parents seem to have been proven to have a greater influence on adolescent morals and behaviour which can be used to correct this abnormality thus, promoting a sustainable future development. Parenting styles, therefore, are defined as the different ways or strategies parents employ in raising their children, which may vary as the child develops into an adult. The adapted Buamrind's theory was used to explain the implication of parenting styles on moral adolescent decadence in the society. However, no single parenting style is perfect; and to achieve an educational sustainable development in the society, parents need to adopt the parenting styles that best fit the situation at hand.

Keywords: Moral adolescent decadence, Parenting, Parenting Styles, Sustainable Development

Introduction

In the past, morality was a priority in a society where everyone is saddled with the responsibility of transmitting good morals to the younger generation. Good morals were embedded in the culture, traditions and religion; however, it is sad realizing that the present world has long drifted far from this, in pursuit of modernization and technological advancement. Society has neglected its core values and ethics that can be sustained and distinguish it from other living things. Where has the love for honesty, diligence, love for one another, respect for elders, hard work, and integrity which can be easily passed to the future generation for the propagation of peace and prosperity gone? All these and more are what morality stands to define. Morality is the behaviour which is generally accepted by a group or groups of people, it includes what the people stand for, their beliefs, core values, why they do what they do and how things ought to be. It varies from culture to culture, society to society but holds a strong belief in what is good and acceptable among

the people. It could also mean a standard or code of conduct guiding behaviour and living which could be developed through culture, parenting styles, religion, traditions, parents' personalities, and beliefs just to mention little but few. Decadence, on the other hand, refers to something that is deteriorating or has fallen below a certain standard of conduct. Depravity, dishonesty, wickedness, dissolution, nudeness, pleasure-seeking, extravagance, superfluous, and excesses, to name a few terms, are all terms used to define this state (Abba, 2015). Based on these definitions of moral and decadent, one can easily define what moral adolescent decadence is.

Moral adolescent decadence is a decline, decay, and excess in adolescents' and society's moral aspirations; it's when an adolescent's standards and customs deteriorate (Obayomi, 2020). A society where there is a fall in moral values will experience all sorts of depravity and social vices, what is supposed to be morally wrong becomes right and morally right becomes wrong, which leads to a state of chaos. Little wonder the reason behind adolescents wanting to pass an examination at all costs without working hard and demanding the good things of life without paying the price of diligence, integrity and patience. Thus, moral decadence has become a controversial issue that needs to be nipped in the bud if society must survive. However, literature has it on record that parenting styles could influence the behaviour of adolescents which can be used to curb this ravaging menace (Njoku, 2016).

Parenting style is a way of raising children in a certain way; it is also a way of using different strategies or combining strategies to raise children from childhood to adulthood. Everyone including children was born with an empty mind; it is the responsibility of parents to fill the mind with the right values or beliefs just like a brand-new computer system. The way and manner parents transmit these values and beliefs will greatly impact their child's growing up into adulthood and lead to a sustainable peace and prosperity environment where every life counts and matters including the planet. In the course of a certain practicum period in a reputable school several cases of students' moral decadence became glaring to the researcher; which stemmed as a result of parenting styles adopted by parents. One of such cases presented was the incident of a student whose parents neglected and abandoned their all five children to fate in pursuit of a new partner not minding what become of their children. These children went through the thick and thin of life to keep body and soul together before the school authority got to know of it and step in to address the issue. The parenting styles adopted by these parents expose the children to all sorts of social vices. If not for the prompt intervention of the school authority and a strong will on the part of the children to succeed in life they might have been given to criminal activity, prostitution, drug addiction, or they suffer lack of education, unwanted pregnancy among many others. In such situation, they would have constituted nuisance to the society, as they are the bitter reality of the society today. When parents fail to plan and take up responsibility for their wards let alone transmit good values and morals to them, what is expected is not far from moral adolescent decadence. Good parenting does not only benefit the child but also benefits the parents and society leading to sustainable growth and development. Little wonder the reason why the society is the way it is with a lot of morals and adolescent decadence, where proper care and

guidance of the child had been relegated to teachers, religious bodies' celebrities, actors, and the society. Parents too need to take the bull by the horn and do all it takes to take up their responsibilities.

The parenting style adopted by parents may sometimes vary as parents possess different personalities, preferences, and knowledge of parenting; children's personalities and make-up may also influence parents' style of parenting. It has been discovered that while parenting does not affect children, the quality of the relationship between parents and children has a significant impact on a child's brain development (Brown, 2019). Also, many studies have shown that firm; healthy parent-child interactions have an impact on children's stress levels, social-emotional well-being, and even academic achievement (Abba, 2021). Good parenting is hard work which entails finding a way to create a pleasant, high-quality relationship with children while still instituting rules and expectations (Shi, 2018). This takes time and effort, as well as the willingness to change course when things do not go as intended. Every individual is born with their temperament, or style of approaching the world. The way individuals perceive and respond to events is influenced by a combination of parental guidance and inherited tendencies which may result from their temperament (Brown, 2019). Children and parents may have similar temperaments and share many of the same reactions, perceptions, and beliefs in some situations; also, children and parents may disagree at other times. Ultimately, parents are responsible for the quality and success of the interactions they have with their children.

The current paper is a review of existing studies on themes related to the subject matter of the paper. This review is discussed under the following headings: moral adolescent decadence, parenting styles, sustaining development, the implication of Baumrind's theory on parenting styles in respect of moral adolescent decadence in the society, conclusion, and way forward.

Moral Adolescent Decadence

Moral adolescent decadence is the degradation or corrosion of adolescent moral standards and a fall in the values, ethics and belief of society. It is no longer surprising that a higher percentage of adolescents are engaging in various immoral activities, such as cultism, violence, cyber-crime, underage sexual activities, nudeness, and examination malpractice, among others, as evidenced by the level of crime, criminality, and immoral activities among young people (Shittu, 2018). A recent video depicting immoral acts committed by some group of students in renowned secondary schools in Lagos, Nigeria is an example of this, where underage students between the ages of 10 and 13 were engaged in an immoral act in the name of a game, called "truth and dare". This singular act of the children speaks volumes of the home they represent; there is also an adage that says "like mother like daughter". One cannot give what he doesn't have; charity they say begins from the home. The home is the first school of every child and as such good morals, ethics and sound beliefs should begin and be taught in an ideal home.

Furthermore, the stage of the adolescent is characterized by lots of adventures where children practice what they see and learn from their peers, coupled with the various body

changes and feelings that take place within them. Parents, on the other hand, need to befriend their adolescents to help transit this stage successfully with love and firmness realizing that a child's training should be done intentionally even if it means hurting their children's feelings sometimes and having to give up some pleasure and ambition as parents. Also, the case of a student in a reputable College who lost his precious soul owing to the activities of some student cultists who wanted to forcefully initiate him is another story to worry about. What about the immoral act that goes on in the school toilet daily? Students are caught kissing and fondling each other's privates, all these and more exemplify how much the family unit and society have failed in fulfilling their roles and responsibilities to the younger generation. When has the place of knowledge and development that characterized life, become the place of death? One may wonder if schooling means dying, but this is far from it as the issue is moral decadence.

In recent times, there is no longer a competitive motivation among students to do more; the enthusiasm for academic brilliance has faded, while pleasure-seeking and the quest to acquire material gains have become the norms. Students now want to live big and acquire all the good things of life without having to work and wait for their time. Back in the day, there was a strong desire to be academically and morally relevant; where students compete among themselves to achieve academic excellence working diligently to attain greatness and doing all to be morally upright as well. Good morals, good character and academic success sum up to greatness. However, students now follow their vain desires, model after celebrities and even desire to be like some of them as they are most celebrated and appalled by society while the love for schooling and moral standard had degenerated. Nowadays, the society consists of young people who believe they do not need to be morally upright and disciplined since these so-called role models practice the same acts that society frowns at (Pamela, 2022). Instead of the government, corporate bodies, companies and well to do individuals sponsoring programs that will benefit the masses and invest in education, they are busy investing in BBNaija, a program that displays immorality to the highest level and rewards the winner with millions of naira. Even dancers, actresses, actors, models and baby mamas' just to mention but a few are now more celebrated by the society than graduates' who through the "thick and thorns" had worked hard to achieve greatness and success. What messages is the society then passing across to the younger generation, where we have thousands of brilliant students' that cannot afford their school fees and the society is busy applauding models, baby mamas' and the likes without any moral standards or values?

The society needs to retrace its steps and save this younger generation from misplaced priorities and moral decay hence; the reason why good parenting is so important in this modern world where society has failed. Some of the causes of moral decadence among adolescents are poor parenting, social media influence, broken homes, peer group influence, permissiveness, and moral laxity at home and in schools. If moral decadence is not stopped, it will eventually result in dropouts, undesired pregnancies, criminality, and low academic attachment among pupils (Abba, 2015).

Parenting Style

A parenting style is a way parents behave toward their children, and it includes the parents' rules and behavioural expectations, performance demands, and the style of discipline that the parents use to train their children and correct misbehaviour (Bright Horizon, 2021). There are two main elements of any parenting style: receptiveness and expectations (Hartin, 2022; Pamela, 2022; Zeltser, 2021). Receptiveness is the degree to which the parents respond to their child's needs in a supportive and accepting manner; while expectations refer to the parent's anticipation for their child and how much control they employ to ensure that these anticipations are met (Zeltser, 2021). How these two behaviours intertwine defines a parent's style. Research study has shown that parents who provide their children with proper nurturing and independence, along with firm control, end up raising children with higher levels of competence and are more socially skilled and proficient than other children without firm parental control and independence (Bright Horizon, 2021).

Types of Parenting Styles

Diana Baumrind a clinical and developmental psychologist propounded Baumrind's theory in 1966 (Hartin, 2022). She hypothesized that adolescents' behaviour is ascribed to precise parenting styles adolescents experienced at home. She later advanced what she named the Pillar Theory to describe the important aspects of parenting that shape the way parents interact with their children. Baumrind coined the three types of parenting: the permissive, the authoritative, and the authoritarian styles while Maccoby and Martin added the uninvolved or neglectful style. This theory is applicable to the review in that it clearly describe and explain the various styles parent explore in parenting their wards and the likely outcome expected which when considered might spur parents' to adopt the most result oriented one.

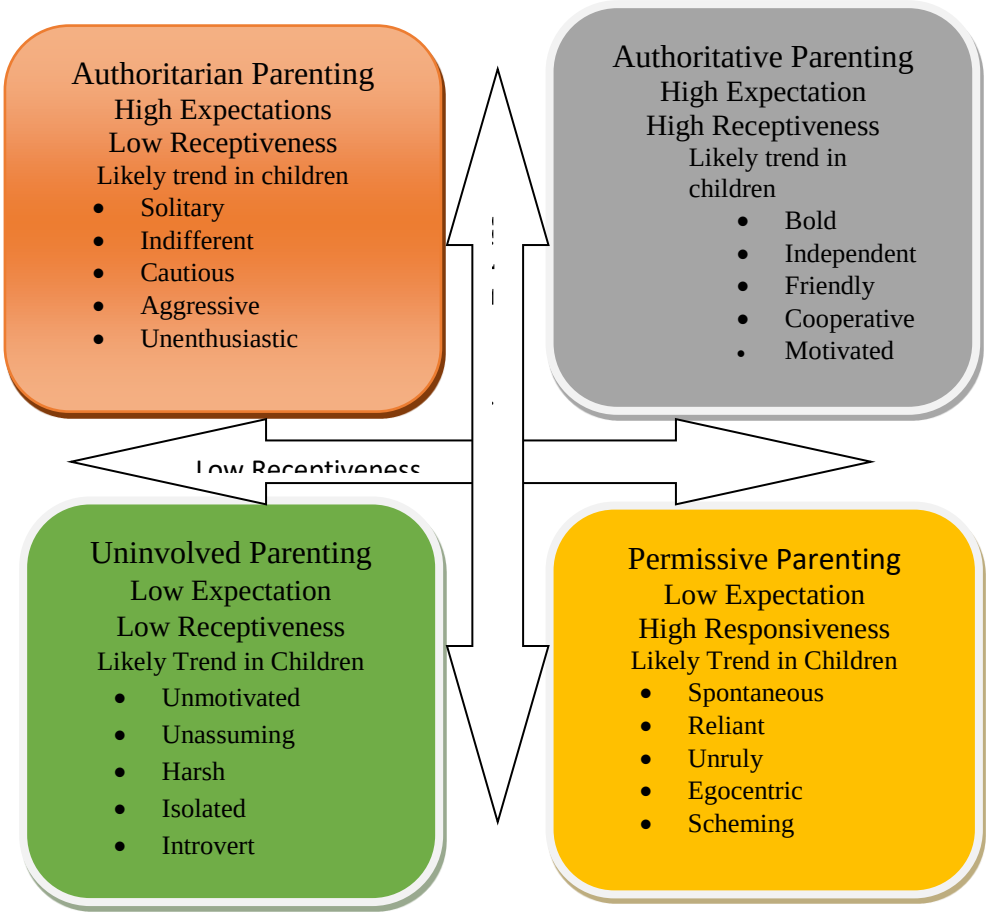

Figure 1: The Adapted Baumrind's Parenting Styles (Coined online)

The Permissive Parent

(Shared characters: high receptiveness, low expectations)

Parents who are permissive talk honestly rather than give direction. They allow children to make their own decisions; norms and expectations are either not created or rarely followed. Such parents go to tremendous measures to keep their children happy, often at their own expense, and are more prone to adopt a friendship role with their children rather than a parenting role (Morin, 2021). They avoid conflict and will often agree to their children's requests at the first hint of distress, allowing them to do as they please with only limited guidance or direction (Brown, 2019). These parents are rarely aware of their children's actions and behaviours, let alone who they associate with, as children frequently act out in their presence. More so, these parents offer children gadgets like i-phones, and laptops, allowing any kind of dressing and partying without thinking of the after-effects on the child. This type of parenting style will not do well at this age and time as students will always tend to be manipulative, knowing parents cannot bear disappointing them. These, however, create room for moral laxity where students are allowed to behave the way they want with little or no caution from the parent. Children

of permissive parents tend to be rebellious, impulsive, and have low self-control, but are usually more creative and emotionally secure.

The Authoritative Parent

(Shared characters: high receptiveness, high expectations)

Parents who are authoritative offer clear norms and expectations for their children while also demonstrating moderation and empathy (Pamela, 2022). These parents communicate regularly; listen to and consider children's opinions, feelings, and perspectives; allow for natural consequences (for example, a child failing an exam due to lack of discipline to study), such parents use these moments to assist the child to reflect and grow; as experience sometimes is a good teacher. Also, the authoritative parents nurture, encourage, and are often aware of their children's needs; leading them via open and honest dialogues that instill values and logic (Cherry, 2020). Children raised by authoritative parents are more self-disciplined, morally balanced, and independent thinkers and are less likely to develop bad behaviour.

The Authoritarian Parent

(Shared characters: high expectations, low receptiveness)

This strict parenting style employs harsh disciplining, which is frequently rationalized as "brutal honesty." Authoritarian parents frequently communicate with their children without asking for input or feedback to maintain complete control (Morin, 2021). They are the "do as I say" parents and are always right in their judgment. Children of authoritarian parents habitually are fearful and have low self-esteem. They have poor social skills and are more prone to substance abuse. Moreover, children raised by authoritarian parents tend to become authoritarian themselves, both in their interpersonal relationships and as parents.

The Neglectful or Uninvolved Parent (Maccoby and Martin)

(Shared characters: low receptiveness, low expectations

This style of parenting, which is characterised by a general sense of disinterest, is adapted into Baumrind's theory of parenting. Neglectful parents have little interaction with their children and rarely enforce rules and often allow external means like social media, television and video games to do the parenting (Pamela, 2022). Such parents are perceived as cold and uncaring, but this is not always intentional because these parents might be dealing with self-esteem and may have difficulty forming a close relationship with their wards (Cherry, 2020). On the other hand, from personal experience, neglectful parents sometimes do not provide both material and financial care for their wards let alone provide luxury goods such as - phones and gadgets. These parents transfer their parental responsibility to their wards; thereby creating room for child labour and immoral behaviour among children. Children raised in this manner tend to be morally unstable; and because such children are raised without boundaries, they become whatever fate offers.

Sustainable Development

Sustainable development is an urgent all-round phenomenal developmental need for all countries - developing and developed in a global partnership. It pursues putting an end to

poverty, improved health and education, reducing inequality, and increasing economic growth for all while considering climate change and preserving the oceans and forest. For such development to be fully accomplished, the appropriate parenting styles need to be adopted by parents. Parents are the first contact of every child and are responsible for the proper moral growth and development of the child. Children learn how society is from their parents and thus, model after them. The issue of peace and prosperity for all people and planets now and in the future is what sustainable development represents and this can be inculcated in the child through the parents as they adopt the proper upbringing of their wards. When parent assumed their responsibilities and adopt the right parenting styles as situations demand, children will be properly educated and trained while fulfilling the 17-point agenda of sustainable developmental goals. These are: no poverty, zero hunger, good health and well-being, gender equality, clean water and sanitation, inclusive and equitable quality education promoting life -long learning opportunities for all, affordable and clean energy, decent work and economic growth, among many others.

Implications of Baumrind's Theory on Parenting Styles in respect of Moral Adolescent Decadence

Parents frequently underestimate their influence on adolescents' morals, failing to recognize that this stage marks the beginning of a child's self-identity and independence, prompting them to desire to explore for themselves. According to numerous research on parenting styles and child behaviour, children who are exposed to poor parenting are twice as likely to have moral issues which may result in moral decadence while the reverse is the case for children exposed to good parenting (Gustafson, 2017). More so, lack of disciplinary measures, insufficient discipline, and harsh discipline are all poor parenting traits that can harm children, regardless of their personality and ages. Whereas, consistency, firmness, and discipline while displaying love and regard for a child's feelings are the characteristic of good parenting that can build and develop the child. Some of the implications of parenting styles in respect of moral adolescent decadence in the society are:

Disruptive Behaviour

A child displaying rebellious behaviour does not consider others' feelings when acting, research has shown that severe forms of antisocial behaviour can lead to drug and alcohol abuse, poor health, mental health problems, nudeness, disobedience and law-breaking (Gustafson, 2017). Parenting styles that could lead to this type of behaviour include inconsistent and harsh parenting, as well as parental drug abuse, maternal depression and domestic violence (Gustafson, 2017). Parents often replicate themselves in their wards as parents who are rebellious, intimidating, undesirable and have precarious attitudes are more likely to have children with the same attitude, just like one cannot give what he does not have.

Rigidity

Inflexible parents most often reproduce rebellious children as no room is given for some excesses in children. Children, at times, need to be given space to fully expressed themselves as this helps them develop self-image, and build character and coping skills.

When parents are too rigid, children had no chance to think outside the box which may lead to timidity, poor academic achievement and sometimes dropout.

Hopelessness

Harsh and unfavourable parenting methods have been associated with hopelessness indications in children, low levels of general support by parents, hopelessness behaviour by parents themselves, harsh discipline, improper expression of undesirable emotions, and a lack of emotional support are all possible contributors to childhood despair as this may only lead to more rebellious act on the part of the child and eventually the Childs' demise.

Aggression

A negative parenting style can lead to violence if a child's emotions are not correctly handled at a young age. Abusing a child, expressing negative feelings, and constantly talking about bad behaviour can cause an adolescent to become enraged, making parents more unfriendly and intolerant. When a child is allowed to make mistakes and is praised for good behaviour, such a child will feel loved and open to correction (Gustafson, 2017). Children, however, should be trained and corrected in love just as "a soft answer turns away wrought".

Conclusion

Based on the review, parenting styles can have a tremendous impact on children's morality and behaviour, which may either make or mar a child. To attain sustainable development for all, therefore, parents, should adopt the right parenting style and not stick to any particular parenting styles in handling their wards. Nevertheless, more than one parenting style could be employed in dealing with moral adolescent decadence in the society as situation demand. Parents have a significant influence in shaping and moulding the morals and behaviour of their children, as the bible portion says, "Train up a child in the way he should go and when he grows up in will not depart from it". Parents should also model the traits they want to see in their children as children most often copy their parents rather than listen to instructions; however, parents should not be left alone in addressing the issue of moral decadence in adolescents but should play an important role. All hands should be on deck to remedy this societal anomaly.

The Way Forward

Based on the above review, the following suggestions were raised:

1. Parents should do more as regard parenting their ward which requires proper monitoring of their wads day to day activities and participating in helping their children with assignment.
2. Women should pick up vocations that will permit enough time for training of children because the training of children requires much effort and proper planning.
3. Attendance in school activities should be taken more seriously by parents'. For example Parent Teachers Association meetings (PTA) and school open day. This is because such meetings might likely reveal hidden characters and behaviour about their wards that might require urgent attention by the parents'.

4. Parenting courses should be inculcated into the school curriculum from primary to higher institutions, even in all religious bodies as this will enable proper training and preparation for future parents.

5**.** Finally, parent should model the character they want their child to emulate by inculcating in their wards good morals and ethics that can with stand the test of time.

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AMELIORATION OF ANTISOCIAL BEHAVIOUR AMONG NIGERIAN YOUTH THROUGH PEACE EDUCATION IN A POST-COVID ERA

Olaleye, Victor Olugbenga
Department of Educational Foundations,
Osun State College of Education, Ilesa
Olaleyevictor10@Gmail.Com
&
Ilugbo, Esther Ajoke
Federal Government Girls College,
Ipetumodu, Osun State
Ajokeilugbo@Yahoo.Com

Abstract

The impact of Antisocial Behaviour (ASB) on learning is particularly disturbing on the ground that it has affected academic performance, reduced morality and gave birth to moral decadence among youths in Nigeria. The focus of this paper is to critically appraise the concept of ASB, causes of ASB, impact of ASB, efforts made so far by government to curb ASB and prevention of ASB through Peace Education. The paper is essentially documentary-based (sometimes called desk-based research). Its methodology includes the use of newspaper articles, biographies, field notes, diaries and journals. The paper considered ASB as a dangerous trend in Nigeria and concluded that Peace Education could be applied to remedify the precarious situation in Nigeria.

Keywords: Antisocial Behaviour (ASB), Violence, Crime, Sustainable Development Goals (SDGs), Peace Education, Post Covid-Era

Introduction

Nigeria currently is replete with varieties of baffling behavior exhibited by adolescents all over the country, which cause right thinking citizens to wonder how our cherished cultures, good virtues entrenched in our national values have been corrupted. Incidence of anti-social behavior (ASB) committed by youth such as rape, sexual assault, brutal killing, cybercrime among other are reported almost every day in national dailies and local newspapers. Some of the vices have been attributed to peer influence, excessive corporal punishment, lack of external supervision, broken home and lack of parental care (Ojo, 2015). Ivanger, Agajah and Aondowase (2020) attest that ASB is on the increase on daily bases in Nigeria. They maintain that issues of ASB include various factors such as inequality, ethnicity, limited resources, corruption, poverty, criminality and other socio-economic crises pervade the length and breadth of the country. According to Armitage (2012) ASB is a pre-criminal behavior which causes harassment, alarm or distress to other people and adversely affect the quality of life of the ordinary law-abiding citizen. In support of Armitage (2012); Institute of Welfare, UK (2012) explains that Anti-social

behavior (ASB) includes a variety of behavior covering a whole complex of selfish and unacceptable activity that can blight the quality of community life such as rowdy and nuisance behavior causing irritation for co-inhabitants, intimidating others in public places and vandalising properties.

In Osun State of Nigeria, the issue of ASB is assuming a dangerous dimension due to current state government policy that allows common and similar style of school uniform for the entire government primary and `secondary schools throughout the state. In the past, every school had unique school uniform that helped in identifying one school from another. As of the moment every school has lost its uniqueness and identify. Now, it is difficult to distinguish one school from another. Realising the astronomical increase of ASB among adolescents in the Osun State, the government introduced Peace Corps, a paramilitary outfit saddled with the task to maintain peace and orderliness in the schools. This intervention efforts, though good, is yet to yield much expected result.

Academic performance is determined by the level of discipline in school. The performance of students where gross indiscipline is condoned would certainly be unsatisfactory. This view is supported by Oladunmi (2010) who observes that "students in school today are not performing well in their academic activities as expected of them". Oladunmi further states that the reason for students' poor performance in academic activities is as a result of their indisciplinary act which to a large extent affects their educational attainment.

Considering ASB from the global perspective, it is common phenomenon that is found both at developed and developing countries of the world. In United Kingdom, tackling ASB has been a priority for successive government (Karren, 2011). Anita Lower (2014) explains that, left untreated, ASB in UK can have devastating impacts on community and individuals. In Brazil, over 80% of the adolescents who used alcohol and cigarette were between 14 and 17 years old (Nard et al., 2012). In Sweden, 4% of 2.5 million individuals in a study conducted on ASB and violence crime conviction have been convicted at least once for a violence crime of ASB, of which almost one in four were persistent (Falk, 2016). In Spain, ASB tends to be more frequent in males than in female (Eme, 2015) except when it is related to drug use (Kennedy et al., 2015). In Australia, most commonly perceived ASB are dangerous or noisy driving (40%) house breaking, burglaries and theft from home (33%) vandalism and graffiti (25%) car theft (17%) touts/youth gangs (15%) and drunkenness (13%) according to Mc Atamney and Morgan (2020). In Pakistan, school related factors, parent factors, parental support and socio economic factors are some of the major causes of ASB among the secondary school students (Khaliq and Rasool, 2019). In Malawi, substance abuse among undergraduate students in a matter of concern that calls for further investigation (Yuriy, 2014).

From the African continental perspective, a number of studies have documented the underlying promptings of ASB. In South Africa, Human Hendricks and Roman (2014) stress that "parent-child interaction is a central variable in aetiology of ASB of adolescents, and families of anti-social persons are characterized by little positive parental involvement and harsh or inconsistent discipline. In Kenya, ASB occurs as a result of unsatisfactory psychological, social or emotional development of children at home and under socialization in the community (Nyaga, 2015).

ASB in Nigerian Perspective

Studies in Nigeria have pointed out the relationship between ASB and drug addiction (Phillip et al., 2017). Nigerian Tribune June 9, 2020 referred to many Nigerian musical artistes who died at their prime ages due to drug addiction. The search for solution to the problem of ASB justifies the rationale for the current study with a focus on the impact of ASB on learning of Nigerian students.

Reflecting on the socio-economic impact of ASB in Nigeria, Ikedachi and Akande (2015) cited Hanrahan's (2006) longitudinal study that revealed that as many as 71% of chronic juvenile offenders had progressed from childhood ASB through a history of early arrests to a pattern of chronic law breaking in the United States. Untamed ASB in Nigeria wrapped in amnesty and reconciliation of the bandits has led to multiplication of ASB in Nigeria. Amnesty and reconciliation initiated by the former President Jonathan and embarked upon by the present, President, President Muhammadu Buhari granted to the terrorists had not stopped banditry and terrorism. It has rather aggravated crime. Governor Aminu Bello Masari, the Katsina State Governor, said that reconciliation with the bandits in 2016 was initiated to bring about peace, but the compromise was betrayed by the bandit (Nigerian Tribune June 4, 2020). Amnesty and reconciliation led to aggravation of crime and untamed ASB.

Violence is a common ASB in Nigeria. Finding of Violence Against Children Survey (VACS) in 2014 revealed that physical and sexual violence are common with roughly half of respondents aged 18-24 reporting that they had experienced physical violence as children, while 25% of females and 10% males reported experiencing sexual violence as children. The study shows clear links between ASB and education (Smiley et al, 2020). In scholars' submission, it is documented that over 50% of children cited male teachers as the perpetrator of their first incident of physical violence, 15.1% of individuals reported that the abuse took place in school (National Population Commission of Nigeria, 2016).

Herdsmen militia, which is also associated with ASB, has adverse effects on the educational system of North-Central geo-political zone of Nigeria and the entire nation. According to Agbo (2020), "the herdsmen have tactically seized Benue State and several other states in the geopolitical zone as grazing reserve for their cattle". Such seizure, no doubt, has dire consequences for the educational development of the zone. This is because the intensification of the conflict has paralyzed academic activities in the zone. Oota (2018) maintains that primary schools, secondary schools and tertiary institutions are greatly affected. According to Oota (2021), from January to April 2019, for example, about 30,000 primary school children in the Southern Senatorial district of Nasarawa were forced out of the school. Duru (2018) explains that between December 2016 and December 2018, a number of public schools in Agatu, Logo and Guma Local Government Areas of Benue state were brutally attacked by suspected killer herdsmen, leaving the pupils either completely out of school or learning in deplorable conditions. Up till today, the killings, kidnapping and destruction of educational institutions continue unabated. How can student learn in that fearful terrorising condition?

The menace of the herdsmen militia has affected educational development of North-Central geo-political zone of Nigeria specifically and the entire nation in general. Agbo (2021) reveals that many pupils and students receive educational instructions at the Internally Displaced Persons (IDP's) camp; many have stopped going to school because their parents are dead; while many school buildings have been damaged beyond repaired. The implication of this is on the quality of education is that such displaced children have been deprived of quality education and cannot perform optimally compared with other children whose educational programme are not disturbed by herdsmen attack.

Alabi and Cheke (2018) also report that "over 400 school children affected mostly in Tiv communities were forced out of school as a result of the crisis that rocked the villages in Ileama and Doma Local Government Areas". The issue of herdsmen attack is banditry in nature, a kind of ASB which has banefully affected educational sector in Nigeria. Gyang (2018) lamentably narrates that 3000 primary school pupils in Awe Local Government in Nasarawa state were forced out of school as a result of herdsmen attacks. The same thing also happened at Shong village in Bachit District of Plateau State, where six classroom blocks in Lea Primary School were destroyed by the herdsmen.

In view of the strong relationship between ASB and criminality, social reformers, criminologists, sociologists, psychologists, educationists have tried to find lasting solution to this problem of ASB practice among secondary school students. Part of the solution proffered was the recommendation by various stakeholders to employ the service of Peace Corps. The suggestion was approved by the government at some state and local levels. The government of the day employed Peace Corps, trained them and posted them to various schools. To a large extent, this has reduced the rate of ASB among students. However, ASB still exist despite the involvement of Peace Corps and other law enforcement agencies.

Statement of the Problem

ASB is a major challenge threatening coexistence of Nigerian society. The issues of kidnapping and herdsmen killing which are perpetrated by youth are tilting towards breaking Nigeria into pieces. Recently, the Southern part has begun to clamoring for secession to form Biafran Nation, the South West political zone is also clamoring of forming Yoruba Nation. The middle-belt is calling for secession because of insecurity orchestrated by Boko haram and herdsmen killing by the Fulani from the North; currently ruling the country.

The ethos of Yoruba cultural heritage prohibits ASB and promotes virtue. Virtue (Omoluabi) in Yoruba tribe of South West Nigeria, according to Adagbada (2014) connotes a person who is good, dependable, who exhibits character trait of respect, truth, moral, bravery, good will, intelligence, hardwork, character and well-mannered.

Nigerian cultural heritages extol virtues and entrenched it into the national objectives of the country. The overall philosophy and objectives of the nation as stated in the National Policy on Education (2004) are as follows;

i. free and democratic society;

ii. just and egalitarian society;

iii. united, strong and self-reliance nation;

iv. great and dynamic economy;

v. land of bright and full opportunity for all;

The perplexing questions bothering well-meaning Nigerians are; how realizable are the laudable objects set for the nations when our youths are committed to vices rather than virtues? How can we have just and egalitarian society when our youths are engrossed in apathy atrocities and anarchy? Where did we miss it as a nation? These and many other trending issues bothering on ASB and how to bring Nigerian erring youths to the path of rectitude formed the backdrop upon which this study is conceived.

Purpose of the Study

The study focuses on the following objectives;

i. to investigate the causes of ASB among students; and

ii. to ameliorate ASB among Nigerian youth through Peace Education as a prevention strategy.

Significance of the Study

The research is significant to parents, teachers, policy makers, school administration and security agencies in dealing and managing the problem of ASB. The study will enable both parents and teachers to be at alert to nip the bad behavior in the bud before such behavior becomes uncontrollable. Again, the study will sensitise the policy maker; school administrators and security agencies to identify, the ASB, ascertain the impact of ASB on the learning of secondary school students, indicate the predisposing factors of ASB among the secondary school students and then develop a strategic preventive strategy, schemes and proven tactics on how to stem the rising tide of incidence of ASB practices among our youth which has become a national challenge. Take for instance, the issue of truancy which is ASB is significant to the student, parents, teachers, policy makers, school administrators and security agents. This research will assist the parent to see truancy as an issue that must not be condone. It will assist the school authority to take matter of marking students' attendances register regularly. The research will assist the policy maker to enact education policy that will prohibit the act of truancy among students and specify penal code for contravening the truancy policy. The research will also enable the security agencies to develop better strategies to prevent truancy among students.

This study envisages influencing the curriculum framework to help the Ministry of Education to inculcate Peace Education as an intervention strategy to empower learners and teachers with alternative skills to deal with ASB. It is hoped that this study will strengthen the current global move of achieving 2030 educational agenda for sustainable development in Nigeria. The study promotes the spirit of the Incheon declaration for Education 2030 which sets out a new vision for education for the next fifteen years emphasising inclusive, equitable and lifelong education which protects human rights, promotes gender equality, and propels culture diversity (UNESCO, 2015). Furthermore,

it is expected that this is going to contribute towards the existing body of knowledge on preferring solution to ASB using virtue impacted moral inclined Peace Education strategy.

Concept of Anti-social Behavior

Several studies have conceptualised ASB differently. These include Juvenile delinquency (Ryan & Courting, 2013); antisocial personality disorder (Ogloff, Cambell & Shepherd, 2016); conduct problem (White, Tyles, Erway & Blair (2016); and disruptive behavior (American Psychariatric Association, 2013). Whichever way it is viewed, ABS refers to the destructive, harmful, negative actions or moladaptive exhibited by an individual towards other fellows or things in the society (Khaliq & Rasool, 2019). ASB connotes actions that harm or lack consideration for the well-beings of others (Mash and Wolfe, 2016). ASB is using kind of behavior that does not support the societal norm or action and emotion that has tendency to harm, hurt or maim someone or something (Fatimah & Malik, 2015). Ojo (2015) supports the views that ASB is behavior that deviate from the acceptance behavior as specified by the society Kaynes (2012) explains that ASB can generally be characterized as an overall lack of adherence to the social norm and standards that allowed members of a society to co-exist peacefully.

Expected social norm and standards in Yorubaland (the Area of study) involve respect and the regard for elders and constituted authorities, obedience to rules and regulation, piety, parity among equals, truthfulness, patriotism, seeking welfare and progress of one another and good neighbourliness (Adebowale & Onayemi, 2019). ASB is at variance with the expected norms in the community. According to Acquaviva et al. (2018), ASB connotes series of activities outside the ambit of the norms, rules or law of the social group in which the subject develops, such as physical aggression, theft and violation of societal rule. From the historical perspective, training the historical antecedence of ASB, it was Robbins, who first conducted a study on the natural course of ASB from childhood to adulthood (Robins, 1966). Robin examined at age 30 years, 406 people who had been referred to a child guidance center at 13 years. All subjects who had committed serious offences in adulthood had shown ASB in childhood. Among the outcomes in adulthood, 12% of youths with ASB had complete remission, 27% had partial improvement and 61% remained unimproved in adulthood. Stressing the continuing of ASB beginning at childhood to adulthood, a systematic review reported that 40%-70% of ASB in childhood translate to conduct disorder at the youth; which eventually evolve to having an antisocial social personality disorder (ASPD) in adulthood (Blair, 2015, National collaborating centre for mental health and social care institute for excellence, UK, 2013)

Considering ASB from the psychological point of view, Fairchild, Goozen, Caldes, and Goodyer (2013) see ASB as a neuro developmental disorder which emerges in early childhood and follows a life-course persistent course through adolescence to the early adulthood. The adverse consequences of ASB produce great burden for the perpetrators, victims, family members and for society at large (Brazil et al., 2016). These adverse consequences are enough reasons which ASB must be studied with a view of proffering solution to ASB in schools.

Considering ASB from the philosophical perspective, issues of virtues and vices are common terminologies in ethical theories. They serve as the main principles and rules for

moral actions. Aristotle developed the concept of virtue as moral and vices as immoral. Human virtue to Aristotle is the

> *"state of the human soul that makes a person to choose the right actions at the right times and for the right reasons. In other words, a virtuos man is able to respond to different situations at various times in thee right way as a result of his soul being in a particular place" (Adebowale & Onayemi 2019).*

Aristotelian ethic stresses moral virtues as the pivot for the common good and explains them as the habit of right desire which leads to moderate while vices which is in a contemporary era considers ASB as immodest.

From the Scriptural point of view, ASB was first manifested by the first born of mankind-Cain who envied his brother Abel, out of sheer jealousy killed his brother. (Gen 4 verse 3-8)

Gleaning from the Scriptural concept, ASB is considered as *foolishness in the heart of the child which can be corrected by chastisement. (Proverbs 22:15).* It is considered as indiscipline hence Bible comments *"withhold not correction from the child: for if thou beatest him with rod, he shall not die, Thou shall beat him with rod, and shalt deliver his soul from hell". (Proverbs 23:13-14).*

Some children in the Old Testament in Bethel demonstrated ASB when the group of children mocked and disgraced the man of God Elisha by calling him unprintable name. The man of God cursed them and the effect was instant death, as the forty-two children were killed by wild animals (2kings 2: 23-24)

During Mosaic period, ASB was considered as an offense that was punishable by death. Parents were commanded in the Bible *to "train up their children to be virtuous, when they get old they will not depart from it" (Proverbs 22:6).* This is because Bible frowns at ASB and calls it transgression: *"whosoever robbeth his father or his mother and saith it is no transgression, the same is the companion of a destroyer" (Proverbs 28:24)*

From the socio-cultural perspective among Yorubas in the South West Nigeria, ASB connotes social vices. Literarily, it means juvenile delinquency (iwa ipanle). Yoruba condemns vices totally and uphold virtue. The interpretative ethical-cultural analysis of Aristotelian virtue in Yoruba concept is Omoluabi which means good behavior.

Causes of Antisocial Behavior

ASB is caused by a multiple triggers and factors. This section will specifically unpack these triggers; among others are socialisation, family, climate, parental style, schooling and educational, environmental factor, residential location, gender factor, peer influence.

Personality factor

Personality factor refers to a set of individual traits and characteristics that may influence the way he interacts with others (Mugado and Vale-Dias 2016). Certain personality traits constitute vulnerability for the development of ASB.

Socialisation Context

In the socialisation of children, family context remains a possible protective factor against ASB. Murray, Farrington and Sekol (2012) maintain that parental supportive factors mean parental actions that offer love, empathy, nurturance, acceptance, information, guidance, and material resources to their children. Parent's protective and supportive gestures greatly affect the development of behaviors in their children. According to Jaureguizar and Ibabe (2012), the promotion of prosocial attitudes and acquisition of values in the family maintains and inverse relationship with development of ASB in children and adolescences. Family support will not only contribute to positive effects on children who grow up in socially adequate environment, but also perform a protective function in the marginal and disfavoured environment (Schofield et al., 2012).

Family Climate

Family climate refers to the affective aspect of the home environment in which children are raised. Family climate that promotes unpredictable displays and poor regulation of emotion, low positive effect and high negative effect within the family will tend towards producing physically and psychologically traumatized children (Ikediashi & Akande, 2016). Also, family adversity and coercive parenting foreshadow either the persistence of early childhood behavioral problems into middle childhood, or the emergence of problems in the early school years. In the study that was conducted by Wachikwu and Ibugbenam (2012), it was reported that aversive and punitive home environments promoted ASB such as violence, vandalism and escape from home while majority of children raised in loving and caring environments developed pre-social behaviors.

Parental Qualities and Parenting Styles

Portal (2014) is of the opinion that before the birth of their child, parent's personal attributes and characteristics could be strong predictors of child-rearing practices as well as child's temperament and behavioral disposition. After birth, low level parental supervisory role and care and presence of conflict in the family propel children towards ASB (Curtin et al., 2017; Nardi et al., 2016.) A child who experiences maternal rejection, high levels of conflict between mother and child-drug use, and being criminal or antisocial, such a child may eventually develop ASB (Portal, 2014).

Schooling and Educational Environment Factor

School setting is part of the environmental factor. Cutrin et al. (2017) explain that elements ranging from social class or family income to other factor such as violence, diligence or lack of resource that may present in social environment are neighborhood or environmental factor. Teacher factor is another environmental factor. Aboh, Nwankwo and Chikwendu (2014) maintain that negative attitude of teacher is one of the most significant determinants in develops maladaptive or ASB among secondary school students. Berkowitz and Benbenistity (2012) in a study found that high school students frequently feel insecure and afraid where their teachers regularly threaten and pressurise them with unexpected failure in examination.

Residential location is another crucial factor that can promote ASB among adolescents. Ikediaghi and Akande (2015) posit that urban dwellers are more prone to ASB due to

diverge coctwal and ethnic background which tend to make urban adolescent to be less emphatic to the plight of others. On the contrary, in rural setting, there are visually strong cultural and ethnic ties among the youth in the rural setting that prohibits ASB.

Gender Factor

Gender factor has influence on the development of pro-social and ASB in adolescents. ASB is more pronounced among boys that due to their very nature of physical strength that enables them to be involved in physical aggression and thuggery (Eme, 2015). However in drugs use, there is no remarkable difference between male and female (Kennedy et al., 2013). As argued by Ikediashi and Akande (2015), more girls than boys participate in ASB like prostitution, lesbianism, frequent running away from away, child theft and child trafficking. Much of the researches on prevalence of ASB which has analysed the differences in gender suggests that males show higher rates of ASB than females (Lopes and Rodriauez-Arias, 2010; Harking et al., 2011; Vinas et al., 2012). However, although men show aggressiveness than women (Munoz et al., 2010), this trend may be changing since female involvement in violent situation is growing (Pozo, 2012).

Peer Group Influence

Ojo (2019) stresses that peer influence on the child's behavior which could be positive or negative cannot be overemphasized. Involvement of the child with deviant peers will definitely accelerate the development of ASB. Khaliq and Rasool (2019) stress that peers' influences in early years of a child's life and their impact on the children behavior cannot be preempted. Kayne (2012) posits that the involvement of the children with deviant peers seems to spur the growth of ASB. It is imperative to note that young people get early influence by peer group, as matter of fact, adolescents spend more time in the company of others of the same age and the engage in ASB more often when they are in a group (Knoll et al., 2015; Morgado & daluz Vale-Dias, 2016). Shen et al. (2016) suggest that difficulties of family environment can increase adolescent's vulnerability to peer influence thus increase their chances of getting involved in ASB.

Age and School Year

As far as age variable is concerned, no one moment has been agreed upon for either-appearance of ASB or its prevalence during an individual's development. Some have placed its appearance at around 13 years of age while others like Tregallo (2011) have suggested that it is relatively stable through – adulthood. More recently, findings in a sample of adolescents aged 13 – 18 showed that older adolescents. Thus the stage of psychological development, not just age is of special importance in the analysis and maintenance of ASB.

Concerning school year, Pellegrini et al. (2010) analysed the school year, which is of interest for studying transitions, since this is where the appearance of behavior negative to the school climate becomes more likely. The prevalence of such behavior in each school year is also studied and found a positive correlation between its prevalence and subject age and also with school year. Garaigordobil et al. (2013) found that the older

they are, that is, in higher school years, student justification of violence decreased with more of it among males.

Poverty

Several authors such as Carney et al. (2013); Le and Stockdale, (2011); Legleye et al. (2010) have researched the connection between ASB and socio economic status of the family. Jevic (2011), explains that poor economic brings frustration and/or creation of subculture, unequal distribution of social goods, and poverty intermediated stigma (Jevic, 2011), which can spur a child to ASB. However, Defoe et al., (2013), debunked that socio economic status of the family inversely correlated to ASB of students.

Contribution of Heredity and Environment to ASB

Wesseldijk et al. (2017) stress that the contribution of genetic factors to the heritability of conduct disorder (CD) in children and adolescence is estimated to be around 45%. While talking about the influences of environmental factor in ASB, Acquaviva, Ellul and Banarous (2018) maintain that four sensitive periods can be distinguished;

(1) The prenatal period and immediate post – partum period: sensitive for brain development (e.g. owning to abnormal fetal development or the maternal use of toxins;
(2) Infancy stage (0 – 2years): mother-child interaction, enable the development of social bonding and secure attachment that constitute the basis of socioemotional development;
(3) Early and late childhood (age 2 – 10 years); development and stabilization of an internalised model of socialisation; and
(4) Early and middle adolescence (age 10 – 15 years); the "socialising" role of ASB among peers.

Vulnerable Victims of ASB

The vulnerable victims of ASB associated with sexual assault are women and young girls. Another dreadful ASB ravishing Nigerian adolescent is risky, violent sexual assault. As reported by National Dailies and Local Newspapers, within three w4eeks spanning between May 25, 2020 and June 8, 2020, several cases of raping and brutal killing by youths were recorded in the South, West, East and North of Nigeria (Nigerian Tribune 21, 2020). Several headlines such as "House of Representative members propose death sentence, castration and amputation for rapists" (The Punch June 5, 2020), Man rapes 40 women in Kano" (The Nation, June 11, 2020) "Student killed after rape in Ibadan" (The Nation, June 4, 2020) "Two teenagers gang-rape 15 year old girl in Ebonyi State. Still in Ebonyi State, a young boy of 19year old raped a woman of 54 years old to death (Nigeria Tribune, June 4, 2020). The most perplexing story of the "rape news" was a case of a particular student in a University who raped twenty – four female students (The Punch June 3, 2020.)

Worried by this spate of sexual violence, Oyedeji (2020) lamentably comments that sexual violence and brutality against female gender has hit an endemic state in Nigeria. These twin-evils of examination malpractice and rape as common ASB being exhibited among our youth in secondary schools have great impact on learning.

Curbing ASB through Peace Education in a Post Covid Era

Without mincing word, Covid-19 has worsened the already compromised educational environment in traumatised conflict situations, and deprived millions of children of learning opportunities. This is particularly true for those children not able to participate in remote learning deployed through ICT. The pandemic scenario has posed enormous psycho-social distress such as increased stress and anxiety, loss of trust and confidence in oneself and online bullying are day to day challenges teachers had to cope with. Among other stressful challenge, teachers had to cope with is the enormous task of managing students mental health while at the same time seeking to re-install efficient study habits with emphasis on student wellbeing and developing a positive climate for learning (Jennifer & Gary, 2022).

As learning activities now commence in schools, there is need to reset learning environment so as to ensure that every child can feel safe whether face to face or during online learning. For this to happen, schools will need to focus on overcoming the psycho-social stress of Covid-19, and this can possibly be done through Peace Education. Peace Education according to the Global Partnership for the Prevention of Armed Conflict (2022),

> "is taught through curricular that explore principle and values dedicated to achieving more peaceful, inclusive, sustainable and just societies. Peace education approaches are typically student-centred, participatory and collaborative in which knowledge, skills and capabilities for listening, empathy and compassion are developed".

When students are exposed to Peace Education, they will have better understanding of peaceful coexistence; know the cause and effect of harmful social interactions as well as the skill to intervene to break the cycle of conflict and violence such as bullying (GPPAC, 2022).

Nigeria is currently experiencing violence in all of her political zones. Military actions in suppressing the hostilities and violence through oppressive force are no longer effective in that suppression through force is transient and not permanent. Akano (2019) maintains that peace education is now being recognized as a preventive alternative that can promote tolerance and peace. According to her, "it is for this understanding that the former President Obasanjo in the 18th July 2015 edition of *This day Newspaper* counseled President Buhari to tackle Boko Haram terrorism with education and also to know that even if the military power is to win the war against terror, the gains of the victory will be sustained only by education.

Combating violence in Nigeria, there is need for urgent remedial measures through peace education to avoid stagnating or retarding national development. Naboth (2012) sees peace education as panacea to curbing ameliorate the escalating level of violence in various forms so that individuals can live and work in a relatively peaceful atmosphere that could ultimately engender a global culture of peace. According to Oluwagbohunmi, Osalusi and Abdul-Raheem (2013), peace education is education that is directed to the full development of the human personality and to the strengthening of respect for human rights and fundamental freedoms. It promotes understanding, tolerance and friendship

among all nations, religions groups and furthers the activities of the UN for maintenance of peace.

UNICEF (2012) describes Peace education as schooling and other educational initiatives that:

- Function as zones of peace where children are safe from violent conflict
- Uphold children's basic rights as outlined in the child's rights constitution
- Develop a climate that models peaceful and respectful behaviour among all members of the learning community
- Demonstrate the principle of equality and non discrimination in administrative policies and practices.
- Draw on the knowledge of peace-building that exists in the community, including means of dealing with conflicts that are effective, non-violent and rooted in the local culture
- Handle conflicts in ways that respect the rights and dignity all involved
- Integrate an understanding of peace, human rights, social justice and global issues throughout the curriculum whenever possible, provide a forum for the explicit discussion of values of peace and social justice
- Use teaching and learning method that stress participation, problem solving and respect for differences
- Enable children to put peace-making into practice in the educational setting as well as in the wider community.

As panacea to ASB, Naboth (2012) posits that Peace education, when introduced and properly adopted, will minimise, if not eradicate, the incidents of school violence resulting from cult-related activities and the attitudes or behavior of some over-bearing teachers and unruly students. The results of these ASB have in many cases disrupted educational programme and activities and also maimed and/or untimely terminated the lives of both students and teachers alike.

The school is a place where students learn how to communicate freely without inhibitions and prejudices against people from different cultural and religious background. If peace education is incorporated in our curriculum, "schools would be able to play the critical role of teaching students how to manage and resolve conflict, how to manage interpersonal relationships and how to enforce authority as well as for communicating the value and the skill of peace building" (Dupuy, 2011).

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ACTION RESEARCH TEACHING STRATEGY FOR ENHANCED STUDENT TEACHER PERFORMANCE IN POST-COVID-19 HIGHER EDUCATION: A LECTURER PERSPECTIVE

[1]Buyisani Dube, [2]Duduzile Nkomo &
[3]Bolatumi Oyegoke

[1,2&3]BA ISAGO University, Bag BR 94,
Gaborone, Botswana

Abstract
The purpose of this study was to explore the perspective of lecturers on the use of action research teaching strategy for enhanced student teacher performance in post-COVID-19 Zimbabwe. A qualitative case study design was employed in this investigation. This design allows for the study of an entity within its real-life context and to use multiple sources of evidence. Purposive sampling technique was used to select 9 heads of departments who were exposed face-to-face interviews. Data was analysed and interpreted thematically. It was revealed that student teachers are not reflective thinkers, have weak communication skills and fail to convert classroom problems into researchable statements that assist to remedy nagging situations. Based on the findings of the study, it is recommended that student teachers be equipped with skills to employ participative methods to transform their teaching experiences for enhanced practice.

Keywords: Action research, Enhanced student teacher performance, Higher education, Student teacher, Teacher education, Teaching strategy.

Introduction

Action research is an imperative that permeates practices in most educational discourses and professional practice. This stems from the realisation that action research principles largely drive the whole process of teaching and learning (Lufungulo, Mambwe & Kalinde, 2021). Action research is an organised procedure that involves participants working together on planned issues that seek to improve their understanding and quality of life (Kulcu, 2014). This is done through critical reflection and interrogation. Reason and Bradbury (2008) present action research as a set of practices that respond to people's desire to act in a novel way to address practical situations in communities and organisations.

According to Burns (2015), action research is an important tool that allows educational leaders to reflect upon their practices. In this perspective, teachers can think critically about their classroom activities and instructional practices to improve the quality of student outcomes. The efforts to improve practices are best done with the active involvement of those people who are engaged in that practice. This helps to access first-hand knowledge which is critical in endeavours to devise suitable intervention strategies. Reason (2006) avers that people can only be better understood if they are studied as persons with a capacity to act in their life processes and to generate meanings from that

participation. In action research, people have a right to participate and contribute to decisions that affect them. They have to converse as a collective to share knowledge about the issue under investigation (Lufungulo et al., 2021). Jugar and Cortes (2022) posit that people should be empowered toward their democratic participation and voice, and to envision a more humane world.

The practice of action research invokes challenges that have always existed in areas of power, politics and control. In fact, it has been viewed as a radical route to locate student teachers' voices in research (Bell & Aldridge, 2014; Bulunuz, et al., 2014). The collaborative stance of action research demands free and open communication that is not restricted by concerns of power and status. The communication should encourage expression of ideas, feelings and the thinking around a shared goal (Babonea & Mantea, 2012). The research participants need to collaborate to identify and prioritise actions for the modification of practices.

The outbreak of the COVID-19 pandemic caused huge disruptions to educational trajectories globally (Daniels, 2020). The official declaration of COVID-19 as a pandemic on 11 March 2020, from the first detected case on 31 March, 2019, and the subsequent spread and recognition in Africa on 14 February, 2020 signalled a turning point in the history of educational practice (Tadesse & Muluyi, 2020; Thomas, 2020). This resulted in school closures owing to lockdowns that were instituted variously across countries. The COVID-19 protocols which ensued to mitigate the effects of the pandemic radically transformed the education systems from being basically face-to-face to online and virtual (Niranjan, 2020). The "new normal" learning environment effectively altered student active participation, collaboration, interaction and effective communication which characterised the physical posture of classrooms pre-COVID-19 spread. This influence of the technology-based instruction deeply impacted action research practice which favours human active participation to collectively address nagging real social and educational problems (Burns, 2015).

Action research encourages practitioners to think about their own practice in a process of continuous improvement. Reflective practice also develops independent performance in teachers as they think through the process to improve performance (Bell & Aldridge, 2014). This fosters the spirit of creativity and innovation. A reflective person has a clearer conception of practices and procedures as these will be regularly critiqued and improved (Helyer, 2015; Christodoulou, 2010). Action research requires practitioners to exhibit skills to manage working relations among participants and to draw useful knowledge from relevant theories (Reason, 2006). Reason (2006) highlights the importance of theoretical knowledge in action research practice and underscores that success in this process results not only from hands-on involvement but minds-on as well.

Access to relevant data is central to action research practice. This comes mainly from seeing, listening and recording. The collected information is used to prepare for an instructional discourse that is informed by the real situation in the classroom (Milkova, 2012). The ensuing teaching and learning endeavour serves as an intervention to a problem observed as impacting on learners' educational attainment (Nwike & Catherine, 2013). In addition, the use of demonstration, appropriate methods, resource materials and micro-teaching techniques can help to facilitate effective teaching and learning

(Ferguson, 2014; Mills, Dalleywater & Tischler, 2014; Topping, 2010). It is therefore, the purpose of this study to explore lecturer perspectives on the use of action research as a teaching strategy for enhanced student teacher performance in post COVID-19 higher education.

Purpose of the Study

The purpose of the study was to explore the perceptions of lecturers on the use of action research teaching strategy for enhanced student teacher performance in post-COVID-19 teacher education.

Theoretical Framework

This study is couched within the democratic participatory theoretical frame (Lewis & Naidoo, 2021). Salmons (2019) states that a theoretical framework relates to the research literature and design which helps to situate the study in a preferred methodological and epistemological position. Participatory theory was considered suitable for this study because of its ability to generate knowledge about social relations through democratic and dialogical means. It assumes that strategies to address problematic human situations are derived from collaborative and collegial interactions (Kemmis, 2021). Fine et al. (2020) maintain that participatory assumptions amplify the importance of human experiences and voice in shaping the community of practice. This is critical in action research practice in higher education, which tapes on the views, beliefs and perspectives of practitioners in the development of unique solutions to real problems. Action research practice flourishes in contexts of open dialogues and engagement, which, while conducive to improve instructional performance and student teacher outcomes, has clearly borne the brunt of the post COVID-19 educational settings.

Research Methodology

The study used a qualitative case study design. A case study is intended to study an entity within its real-life context and to use multiple sources of evidence (Haradhan, 2018). The case study was appropriate for this action research study because it offers richness and depth of information not usually offered by other methods (Njie & Asimiran, 2014). The population of study consisted of lecturers at a college of primary teacher education in Zimbabwe. Participants were chosen because of the wealth of experience they possessed from teaching during and in post COVID-19 contexts, as well as in supervising student teachers at the college. Purposive sampling technique was used to select 9 heads of departments to participate in the study. This sampling technique was considered suitable as it conformed to the judgement of the researcher regarding the worthiness of selected participants on the use of action research teaching strategy in post-COVID-19 higher education.

A semi-structured interview schedule was utilised to collect data from the sampled group. This allowed similar questions to be provided to participants to increase content validity. Interviews are recognised to offer an opportunity to understand the lived worlds of the participants (Ryan, Coughlan & Cronin, 2016). Interviews were pre-arranged with selected participants to facilitate data collection. Participants were provided with forms to sign as proof of their voluntary assent to participate in the study. This was a response to a debriefing session where participants were informed about the purpose of the study, that data would be used solely for the study and that it would be preserved in the cupboard

under lock and key. Interviews lasted between 15 to 20 minutes for each participant and were conducted in their offices either during lunch break or after work. This was done to avoid interfering with normal business schedules and to conform to COVI-19 protocols.

Data were analysed based on the lens proposed by Laws, Harper and Marcus (2003), wherein significant themes were identified in response to the research questions and the purpose of the study. Data from interviews were transcribed and categorized into various themes, exposing the lived realities of participants regarding the use of action research as a teaching strategy. Trustworthiness of data was ensured through member checking. This involved sending the findings of the study back to participants so that they confirm the resonance of the research information with their experiences (Gunawan, 2015). The Heads of Departments who participated in the study were numbered per the sequence in which they were interviewed in the process. These were numbered from HOD1 to HOD9.

Findings of the Study

This section focused on the perspectives of lecturers on the use of action research as a teaching strategy in colleges of teacher education. These encompass the methodological, content and implementation aspects that combine to shape the level at which action research is used in real educational spaces post COVID-19.

Theoretical and Content Aspects of Action Research

The participants in the study revealed that student teachers tend to benefit immensely from exposure to theory and content aspects of action research. Empowered with action research information, student teachers are enabled to develop professionally and to locate trajectories (challenges) that hinder socio-economic and educational development of communities. This is attested to by HOD 3, who said that: "*student teachers acquire knowledge on how to improve practices and to resolve real problems in classrooms and outside school*".

The theoretical underpinnings of action research are a deeply cognitive schemata which, when mastered provide practitioners with the needed tools to identify and unravel nagging social and education issues. HOD 5 noted that: "*action research improves mental stamina or cognitive acumen which is good for learning and improvement of performance in assigned activities*".

On another note, the study revealed that student teachers have difficulties in identifying problems that impede their effective teaching and learning. Bobrakov (2014) states that inability to reflect in and on teaching hinders constant review of an instructional discourse, which is a quality for spotting learning gaps. The implication is that student teachers are not reflective in their practice which contributes negatively in their capacity to recognise anomalous classroom or school practices. One participant said that*: I think the most difficult thing for student teachers here is problem identification. When they are teaching in the classroom they fail to realise the existing gaps which they should solve using action research* (HOD3).

Capacity to Translate Learning Difficulties into Research Problems

Inability of student teachers to identify precise problems in their teaching and learning contexts compounds the challenge of using action research teaching strategy in higher education. Only a few participants were said to have the skill to articulate problems in ways that facilitate investigation. HOD9 said: "*Only a few student teachers can articulate classroom problems in a researchable manner, the rest produce statements that are inadequate to yield comprehensive research*".

This correlates with Burns's (2015) view that problematizing teaching issues presents the most demanding aspect of action research. Inappropriately stated topics tend to be difficult to work on, owing either to a lack of context specificity, loose boundary or unclear variables. This mars the quest to conduct research within specific time frames. Participants pointed out that some student teachers struggle to distinguish between a research problem and a topic, to the extent that these are used interchangeable as to cause confusion. Middlewood, Parker and Piper-Gale (2011) advise that any member wishing to do research should be trained in the art to do it well. Any deficiency in regard to this art is further evidence of challenges that student teachers face in crafting researchable topics. HOD7 confirmed that: "[student teachers] *find it very difficult to frame researchable topics regarding action research practice*". Furthermore, HOD3 added that "*By failing to identify a clear problem, in the long run, student teachers fail to come up with an appropriate research topic*".

Delivering on Activities that Constitute Action Research Practice

This entails the actual implementation of actions for change to address issues of interest to teachers and teaching. The study established the existence of a group of student teachers that were quite conversant with the implementation of action research plans and proposed actions. HOD1 said that: "*I have no doubt, from the lessons that I have observed and student reports that I have seen, that there are student teachers with a rich art of putting action research activities into action*".

There are student teachers that are able to select and implement options to improve the education performance of learners. The most striking outcome involved student teachers experiencing difficulty in selecting options for change and implementing such changes, whenever identified successfully. The challenge emanated from the negative effects of social distancing brought by COVID-19, the fact that some student teachers are not actively involved in action research practice and fail to make it a shared engagement. Mavhundutse (2019) avers that lecturers, student teachers and learners in schools need to establish joint collaborations to address teaching and learning challenges. The teaching methods which are selected, the nature of interactions, type of tasks given and materials used to solve an identified problem are all critical issues in using the action research teaching strategy. HOD4 said: "*clarity on the way to go about solving the identified problem affects many student teachers. This involves such issues as the actual teaching methods used, exercises and tests given, instruments and exercise books used and the marking of the work".* HOD5 concurred, noting that "*student teachers should articulate clearly the interventions they would have come up with*. They should *"tell in detail what strategies they were using, the media, how learners were interacting, and being critical as to why the situation happened the way it did.* HOD7 however, noted

that: *the continued observation of the COVID-19 protocols hindered the close and vibrant interaction that is desired in typical action research activities*".

Issues of Data Collection and Reporting of Outcomes

The study established that data collection and the presentation of findings were areas of concern regarding the use of action research teaching strategy in teacher education. The normal procedure is for research practitioners to synchronize collaborative work with data gathering (Kemmis, 2021). This implies that information has to be collected as participants interact with others as well as the activities that are designed to mitigate an identified challenge. The study showed that choosing appropriate instruments for collecting the required information is an issue that puzzled many student teachers. They tend to experience obstacles in distinguishing instruments for gathering qualitative and quantitative information (Jugar & Cortes, 2022). In gathering data for use in action research, several methods are available for use. These include questionnaires, observation, interviews, checklists and documentary analysis, where the written exercise books, progress records and biographical information records can be accessed. The use of these methods is critical to provide data for diagnosis of teaching and learning problems as well as exposing the results of performed activities. HOD6 said that student teachers "*still cannot decide on which instrument to use, how many instruments to use, and to justify the choice of an instrument*".

Action research demands that detailed descriptions should be made regarding actions to be adopted to remedy a problem and the subsequent results of performed actions. This was presented as a challenge to student teachers in this study. The results of the action research process need to be given in thick descriptions that reflect the actual situation as derived from the activities that were conducted (Burns, 2015). HOD8 said "*they [student teachers] are not able to give detailed narrations of that which they come up with in implementing actions to improve situations*". In the same manner, HOD7 noted that student teachers "*have a habit of presenting their own minds or subjective views of situations rather than articulating responses of participants or their meanings*". Furthermore, HOD6 stated that student teachers "*start to write what they believe they know away from the actual data gathered*".

Contributing factors to the use of action research teaching strategy

The effective use of action research teaching strategy is anchored on the degree to which student teachers engage with their lecturers to access the requisite knowledge and skills. The opportunity for such sharing of experiences normally occurs during contact sessions when student teachers are on campus and as they travel from their schools of practice teaching to consult with tutors. HOD2 hinted that "*the virtual and face-to-face deliberations of student teachers and lecturers are critical in the development of action research competencies of student teachers*". HOD7 added that "*the teachings that lecturers provide to student teachers on action research offers essential tools for student teachers to use in their daily classroom routines*". On this regard, however, the study reported that school principals denied student teachers opportunities to visit college supervisors for action research consultations. School principals are naturally concerned that student teachers should engage fully in activities that drive forward the mission and

vision of schools as derived from the responsible Ministry (Mavhundutse, 2019). HOD1 revealed that "*school administrators would want to see student teachers working on their teaching practice documents, teaching, marking and participating in core-curricular activities more intensely than committing themselves to research practice*". Ideally, student teachers are supposed to regularly visit their colleges of education to consult and use libraries for strategic review of literature or to access the internet. HOD8 concurred that "[student teachers] *need to visit libraries and get to places where there is internet connectivity so that they read widely on what they want to research on*". This, according to HOD5, "*is especially critical as most schools of student practice are located in remote areas with poor library facilities and Information and Communication Technology"*. This contradicts the view by Marshall, Willson, de Salas and McKay (2010) that research requires wide reading to situate the study and to help to achieve convincing results.

Class Size

The size of the class appeared on the list of issues that affect student teachers in using action research teaching strategy. Class sizes in most schools are so large that the conduct of research is hampered (Chisaka & Kurasha, 2012). This is especially so for the novice practitioners who will still be grappling with mastering the nuts and bolts of the trade. While learners can be placed into smaller groups for strategic instruction, action research demands active participation from each member of the group (Jugar & Cortes, 2022). HOD5 noted that "*action research needs active participation of those involved so that they can identify themselves with the process and claim ownership of outcomes*". To achieve this feat, teachers should maintain closer supervision to ensure active involvement of all learners in the group. Regarding this issue, HOD3 added that "*action research needs to be done with fewer learners than the large classes that are witnessed in most schools*". In addition, the COVID-19 pandemic has demanded that even smaller groups be formed in the practice of action research to reduce the spread of the virus, and this has further crippled the social character of this teaching strategy (Onyema et al., 2020).

Originality of Research

Originality in action research practice is one aspect which is topical in student research. The study revealed that some student teachers have a tendency to avoid thorough problem diagnosis, which then affects efforts to arrive at sound resolutions to stated concerns. HOD4 indicated that "*some student teachers exchange topics or copy the works of their predecessors*". Similarly, HOD2 added that "*at times, it is possible to find certain issues characterizing the focus of an entire group of student teachers*". This suggests that student teachers experience challenges in identifying problems affecting learners in their classes, and this may cause them to copy from others. HOD6 said "*friends that have qualified give student teachers complete projects, carried out in different contexts, and which they adopt as their own*" It is therefore, crucial that student teachers should be capacitated with reflective and creative skills that would enable them to apply a critical eye in the teaching and learning discourse to locate anomalies in the learning process (Johnson, 2012; Zireva, 2017). Reflective student teachers are empowered to discern and specify learning gaps in their teaching, and translate them into research topics.

Opportunity for Practice

The most ideal way of teaching student teachers to use action research needs to be one in which they get exposed to theory lessons and proceed to participate in practical sessions. Student teachers should be taught action research theory while on campus and be provided opportunities to relate that theory to practical actions to enable them to fully comprehend the strategy (Chisaka & Kurasha, 2012). All participants appreciated the need to offer student teachers the chance to 'train' in action research practice. HODs 2, 6 & 8 mentioned that "*micro teaching sessions need to be used as effective methods to give student teachers a chance to engage in action research*". However, this was lacking in the training of student teachers prior to deployment to schools of practice. In regard to the provision of peer teaching programme, HOD2 said "*No, we don't do that. We have never done that"*. The obtaining situation worsened the plight of student teachers in mastering hands-on skills in action research, especially considering that lecturers experience challenges of time in effectively teaching the methodology and applying it in lecture rooms. Engaging student teachers in micro teaching provides them with the opportunity to teach in typical classroom situations, to practice skills, build confidence and to review and be reviewed by peers (Feldman, 2017). HOD8 concurred that "*it would be ideal for student teachers to be given practical work to do before they go out to schools*". Practice in this regard would further inculcate in student teachers the values of cooperation and social integration which are also fundamental in successful conduct of action research. However, Onyema et al. (2020) contend that such social values are difficult to build in the context of COVID-19, whose restrictive measures of human interaction render real collaborative practices difficult.

Communication Skills

Communication emerged as another contributor to effective use of action research teaching strategy. Essentially, action research requires participants to be able to communicate with each other on the problem to be resolved, in the collection of the needed data, making of decisions on plans to be implemented and in presenting findings to the audience (Feldman, 2017; Johnson, 2012). HOD1 indicated that "*participants in action research need to communicate clearly the problem as well as with each other as they collaborate to address that problem*". This study, however, established that student teachers experienced language challenges which impaired engagement in action research. This particularly related to a weak command of English language, which is the official medium of instruction. On this aspect, HOD 4 said "*most student teachers do not communicate well, both in oral and written forms, and this mars effective conduct and use of action research*". This finding does not resonate with the view by Reason and Bradbury (2008) that the best thing in action research is to open forums for communication and dialogue. The presenting situation however, does not encourage the enactment of platforms for dialogue as student teachers are not endowed with adequate communicative skills to facilitate the process of action research. Sound communication is required to build collaboration and team work in instances where action research teaching strategy is used to deal with problematic situations (Lufungulo, et al., 2021). The inability of student teachers to communicate effectively hampers action research delivery as discussion and debate, which are central to action research, are curtailed in the process. This is exacerbated by the dragging negative legacy of COVID-19 which advocates for

social distancing and home schooling that stifles active participation of participants in efforts to solve practical problems.

Implications of the Study

This study is critical in that it is directed at informing stakeholders on the aspects of action research that require attention to enhance its vitality as a teaching and learning strategy in teacher education institutions. Lecturers are encouraged to focus on areas that hinder effective student action research practice, inclusive of problem diagnosis, topic formulation, student participation, effective communication, and reflection. This desired awareness of lecturers regarding pertinent aspects of action research is expected to cascade down to student teachers who are subsequently expected to work hard to mitigate their negative impacts in schools. Policy makers and administrators are also likely to craft decisions that are informed by the findings of this study.

Conclusion

The researchers conclude that the use of action research teaching strategy has benefits despite the challenges that seek to curtail the process. Successful conduct of action research enhances a deeper understanding of problems that affect teaching and learning and informs appropriate actions to resolve identified setbacks. Student teachers experience difficulty to identify teaching and learning problems and to convert them into researchable questions. Action research demands active participation from those involved in its activities to realise outcomes that are shared and owned by the collective. This needed active participation is hampered by the effects of measures that are meant to mitigate the impact of the COVID-19 pandemic on the society and education system. Lecturers need to employ teaching methods that are effective to help student teachers to master principles of action research and to subsequently apply them in their schools of practice. Student teachers are also overloaded with work while on teaching practice which stifles effective engagement in action research practices. However, they need to be reflective in their thinking to enable them to be adaptive and creative in instructional delivery. Micro teaching sessions which provide platforms for confidence boosting and communication improvement are needed in the training curriculum of student teachers.

Recommendations

Based on the findings and conclusions of the study, the researchers recommend that lecturers should be empowered with critical skills in action research principles and methods so that they can subsequently impart those skills to student teachers. This would enable student teachers to discern teaching and learning problems in their settings and convert them into researchable questions. Lecturers need to encourage active participation of student teachers in action research activities to both master the art and to achieve the democratic orientation inherent in the strategy. Institutions of teacher education and principals of schools need to expose student teachers to increased access to resources for use in action research in the context of COVID-19 virus. This can be achieved through the construction of well-resourced institution libraries, supply of COVID-19 kits, efficient internet connections and encouraging student teachers to utilise available information centres. Teacher education institutions in partnership with schools must ensure that the workload of student teachers is reduced to enhance their effective

engagement in action research practices. Micro teaching sessions which provide platforms to grow student participation, confidence, communication and reflective skills must be provided at colleges of teacher education.

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THE INCLUSION OF LEARNERS WITH DYSLEXIA IN MAINSTREAM PRIMARY SCHOOLS IN THE POST-COVID -19 ERA

[1]Nkomo Duduzile, [2]Ncube Sifiso E,
[3]Dube Buyisani & [4]Oyegoke Bolatumi

[1,2,3&4]BA ISAGO University,
Gaborone Campus,
Bag BR 94, 11 Koi Street,
Peolwane, Gaborone

Abstract

This study explored the perspectives of teachers on the provision of inclusive education to learners with dyslexia in the post-COVID-19 era. The magnocellular theory and Gillingham's multi-sensory theory guided the study. A qualitative research approach which utilises a phenomenological design was adopted. The chosen population comprised mainstream primary school teachers. From a total of 63 schools in Umguza district, Zimbabwe, 8 from Khahlu cluster were considered for the study. From these, purposive sampling was applied to select 8 language remedial teachers and 8 that taught grade 3 classes. A focus group discussion and semi-structured interviews were used to collect data which was analysed thematically. The study found that, the naturally subdued reading potentials of most learners with dyslexia declined drastically owing to educational disturbances experienced during the COVID-19 era. To mitigate the impact of associated challenges, the Performance Lag Address and 'On-spot' remedial programmes were utilised. Their implementation was, amongst other factors, affected by lack of relevant legislation to give guide on how affected learners must be accommodated after the pandemic. It is therefore, recommended that the Ministry of Primary and Secondary Education should facilitate the development of legal frameworks that are specific to dyslexia in the post COVID-19 era.

Keywords: Covid-19, Dyslexia, Inclusive education, Mainstream primary school, Reading

Introduction and Background to the Study

The advent of the COVID-19 pandemic was unprecedented in the history of education, impacting heavily on the academic development of nearly every learner in the world (UNICEF 2020; United Nations 2020). Amongst other massive efforts that were put in place to curb the spread of the associated disease was sudden closure of educational settings for a significant period of time. However, to ensure sustained delivery of allied services, distance education approaches were espoused. While this innovation was seemingly noble, it did not adequately suffice the needs of learners who require close teacher supervision in their academic journey. Reliable evidence to this claim was gathered when schools re-opened, necessitating the conduct of varied assessment procedures aimed at verifying the impact of the pandemic to continued academic growth

(Tadesse & Muluye, 2020). In this regard, those with varied learning disabilities depicted an indisputable decline and, dyslexics were not an exception.

Dyslexia is a type of a learning disability which leads to deviation between reading potential and intelligence in learners exposed to sufficient educational tuition (Stein, 2018). In relation to this, Ozernov, Palchik and Gaab (2016) explain dyslexia as a reading disability that is caused by poor development and functioning of the brain. Affected learners show slower activation in some or all parts of the brain that are responsible for reading competence. These encompass the occipital, temporal, parietal and frontal lobe of the brain. Menting (2014) perceives the occipital lobe as the centre for visual cortex while verbal memory is believed to reside in the temporal lobe. The parietal lobe enhances the mapping of letter sounds and their spelling while the frontal enhances speech production and organisation.

Variations in reading challenges experienced by dyslexic learners largely depend on the part of the brain that could be malfunctioning or damaged. For instance, if the parietal lobe of a learner's brain is malfunctioning, then the ability to produce or relate sounds to particular letters may be affected. On a more critical note, Stein (2018) observes that dyslexia can either be developmental (that is, emanates from biological anomalies) or acquired (results from a brain damage that could have occurred after the individual's initial acquisition of basic reading skills). The subcategories of developmental dyslexia include dysphonetic (auditory), dyseidetic (visual) and mixed dyslexia (Woollams, 2014; Stein, 2018; D'Mello & Gabrieli, 2018) while the major types of acquired dyslexia are peripheral and central dyslexia (Delude, 2012).

Globally, not much has been done in regard to the development of legislation that gives specifics on the inclusion of learners with dyslexia in mainstream education after the COVID-19 era. Their accommodation is guided by legal frameworks that were developed prior to this pandemic. The basic ones include the UNESCO Constitution of 1945 which mandates equal educational opportunities for all learners (Calderbank, 2009; Lerch & Buckner, 2016), the 1990 World Conference on Education for All (Munene, 2015) and the 1994 Salamanca Statement and Framework for Action on Special Needs Education (Calderbank, 2009; UNESCO, 2019). Despite this, Goal 4.5 of the 2015 Sustainable Development Goals emphasises the provision of effective, inclusive, equitable life-long quality education for all (United Nations, 2019). In addition, the Incheon Declaration made at the 2015 World Education Forum, envisages that, to achieve full scope of human development stipulated in the SDGs 2030, all forms of discrimination, exclusion and inequalities in access, participation and achievement by persons with disabilities should be eradicated (UNESCO, 2015).

Some individual countries have also taken notable strides in developing legislation for effective inclusion of dyslexics. According to Youngman and Mather (2018), across the United States of America, 33 legislative bills related to dyslexia were introduced between January and March 2018. One of the most recent laws is the 2015 Research Excellence and Advancements for Dyslexia (READ) Act. This stipulates that the National Science Foundation shall support multi-directorate, merit-reviewed and competitively awarded research on the science of specific learning disabilities, including dyslexia. This includes but is not limited to research on early identification of learners with dyslexia, professional

development for teachers, curricula and implementation of relevant interventions (Wagner, Zirps & Edwards, 2020).

In Zimbabwe, the main law that guides the inclusion of learners with dyslexia in mainstream education in the pre COVID-19 era is the Education Act of 2006 (Chitiyo & Muwana, 2018). This law puts emphasis on the right of every child to access quality education at a school nearest to his or her home. To complement the provisions of this law, a number of special education policy circulars are in place. Amongst these is the Chief Education's Circular Minute Number 12 of 1987 which facilitates the administration of clinical remediation in mainstream primary schools. The Secretary's Circular Minute Number 11 of 2015 also stipulates how the Early Reading Initiative (ERI) programme should be administered in schools.

Like the development of relevant policies, the conduct of research studies on dyslexia in the post COVID-19 era is still at the preliminary stage. Nonetheless, Baschenis *et al*. (2021) conducted an assessment on the impact of COVID-19 on reading potentials of learners with dyslexia and the findings indicated that, unlike other learners who do not require close guidance in academic content acquisition, this group is at an increased risk of consequences in case of school closure. The effect of such a situation can be observed when schools re-open and normal teaching and learning resumes. Similarly, Kaur and Bhatt (2020) developed a concept paper which mainly focuses on education in the Post COVID-19 era and observed that the effect of this pandemic was so huge that it exposed learners with special needs particularly those with dyslexia to high risk of a permanent decline in academic growth unless effective remedial strategies are employed, monitored and evaluated regularly.

While the effects of COVID-19 to the reading and ultimate learning potentials of most learners with dyslexia globally are glaring, it was noted with great concern that in Zimbabwe and Umguza district in particular, no known study has since been conducted on teaching mechanisms to be employed when accommodating such learners in mainstream schools after the COVID-19 era. This implies that their situation could have been worsening yet lacking due attention. The situation seemed to be exacerbated by lack of relevant guiding policies for service provision. In view of this, the purpose of the study was to explore perspectives of teachers on the inclusion of primary school learners with dyslexia in the post COVID-19 era with the view of designing a model for improved practice.

Objectives of the Study

The objectives of the study were to:

1. identify factors that are crucial for effective inclusion of learners with dyslexia in the post COVID-19 era;
2 establish strategies adopted by mainstream primary schools to ensure re-inclusion of learners with dyslexia in the post COVID-19 era; and
3. highlight challenges faced by teachers in including learners with dyslexia in the post COVID-19 era.

Research Questions

1. What factors are crucial for effective inclusion of learners with dyslexia in the post COVID-19 era?
2. Which strategies are adopted by mainstream primary schools to ensure re-inclusion of learners with dyslexia in the post COVID-19 era?
3. What challenges are faced by teachers in including learners with dyslexia in mainstream education, post COVID-19 era?

Literature Review

This section covers types of dyslexia and crucial factors in the inclusion of learners with dyslexia.

Types of Dyslexia

There are varying types of dyslexia but the major ones include visual, phonological, rapid-naming and double deficit dyslexia.

Visual/Surface Dyslexia: This type of dyslexia affects visual processing. It is characterised by an indisputable ability to read words with regular grapheme-to-phoneme correspondences but considerably poor reading of words with "irregular" or exceptional print-to-sound correspondences (Alsobhi, Khan & Rahanu, 2015; Guven & Friedmann, 2022).

Phonological Dyslexia: This is the most common type of dyslexia mainly associated with difficulties in matching sounds to symbols, certain letters or letter combinations. Other symptoms include difficulty with spelling and recognising familiar words in new contexts (Higuera & Laube, 2020).

*Rapid Naming Dyslexia***:** This type of dyslexia is connected to automaticity in reading. Learners affected struggle with rapid or automatic naming of numbers, colours and letters. Mcweeny, Norton and Roberts (2022) concurs that rapid naming dyslexia affects an individual's speed of processing written content. Alsobhi *et al*. (2015) explain that, some known symptoms of rapid naming dyslexia include retarded speed when orally reading a text and substituting correct words with nonsensical ones.

*Double Deficit Dyslexia***:** This type is observable in individuals who struggle with two aspects of reading, that is, identification of sounds in words and speed of naming (Moats, 2009). This type of dyslexia is basically a combination of rapid naming and phonological awareness and is the most severe of all other types.

Crucial Factors in the Inclusion of Learners with Dyslexia

Teachers' knowledge of dyslexia

To ensure appropriate service provision for learners with dyslexia, the teachers' knowledge and understanding of dyslexia is paramount (Rose, 2009). These educators should be able to differentiate the major types of dyslexia and further distinguish dyslexia from other learning disabilities such as dyscalculia (Kirby, 2020). Recent studies

highlight the need for multi-component interventions that require teacher expertise across several content domains which encompass phonology, phoneme-grapheme correspondence, morphology, semantic organisation, syntax, discourse and pragmatics (Kamala & Ramganesh, 2013). On a different note, Birsch (2011) observes that if teachers lack knowledge of handling particular learners they gradually lose the interest of including them in their practices. This includes those with dyslexia.

Teaching Methods for Learners with Dyslexia

According to Moustafa and Ghani (2016), multi-sensory teaching approaches have for many years proven to be effective in teaching learners with dyslexia. Such approaches emphasise simultaneous use of the visual, auditory as well as the kinaesthetic or tactile sense in the entire teaching and learning process. A concept missed through use of sight may be mastered through that of hearing or touch. Birsch (2011) concurs that employing multi-sensory teaching approaches enables weaker sensory modalities to be supported by stronger ones in the acquisition of knowledge. Furthermore, to enhance the effectiveness of the multi-sensory teaching approach it is prudent to use it with other methods which are; systematic, diagnostic, differentiated and synthetic instruction.

Systematic instruction denotes breaking down complex skills into smaller, manageable "chunks" of learning and carefully employing the best approach in teaching them (Vaughn et al., 2012). Another fundamental method is diagnostic teaching which is sometimes referred to as 'individualised' instruction. The relevant teaching plan drawn when using this strategy should be based on precise and continual assessment of the learner (Birsh, 2011). Subsequently, differentiated instruction is another flexible approach which results in a more personal, proactive learning situation, enabling the inclusion of a wide variety of dyslexic learners. When teachers differentiate instruction, they provide learners with structures to maximise their strengths in countering challenges experienced. Furthermore, synthetic instruction is availing to learners, the components of any alphabetic language or morphemes (Davies & Ritchie, 2006). The focus will be to teach the functioning of parts of words in the creation of a complete one (Birsh, 2011). Henbest and Apel (2017) concur that synthetic instruction means guiding learners to realise the link between individual letters and sounds. With synthetic phonics, learners are taught to segment sounds represented by each letter of a word and then gradually blend those sounds, which is, decoding.

Multi-sensory Teaching Approaches and Individual Preferred learning Styles

In order to effectively use multi-sensory teaching approaches to cater for the needs of various learners with dyslexia, teachers must be aware of an individual's preferred learning styles. Learning styles relate to the way in which different learners acquire new knowledge. This has led to the development of labels, such as 'auditory, visual and tactile or kinaesthetic learner' (Boneva & Mihoca, 2012). Gentry, Sallie & Sanders (2013) reveal that learning-style theorists for learners with dyslexia have devised a number of models of learning styles and ways of identifying them. Some models are related to brain functionalities while others are rooted in theories of personality or motivation. It is, however, generally accepted that learners with dyslexia benefit most from a multisensory approach, where information is simultaneously presented through several channels (Kamala, 2014; Knight, 2018).

Use of Varied And Appropriate Teaching and Learning Materials

The availability of appropriate materials is one of the criteria of dyslexia-friendly practice. Alsobhi *et al*. (2015) concur that materials and tools employed in the teaching of individuals with dyslexia should be aligned with the learners' needs, capabilities and learning objectives. According to Nel et al., (2016), there are several support materials that teachers can use when teaching learners with dyslexia and these include use of coloured chalk and markers for board work. Whitlow (2014) further adds that teachers may also make use of pictures and posters to aid the understanding and grasp of content amongst learners with dyslexia. Despite this, the adoption of more technological devices is recommended for learners with this disability. The British Dyslexia Association (2013) posits that technology is a key tool to help dyslexic learners in the classroom in both learning and teaching experiences as well as accessing or recording written information. Several learning challenges experienced when reading, writing, spelling, accessing the curriculum, learning vocabulary and improving phonic skills become manageable for such learners when technology is adopted (Kirby, 2020; Kous & Polancic, 2019).

Class Sizes and the Inclusion of Learners with Dyslexia

According to Kapp (2002), a learner with dyslexia naturally requires more attention and assistance. For teaching to be effective, the traditional size of the class will have to be adjusted, considerably; smaller classes are essential. Marias (2016) observes that teachers are generally convinced that to cope with the normal day-to-day problems in large classes is more than they can bear. In Zimbabwe, generally, there has been an increase of enrolments over the years, raising learner-teacher ratios. The growth in mainstream primary schools' enrolment point to a huge possibility of having more learners with dyslexia thereby overstretching the utilisation of teaching staff and compromising quality (Chitsa & Mpofu, 2016).

Measures Adopted to Ensure Effective Inclusion of Dyslexics

Furthermore, there are a number of intervention services that are provided in various educational settings to enhance effective inclusion of learners with dyslexia. According to Forteza-Forteza *et.al* (2021), the intervention programmes available for learners with dyslexia in some developed countries which include the United Kingdom and America emphasise systematic training in phonological awareness, phonological decoding, auditory training, supported and independent reading (Dawson & D'Souza, 2015). In Uganda, one of the viable programmes for learners with dyslexia is the Uganda School Health and Reading Programme (SHRP). This helps teachers to implement various strategies that enhance the reading potentials of affected learners (Conto, Akseer, Dreesen, Kamei, Mizunoya & Rigole, 2021). In South Africa, the Davis Correction Programme emphasises the utilization of the learner's existing skills to overcome learning problems. In this case, an individual's strengths form the foundation for learning more complex academic material.

Theoretical Framework

The study was guided by the magnocellular theory of dyslexia and Orton Gillingham's multi-sensory theory. According to Boets, Wouters, Wieringen, De Smedt and Ghesquiere (2008) and Shaywitz and Shaywitz (2020), proponents of the magnocellular theory view dyslexia as a consequence of a multimodal deficit in the processing of transient and dynamic stimuli. This contention acknowledges that a number of senses are crucial in the reading process and, if any or some are impaired, reading achievement is subsequently affected. Ramus *et al*. (2003) and Roitsch and Watson (2019) further observe that, while the magnocellular theory assimilates all the findings of the visual, auditory, phonological and cerebellar hypotheses in describing dyslexia, it is limited in suggesting suitable interventions for the affected learners. To complete the cycle, the Orton-Gillingham multi-sensory theory emphasises adoption of teaching methods that prioritise use of all senses in content acquisition (Birsch, 2011). In view of this, Stein (2018) explains that optimal learning takes place when related sessions are action-oriented with auditory, visual and kinesthetic elements.

Methodology

A qualitative phenomenological design was used to explore the life experiences of teachers in teaching learners with dyslexia. Qualitative research explores a phenomenon of interest within its contextual environment to obtain data then subsequently remedy problems or improve situations. It enables the use of multiple data sources and methods for triangulation of responses, which is a worthy strategy to realise convincing results. Busetto, Wick and Gumbinger (2020) describe qualitative research as the study of the nature of phenomena", including their quality, different manifestations, the context in which they appear or the perspectives from which they can be perceived. This perspective considers qualitative research as based on narrative and perceptual data that is in the form of words. The focus is on qualitative presentation of phenomena inclusive of the way in which it is presented.

Haradhan (2018) notes that phenomenological design is used in a study about the subjective life experiences of a phenomenon that is experienced by certain groups of individuals. It was used in this study to access both the outward and inward expressions of teachers derived from their interactions with learners with dyslexia. Phenomenology explores human beliefs, prejudices, attitudes and the way in which they make sense of their experiences (Tuffour, 2017).

The Study Population

The chosen population comprised teachers of mainstream primary schools. From a total of 63 schools in Umguza district, 8 were included in the study. From these, purposive sampling procedures were applied to select a sample of 16 teachers in Khahlu cluster. 8 of these were schools' language clinical remedial teachers and the other 8 taught Grade 3 classes. Clinical language remedial teachers were chosen on the basis that, due to the nature of their teaching responsibility, they had sufficient knowledge and experience on reading challenges experienced by different learners with dyslexia. Therefore, they could give reliable data on the subject under study. On the other hand, teachers who taught Grade 3 classes were selected because they taught learners who were at a transitional stage, that is, from Early Childhood stage to the intermediate level. At this level, learners are bound to decline academically if their learning is not monitored closely.

Data collection and analysis

A focus group discussion and semi-structured interviews were used to collect data. A focus group discussion was held with schools' clinical language remedial teachers while interviews were conducted with Grade 3 teachers. Gathered data were analysed thematically. This involved data transcription, coding, developing of themes, data analysis and interpretation (Moser & Korstjens, 2018). The themes developed were; crucial factors to be considered for effective inclusion of learners with dyslexia, strategies adopted by teachers to ensure re-inclusion of learners with dyslexia and challenges faced by teachers in including learners with dyslexia in the post COVID-19 era. Participants of the focus group discussion were coded LT1 to LT8 and interviewees were coded T1 to T8.

Findings and Discussion

Theme 1: Crucial Factors to be Considered for Effective Inclusion of Learners with Dyslexia in the Post COVID-19 Era

The study established that effective inclusion of learners with dyslexia in the post COVID-19 era largely depended on a number of factors which included the attitude of relevant stakeholders, availability of policies that specify how dyslexics should be accommodated, teachers' knowledge of dyslexia and its manifestations, type and severity of dyslexia in an individual, teaching approaches employed, teacher-learner ratio, time allocated to meet specific needs, availability of support services and parental involvement.

On the issue of attitudes, teachers expressed divergent views on the inclusion of learners with dyslexia in mainstream classes. Most of them were of the view that such learners needed to receive education in inclusive settings so that it could be easy for them to adjust to the demands of general community life which is inclusive in nature. This was confirmed by participant T3 who said: *'I believe after this COVID-19 pandemic, we need to teach dyslexics alongside their peers in mainstream classes".* Similarly, LT7 echoed the same view and said "…*there is no special community that they will live in after school completion".* Some participants however, believed that special school placement was the best option considering the facilities provided there. In this regard, LT5 said: "*.....learners with dyslexia need to receive education in special classes or schools where there are better skilled teachers and least restrictive learning environments".*

Despite this, it was discovered that, to a large extent, the attitude of teachers was influenced by their level of knowledge about dyslexia, its manifestations and the ability to meet specific needs of affected learners. This finding concurs with Birsch (2011) who emphasises that some teachers' lack of knowledge of meeting the needs of learners with dyslexia affects their interest in accommodating them in mainstream education. In relation to this, LT6 reiterated that "*it's burdensome teaching learners with dyslexia as they lag behind their peers in several aspects, some of us are not well schooled to care for them*". On the other hand, teachers in possession of requisite skills preferred inclusionary settings with, however, adequate material support, sufficient time for reading lessons as well as constant supervisory services. In view of this, T8 said: "…*although I have knowledge of handling learners with dyslexia but for me to teach*

them in inclusive classes, l need more support in terms of materials, time and constant supervision. This emphasis was buttressed by LT4 who said "… *teachers need guidance from school authorities or other professionals who are more knowledgeable in handling learners with dyslexia".*

Participants of the study further revealed that some heads and administrators of schools had negative attitudes towards the inclusion of learners with dyslexia in mainstream classes as they felt that the poor reading capacities of these learners did not only affect their individual performances, but that of the entire school as well. In view of this, they opted for special class or school placement where the academic development or achievement of learners was analysed considering an individual's rate of content acquisition. Participant LT8 said "A*s I see it, the best option is to place them in special classes where reading progress is assessed on an individual bases unlike the whole class approach in mainstream settings*".

On the other hand, some parents' negative attitudes were perceived to be emanating from their limited knowledge of dyslexia. Due to this, they played little role in assisting their children with reading tasks done at home. Nonetheless, a small number that seemed positive consisted of professionals. Owing to 'lockdown' consequences, these were afforded ample time to attend to their dyslexic children's individual needs, hence great improvement was shown when schools re-opened. On this note, *T2 said '….most parents who are professionals understand the plight of their children with dyslexia….they helped them significantly during lockdown and if teachers work closely with such parents, affected learners may do better in their academics'.*

In regard to the availability of guiding policies as one other factor for successful inclusion of learners with dyslexia after the COVID-19 era, it was discovered that there was no policy that directly specified how this group needed to be re-included after the experienced school disruptions. The responsible Ministry still relied on the Education Act of 2006, the Chief Education's Circular Minute Number 12 of 1987 which stipulated how the administration of clinical remediation in mainstream primary schools was to be done and the Secretary's Circular Minute Number 11 of 2015 which spelt out how the Early Reading Initiative (ERI) programme was to be administered in schools. To confirm this, one participant said:

> *"….we still rely on the policies that we were using before COVID-19, we did not receive any that guides us on how to re-include or teach learners with dyslexia after this experience, one ends up doing what they think is best"* (LT4)

In reference to the teachers' knowledge of dyslexia as another crucial factor in the inclusion of learners with this condition, it seemed most of them could identify learners with general reading problems. A challenge was noted in differentiating between those who had dyslexia and those with other challenges that affected reading competence. In addition, a significant number of them could hardly differentiate various types of dyslexia which include visual/surface, phonological, rapid-naming and double deficit. On this observation, participant T6 said: *"I can identify learners with dyslexia, the problem is differentiating the types and severity…..this l tell you makes it difficult to offer right services".* In view of this, Kirby (2020) maintains that if teachers are to do justice in

regard to the inclusion of learners with dyslexia in mainstream education, they should be able to differentiate the major types of dyslexia and further distinguish it from other learning disabilities such as dyscalculia.

Theme 2: Strategies adopted by teachers to ensure re-inclusion of learners with dyslexia

On the strategies adopted by teachers to ensure re-inclusion of learners with dyslexia in mainstream classes after the COVID-19 pandemic, the study established that, these were significantly limited. The ones used mostly included task analysis, peer teaching, diagnostic instruction and remediation. Reliance on a few strategies was seemingly caused by lack of knowledge of all or most suitable teaching approaches. However, the Schools Psychological Services and Special Needs Education department (SPS/SNE) had introduced two intervention programmes to complement other support services given in the district and these were called the Performance Lag Address Programme and on-spot remediation. In regard to this, one participant said:

> *"…no new teaching strategies were introduced to us so that we can fully accommodate learners with dyslexia after this pandemic but there are two intervention programmes that the SPS people introduced in this district and these are, PLAP and on-spot remediation"* (T2).

In relation to this, Moustafa and Ghani (2016) reveal that multi-sensory teaching approaches have for many years proven to be effective in teaching learners with dyslexia. Such approaches emphasise simultaneous use of the visual, auditory as well as the kinaesthetic or tactile sense in the entire teaching and learning process.

Theme 3: Challenges faced by teachers in including learners with dyslexia in the post COVID-19 era

The study discovered that schools were facing a number of challenges that impeded successful inclusion of learners with dyslexia in the post COVID-19 era. Apart from those that were alluded to before in the presentation of crucial factors in the inclusion of learners with dyslexia, participants advanced that, most mainstream classes were so large that the teachers' ability to attend to individual needs of dyslexics was compromised. On this, LT3 said: "…*the other serious problem that hinders dyslexics from being fully accommodated is that the teacher-learner ratio in their classes is so big that attendance to individual needs is not easy".* This predicament was closely linked to limited time that was allocated for reading programmes. On this view, participant T1said*: "The master timetable that we use in schools is so congested that the time given to learners with serious reading problems is very minimal".* In relation to this, Kapp (2002) substantiates that, a learner with dyslexia naturally requires more attention and assistance. Therefore, for teaching to be effective, the traditional size of the class needs to be adjusted, considerably. .

The availability of limited support services and resources was perceived as another aspect that had a large bearing on effective inclusion of learners with dyslexia. These seemed so limited in mainstream schools that the learner-book ratio was observed to be 1:5. With such a scenario, one would conclude that dyslexics' could not get adequate time to practice reading hence their development in associated skills was affected. Participant

LT7 concurred that the *"….shortage of textbooks for learners to access reading content also slows down reading development of learners with dyslexia".* On the issue of resources, Whitlow (2014) suggests that teachers may also make use of pictures and posters to aid the understanding and grasp of content amongst learners with dyslexia. In addition, material resources that are mainly technological also seemed to be lacking in the district of study. This was evidenced by the sentiments made by participant *T4, adding that "… we need more technological devices which we currently do not have, these are helpful for dyslexics".* Nonetheless, the British Dyslexia Association (2013) maintains that technology is one of the key tools to help dyslexic learners progress seamlessly in reading development.

One other challenge that the study established was the administration of limited continuous teacher development programmes aimed at equipping participants with skills of including and remediating learners with dyslexia after the COVID-19 era. On this note, participants expressed the need for the government to put more effort in re-training them for such unforeseen circumstances. Participant LT5 was emphatic on this, stating that: "…*in order to implement appropriate inclusion strategies to learners with dyslexia, we need to be re-trained by the government through continuous teacher development programmes'.* This would help forge the development of requisite skills, beliefs and competencies to successfully manage teaching and learning programmes in mainstream classes for the benefit of all learners, inclusive of those with dyslexia.

Conclusion

The study concluded that the inclusion of learners with dyslexia in mainstream primary schools in the post COVID-19 era was affected by a number of factors which include the severity of this condition in an individual, availability of specific guiding policies, attitudes of relevant stakeholders which include teachers, administrators and parents, knowledge of teachers about dyslexia and appropriate teaching instruction, availability of support services that include intervention programmes and material resources, last but not least, allocation of adequate time for implementation of diagnostic instruction to deserving learners.

Recommendations

Based on the findings and conclusion the study recommends that:

- The government should ensure that the Ministry of Primary and Secondary Education facilitates the development of policies that guide schools on proper inclusion of learners with dyslexia in the post COVID-19 era.
- The Ministry of Primary and Secondary Education should ensure the provision of continuous professional development programmes to equip teachers with relevant skills of helping learners with dyslexia re-gain reading skills that could have been lost during school closure.
- The Ministry of Primary and Secondary Education should consider reducing the teacher-learner ratio in mainstream schools to enable teachers to sufficiently cater for individual learners' needs.

- The Ministry of Primary and Secondary Education should facilitate the provision of support materials (including technological ones) to promote efficient learning of learners with dyslexia.
- The Schools Psychological and Special Needs Education department should develop detailed assessment programmes aimed at establishing specific reading skills lost by dyslexics due to the COVID-19 pandemic.
- Schools in collaboration with the SPS/SNE department should design contextually relevant programmes to restore lost reading skills owing to the COVID-19 pandemic.
- The Ministry of Primary and Secondary Education should intensify its collaboration with the Ministry of Higher Education to ensure the training of more teachers with adequate skills of meeting diverse needs of learners with dyslexia.
- Mainstream schools should intensify their collaboration with parents of learners with dyslexia so that there is continued learning from school to home. This might also increase the rate of restoring lost reading skills in these learners.

Suggestions for further studies

The study suggests that other studies on the following aspects may be conducted:

1. Parental role in resuscitating the reading potentials of learners with dyslexia in the post COVID-19 era.
2. Transition of learners with dyslexia from primary to secondary school in the post COVID-19 era.

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EXPLORING THE IMPACT OF COVID-19 PROTOCOLS ON THE HOLISTIC DEVELOPMENT OF EARLY CHILDHOOD DEVELOPMENT LEARNERS IN ZIMBABWE

[1]Ncube Sifiso Everelly & [2]Nkomo Duduzile

[1&2]BA ISAGO University, Gaborone Campus,
Bag BR 94, 11 Koi Street, Peolwane, Gaborone

Abstract

This study sought to explore the impact of COVID-19 protocols on the holistic development of Early Childhood Learners in the Bulawayo Mzilikazi district. This qualitative case study was influenced by the pragmatist and constructivist schools of thought and was motivated by the varying observations with regard to the manner in which lessons were conducted. Questionnaires and online semi-structured interviews were used to generate research data from 15 respondents who were selected through the purposive sampling technique. The study revealed that sanitising and washing hands regularly was very good and helped young learners develop good hygiene practices. Contrary, the study further revealed that the development of the 21st-century skills like collaboration, critical thinking and creativity among others were stifled because the learners couldn't engage in group activities. It also revealed that ECD learners are social beings who construct their knowledge through interacting with people and the environment around them but because of COVID-19, their interactions are limited. Hence against the above findings, this study recommended that teachers should continue encouraging ECD learners to sanitise and wash their hands regularly. It also recommended that teachers should employ strategies that would facilitate the development of the 21st century skills.

Keywords: Early Childhood Development Learners, holistic development, COVID-19 protocols

Background of the Study

The emergence of COVID-19 pandemic has necessitated drastic changes in both government and private sectors. Most countries across the world have taken unprecedented steps in an effort to prevent and curb the spread of the disease. Like others sectors in Zimbabwe, the education sector came to a halt after the president, Emmerson Mnangagwa, announced indefinite total closure of all ECD centres, primary and secondary schools, and institutions of higher learning in March 2020. This marked the beginning of disruptions to face-to- face learning. Some restrictive measures were put in place to control the transmission of the disease. These restrictions included the closure of schools and childcare services, lockdowns and guidelines for physical distancing, wearing of facial masks, regular sanitizing of hands, shutting down of non-essential businesses, and suspension of community and recreation services and programmes. At some point, in Zimbabwe, law enforcing agents were tasked to make sure citizenry observed these measures, for example wearing of masks and maintaining of social distance. The ripple effects of such action are now surfacing in the education sector,

particularly in Early Childhood Development. Sandro, Riana and Nicole (2020) say since the first case of the disease was diagnosed it brought unprecedented efforts to institute the practices of physical distancing, (social distancing) in schools and outside schools resulting in a change in national behavioural patterns. They went on to say while these steps are critical to mitigate the spread of this disease, they are undoubtedly having consequences in children's mental health and well-being in both short and long term. As a result of these lockdown measures, young learners are likely to suffer from anxiety, depression, loneliness and child abuse. All these problems have either positive or negative effect on the holistic development of young learners.

According to UNESCO (2022), the school closures and online learning informed by the pandemic have had an impact on the socio-emotional well-being of learners. It is said that in Russia, almost 84% of learners developed psychological problems while learning online. UNESCO also revealed that, on returning to school in New Zealand, students actually felt worse than during the lockdown, which was mainly due to safety concerns. Only 58% of learners strongly agreed that they felt safe from COVID-19 while attending school. Technically, this means that even if children went back to school they were not comfortable and feared that they may get infected by COVID-19. Thus, their participation in the learning activities was limited; they did not fully participate in the learning experiences presented to them. According to Tate (2021), this affected not only academic outcomes but social skills, emotional intelligence, interactions with peers and other people because they felt they were not safe.

According to Eric Artmore, the director and founder of Centre for Early Childhood Development (CECD), close to 2.3 million children are now homebound, with the responsibility placed on parents and caregivers to supervise them and some have no parents to look after them (Koen et al., 2021). Tate (2021) says the COVID-19 pandemic has disrupted every facet of education. He goes on to say young children have experienced learning setbacks and fewer social experiences. Tate further posits from his research that was carried in South Africa, that there was a sharp decline in Early Childhood Development program enrolment during the pandemic which translates to missing learning opportunities for children. Businesstech (2021) says in South Africa, a lengthy lockdown led to a significant drop of 30,000 in student's enrolment deficits in Grade R (preschool) and Grade 1 (one), which could be expected as a result of lockdown, with as many as 50000 fewer students enrolled across the education system. This entails that more young children are missing out because of COVID-19 and this has a bearing on the holistic development of young learners. University of Michigan and the Urban Institute did a research which revealed that young children have suffered, perhaps with long-lasting effects. These disruptions mean that many young children are at home unable to attend early childhood education and care, and are therefore now entirely reliant on their caregivers for nurturing care and to meet all of their developmental needs (physical, emotional, social and cognitive).

Going to school is the best policy tool available to develop the necessary skills in young children. School time can be fun and can facilitate the development of social, cognitive, physical language, emotional skills and social awareness in learners. Young children have mixed feelings about the closure of ECD centres and schools because of COVID - 19. Some believe it has been a nightmare for them because they love going to school; so,

being at home daily was boring. Others were happy to be at home. The closure of schools and ECD centres exacerbated these misguided thoughts of those who were content about staying home as opposed to going to school. On the basis of this background, this research paper explored the effects of COVID-19 on the holistic development of ECD learners.

Statement of the Problem

The emphasis on observing COVID-19 protocols in schools has become a topical issue at all levels of the education system lately in Zimbabwe. Just before schools re-opened, the World Health Organisation (WHO) introduced protocols that were to be observed by all schools across the world and this led to a paradigm shift on pedagogy. According to constructivism, early childhood learners develop and learn best through inquiry-based, play-based and co-operative learning among other methods (Driscoll, 2000). Learners have to be actively involved in the learning process. Despite this kind of a scenario, reality on the ground has reflected that, because of COVID-19, most teachers reverted to the old ways of teaching that are teacher-centred, turning a blind eye on the nature of how young children learn. This study, therefore sought to explore the influence of COVID-19 protocols on the holistic development of ECD learners

Objectives of the Study

The objectives of the study were to:

2. identify COVID-19 protocols that were put in place in schools;
3. establish the extent to which COVID-19 protocols were being observed in Early Childhood classes; and
4. establish the impact of COVID-19 protocols on the holistic development of ECD learners.

Research Questions

4. Which COVID-19 protocols are being followed in schools?
5. To what extent are COVID-19 protocols being observed in ECD classes?
6. In what ways do these COVID-19 protocols affect the holistic development of ECD learners?

Theoretical Framework

This research paper is guided by constructivist school of thought. The constructivist school of thought posits that individuals/learners do not acquire knowledge by passively perceiving it within the direct process of knowledge transmission, rather they construct new knowledge and understanding through experience and social discourse, integrating new information with what they already know (prior knowledge) (Driscoll, 2000). Oliver (2000) says learners construct new knowledge out of their experiences. This means that young learners construct new knowledge from interactions they have with the environment and the people around them. As they interact with the environment, they come to understand how things work around them, they make new discoveries and also make connections to what they already know. This kind of knowledge (self-discovered) will make meaning to them since they were actively involved in acquiring it. They will

not forget this kind of knowledge as compared to the knowledge they gather when they are passively involved. Vygotsky in Driscoll (2000) emphasized the importance of sociocultural learning; how interaction with adults, more capable peers and cognitive tools are internalised by learners to form mental constructs through the zone of proximal development (ZPD).

Elliot, Kratochwill, Littlefield and Travers (2000) say constructivists view learning as an active process. Constructivists believe that one has to take an active role in making new discoveries, building new concepts and facts for themselves. McMahon (1997) in Oliver (2020) argues that meaningful learning occurs when an individual is engaged in the social activities and knowledge is a product of human and is socially and culturally constructed. This shows the importance of active engagement in building or acquiring new knowledge. Teachers should expose young learners to a variety of activities that require collective effort, collaboration and cooperation like projects, group work and experiments. The social constructivist model stresses the need for collaboration among learners, they work and discuss to arrive at a shared understanding (Drew 2022). This will also facilitate holistic development in young learners.

The two schools of thought share the same sentiments that young learners should be actively involved in constructing or building new knowledge, learners should take an active role in building new concepts and facts instead of being passive recipients of knowledge. The learning process should be practical for young learners to understand better and also to develop necessary skills. However, the emergence of COVID-19 and the restrictions that were put in place posed some challenges to some of these methods of learning.

Review of Related Literature

COVID-19 Protocols Followed in Schools

The WPF framework for re-opening schools and considerations in adjusting social measures in the context of COVID-19, and the decision to re-open schools following temporary closure, were based on an assessment of the context-specific risks and benefits. The International Federation of the Red Cross (IFRC), UNICEF, and WHO (2021) issued guidance to help protect school learners from being infected or succumbing to a transmission of the disease. The Permanent Secretary in the Ministry of Primary and Secondary Education (MOPSE) (Zimbabwe) Ms Tumisang Thabela said in line IFRC, UNICEF, WHO and Ministry of Health and Child Care guidelines on the prevention and management of COVID-19, all learning institutions should ensure a safe and healthy environment for learners, teachers and staff by adhering to the protocols (Mupfumira, 2021). Tapfumaneyi (2021) further adds that MOPSE and Ministry of Health and Child Care have intensified the enforcement of the COVID-19 Standard Operating Procedures (SOPs) in all the schools.

The Standard Operating Procedures that were put in place by IFRC, UNICEF and WHO in Geneva- New York include physical distancing at schools. Teachers, learners and the rest of the school staff should maintain a distance of at least 1metre between everyone at school. Also, they should maintain desk spacing of at least 1m to 1.5m. The school administrators should see to it that learners do not gather and socialise in big crowds

(UNICEF, 2021). In Korean school, protection screens were also used between desks while makeshift cubicles were set-up in classrooms using cardboard ballot boxes in Thailand. The next protocol that was put in place was wearing of facial masks. Teachers are expected to teach learners when they have put on masks and they should be cognisant of how to dispose them. However, it should be noted that, according to IFRC, UNICEF, and WHO (2021) children under the age of 5 years should not put on masks and for children between 6 years and 11 years of age, the risk-based approach should be applied to the decision to use a mask. This approach should take into consideration the intensity of transmission in the area where the child is. Teachers should always be there to supervise learners at school.

Health and hand hygiene are also very crucial in controlling the transmission of the disease. UNICEF (2021) says learners should regularly wash their hands using soap and clean running water. UNICEF continues to say learners should also wash the back of their hands and between the fingers for 20 seconds so that they kill the germs. Learners should also wash their hands after using the bathrooms. Bender (2021) talks of cleaning and disinfecting the classrooms. She says there should be daily cleaning and decontaminating of surfaces and objects that are touched often such as desks, countertops, door knobs, taps and toys. Tapfumaneyi (2021) quoted the Minister Cain Mathema (MOPSE) saying schools should ensure that, no hugging, correct nose and eye hygiene, safe handling of body fluids, and no sharing of items without proper sanitisation is done.

Ventilation is one of the standard operating procedures in schools. IFRC, UNICEF and WHO (2021) suggested that teachers should consider natural ventilation (opening windows) to increase the dilution of indoor air by outdoor air. They should also ensure adequate ventilation and increase total airflow supply to occupied spaces if possible. These are protocols that have to be followed religiously in schools to guarantee the safety of ECD learners.

The Extent to which COVID-19 Protocols are being Observed in ECD Classes

The Minister of Primary and Secondary Education in Zimbabwe, Cain Mathema, called upon all heads of schools to guard against complacency and ensure full compliance with health protocols as directed through the standard operating procedures (SOPs). This implies that as Ministry, they had observed some complacency on observing the standard operation procedures in schools. Newsday (2021) comments that the Zimbabwean government had almost three months to thoroughly prepare and put protocols in place to guarantee the safety of the returning students and teachers, but in typical fashion, schools and parents were left to fend for themselves. Newsday further adds that the Primary and Secondary Education ministry appears to be on autopilot, and has basically mortgaged its responsibilities to individual schools and parents instead of leading in providing guidance. This however, puts at risk the adherence of COVID-19 protocols

Schools need other measures like providing adequate personal protective gear for the teachers as well as sanitary services, infrastructure such as running water and handwashing facilities. Schools should be equipped with proper isolation bays in the event of outbreaks, but what we are seeing is children being sent home, putting entire

families at risk (Tapfumaneyi, 2021). Fighting COVID-19 needs a collective effort and there are many partners who are willing to work alongside the government to provide the necessary equipment and materials. These partners however appear not to be given the opportunity to participate in mitigating the effects of COVID-19.

Ways in which COVID-19 Protocols Affect the Holistic Development of ECD Learners

According to the World Bank report (2020), COVID-19 pandemic has exacerbated the learning crisis and resulted in a number of shocks to learners and education systems across the world. The Minister of Department of Basic Education in South Africa Angie Motshekga, said COVID-19 pandemic has had a devastating impact on schooling over the past two (2) years. In a research that was done by Koen et al. (2021) in South Africa, it was revealed that global containment measures of the pandemic put in schools have negatively affected the socio-emotional, cognitive and physical development of ECD learners. Buttressing the above findings, a research done by Makhubu in the year (2020) also revealed that COVID-19 measures placed the holistic development of learners at risk. Bennet and Palaiologu (2016) are of the view that the quality and quantity of resources and access to toys and play materials have had a major impact on ECD learners' physical, social, emotional and cognitive development. However, due to the pandemic, ECD learners have limited access to toy and play materials.

Koen et al. (2021) reveal that as a result of COVID-19 restrictions, most ECD learners were deprived of interactions and playing with their peers. Peckham (2017) comments that lack of social interactions limits the development of independent thinking, a sense of belonging and relationship skills. In the same vein, Egan (2020) says that lack of socio-emotional skills consequently impacts on personality development and also have a significant effect on the future academic achievement of ECD learners. In a research done by Di Pietro, Biagi, Costa, Karpinski and Mazza in Spain-France (2020), it was revealed that interactions with peers and teachers are essential for the development of positive self-esteem, self-confidence and a sense of identity. It improves the learners' ability to work in groups in collaborative and productive ways. Therefore, it is important that learners be given opportunities to interact with their peers at school so that they develop the required social skills. In a research done in England by Hobbs and Bernard (2021) on the impact of COVID-19 pandemic on the Early Childhood Care and Education sector, findings revealed that there has been an overall deterioration in mental health and well-being in ECD learners during the pandemic period.

Gayatri (2020) is of the view that physical activities among ECD learners have changed due to physical distancing. In a survey done by Hobbs and Bernard (2021), it was established that physical distancing as a result of COVID-19 has dramatically reduced ECD learner's access to early learning and play opportunities and this has a negative impact on their physical development. Lau and Lee (2020) indicated that most teachers have shifted to online learning and this implies that ECD learners spend most of their learning time glued to computers and television sets. This has a negative impact on their physical development. From the above literature, it shows that the protocols have a negative impact on the holistic development of learners.

Methodology

Research Paradigm

This research article was predominantly located within the qualitative research paradigm. Chiromo (2006) observes that in qualitative research, the researcher develops interest in collecting data from his/her respondents in an interactive manner and in their natural settings. Briggs and Colemann (2009) also postulate that in qualitative research, the researcher easily gains clearer understanding of the problem since the issues and subjects covered could be evaluated in depth and in detail. Makore-Rukuni (2001) also asserts that the direction and framework of research can be revised quickly as soon as fresh information and findings emerge during the use of this paradigm. With regard to the views cited above and taking cognisance of the phenomenon understudy, the qualitative approach was found to be quite ideal as it enabled the researchers to interact with their respondents through the use of open-ended questionnaires, and semi-structured online interviews, during the research process.

Research Design

In this research, a qualitative case-study research design was used. This allowed the researchers to gather in-depth knowledge about the view of the participants (Chiromo, 2006; McMillan and Schumacher, 2009)

Population and Sample for the Study

The target population for this study was the Teachers in Charge (TICs) and the ECD classroom practitioners from the five selected schools in Mzilikazi district - Bulawayo. On average each of the five schools had 10 ECD teachers and 1 T.I.C, thereby giving an estimated target population of 55 participants. Due to limited resources in the form of time, a manageable sample of 15 was used (Cohen, Manion, and Morrison, 2013). Hence, a sample of 15 participants comprising 5 TICs and 10 ECD teachers was used.

Sampling Procedures

In selecting the sample for this study, purposive sampling technique was used to select the TICs and the teachers who were considered as the information rich participants for the study (Chiromo, 2006).

Data Collection Instruments

For the purposes of generating data for this study, open-ended questionnaires and online semi-structured interview guides were administered to the participants. All these instruments contained questions that were meant to gather views of the participants on the studied phenomenon. ECD teachers responded to the questionnaires whilst TICs were interviewed. The triangulation of these instruments in this study was meant for them to complement each other and further validate the data that was collected (McMillan and Schumacher, 2009).

Data collection and Aalysis Procedures

Prior to conducting research, all the necessary ground work regarding the preliminary processes was done. For instance, permission was first sought from the Provincial Education Director to conduct research in the district. Prior to interviews, intentions of

the researchers were clarified to the participants and it was during this process that convenient dates for the interviews were set and emailing of the completed questionnaire forms were arranged. This process was very necessary since it facilitated the build-up of good research rapport amongst all the concerned stakeholders for the smooth flow of the whole process. Interviews were done online between 1400 hours and 1600 hours when all learners had gone home, to avoid disrupting the learning process. The interview lasted between 10 and 15 minutes per participant. The collected data from the administered instruments was presented and synthesized in themes for the purposes of arriving at well informed findings and conclusions for the study.

Presentation, Discussion and Analysis of Results

Findings for this study focus on the three major questions that provided the framework for the study:

Which COVID-19 protocols are being followed in schools?

In order to establish the impact COVID-19 protocols on the holistic development of ECD learners from the selected schools, this research developed some interests in checking their knowledge of the protocols that need to be adhered to in schools. All the respondents (100%) were aware of the protocols followed in schools. T3 who was interviewed confidently said, *Physical distancing, wearing of masks, hand washing or sanitising, fumigation or disinfecting classrooms, offices and all the facilities in the school settings, disinfecting different surfaces, learners' desks and chairs, door and window knobs and ventilation.* From their responses, this research noted that ECD teachers and TICs had the sufficient knowledge of COVID-19 protocols that should be followed in schools. Thus, this is confirmed by Standard Operating Procedures put in place in 2021 by IFRC, UNICEF, and WHO in Geneva- New York. However, this research noted that both teachers and TICs were ignorant of the specification on issue of learners aged between 3 and 5 years that are found in schools. *IFRC, UNICEF, and WHO (2021) stipulates that children under the age of 5 years should not put on mask*. This means that this group of learners should be exempted from wearing the masks because their respiratory system is still weak. Therefore, this research can confirm that the respondents knew the protocols that have to be followed in schools though they missed the fine specification on which learners should be exempted.

To what extent are COVID-19 protocols being observed in ECD classes?

This research further requested the respondents to confirm the extent to which COVID-19 protocols were observed in schools understudy. Through open-ended questionnaires TIC5 said, w*e are doing our best to observe the protocols and make the best out of the limited resources that we have in schools considering that the individual schools have to source for the required equipment and materials*. Newsday (2021) confirmed this in their comment that the Zimbabwean government had almost three months to thoroughly prepare and put protocols in place to guarantee safety of the returning students and teachers, but in typical fashion, schools and parents were left to fend for themselves. T2 also shared the same sentiments when she said, "*before lesson begin, all learners are sanitised and temperature checked before proceeding into the classroom."* Asked to

elaborate further, the respondents pointed out several issues and this paper captured the following incepts, TIC 1 had this to say

> *Each learner is given a list of items to buy to augment to what the school had bought".* While T4 said*, "classes are divided into two group and the groups take turns to come to schools to decongest the school.* She went on to say*, "the sitting arrangement has also changed, learners sit in rows and not in groups as they did before."* TIC 3 said*, "they also made sure all learners had their masks on."*

The trends from issues therefore indicate that to a larger extent COVID-19 protocols were observed in selected schools. To confirm the above findings the Permanent Secretary in the Ministry of Primary and Secondary Education (MOPSE) Ms Tumisang Thabela was emphatic on that all learning institutions should ensure a safe and healthy environment for learners, teachers and staff by adhering to the protocols (Mupfumira, 2021). Tapfumaneyi (2021), further adds that MOPSE and Ministry of Health and Child Care have intensified enforcement of the COVID-19 Standard Operating Procedures (SOPs) in all the schools. This research therefore, established that yes schools under study were observing COVID-19 protocol.

In what ways do these COVID-19 protocols affect the holistic development of ECD learners?

This research also developed interest in establishing how COVID-19 protocols affect the holistic development of ECD learners. Since they were required to suggest the effects, this research captured some of the following listed below:

T3 had this to say: "*physical distancing and desk spacing have a negative effect on the holistic development as it limits the ECD learners' interactions", that is to say, they cannot engage in group activities, play activities among other things.* This is contrary to constructivism, pragmaticism and Regio Emilia who believed that learners build or acquire new knowledge through interacting with peers, environment and people around them. ECD learners also develop social skills as they interact with peers, teachers and other staff members working within the school environment but due to COVID-19 interactions are limited. T1 said, "*hand washing and sanitising is very good and it helps ECD learners to practice good hygiene practices."* On the issue of wearing of mask, respondents had mixed views TIC 5 said, *"it has a positive effect as it protects learners from being infected by the disease"* however, TIC 2 said, *"it's not good for asthmatic learners it becomes a health hazard as it limits the intake of oxygen which can lead to further health complications to learners."*

All respondents agreed that decontaminating surfaces, toys and equipment, and fumigating the school premises have positive effects on the holistic development of young learners because it keeps the environment virus free and their safety is guaranteed. However, T4 said, *if there is residue left after fumigating the classrooms learners start sneezing. In addition, they tend to put toys in their mouths and this results to vomiting especially when they are allergic to chemicals used to disinfect them.* These were confirmed by Koen, Neethline, Esterhuizen and Taylor (2021), Makhubu (2020), Bennet and Palaiologu (2016) among others. Thus, for instance, Koen et al (2020) revealed that

global containment measures of the pandemic put in schools have negatively affected the socio-emotional, cognitive and physical development of ECD learners. The survey done by Hobbs and Bernard (2021) revealed that physical distancing as a result of COVID-19 has dramatically reduced ECD learner's access to early learning and play opportunities and this has a negative impact on their physical development. Di Pietro, Biagi, Costa, Karpinski and Mazza (2020) further add that interactions with peers and teachers are essential for the development of positive self-esteem, self-confidence and sense of identity. It improves learner's ability to work in groups in collaborative and productive ways.

Hence, on overall, this research established that sanitising and washing hands regularly had a positive impact on the holistic development as it helped ECD learners develop good hygiene practices. It also revealed that fumigation had a positive impact as it made environment safe for learning. However, the study further revealed that the development of the 21st century skills like collaboration, critical thinking and creativity among others were stifled because learners couldn't engage in group, and team play activities. It also revealed that ECD learners are social beings who construct their knowledge through interacting with people and the environment around them but because of COVID-19 restrictions their interactions were limited and this negatively affected their holistic development.

Conclusion

The concerns of this research article were to explore the impact of COVID-19 protocols in the holistic development of Early Childhood Learners in Zimbabwean schools (Bulawayo). The concludes that sanitising and washing hands regularly was very good and helps young learners develop good hygiene practices. the study further concludes that the development of the 21st century skills like collaboration, critical thinking and creativity among others were stifled because the learners couldn't engage in group activities. It also concludes that ECD learners as social beings construct their knowledge through interacting with people and the environment around them. It is also concluded that COVID-19 limited the interactions of learners.

Recommendations for the Study

From the study findings, the following recommendations were made:

- Teachers are encouraged to continue sanitising learners and also encourage ECD learners to wash hands using soap and running water regularly
- Teachers should observe IFRC, UNICEF, and WHO stipulations regarding learners who should and should not wear masks
- Teachers to continue observing the protocols to ensure that ECD learners are operating in a safe environment

Teachers to come up with teaching strategies that will enable learners develop holistically and also acquire 21st century skills.

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KNOWLEDGE OF LEARNING AND TEACHING TRANSFER OF FOUNDATION PHASE TEACHERS GRADUATED DURING COVID 19: A STUDY ON SELECTED PRIMARY SCHOOLS IN AMATHOLE DISTRICT OF SOUTH AFRICA

[1]Nomaroma Kumanda, [2]Shakespear Chiphambo & [3]Nomxolisi Mtsi

[1,2&3]Walter Sisulu University,
South Africa

Abstract

The COVID 19 pandemic and its attendant lockdown measures compelled online teaching and learning. This paper investigates the knowledge transfer of foundation phase teachers who graduated during COVID 19. The study was based on a qualitative approach. Ten foundation phase teachers who graduate during COVID 19, from three selected primary schools of Amathole District of South Africa were voluntarily committed to be included in the population. Data were collected using face-to-face and focus group interviews. The study reviewed the literature to investigate the challenges and feelings that teachers have with online teaching and the shift they made from what they were practicing from teaching in an online to a face-to-face environment. Data were categorised into descriptive themes and coding insights into the participants' experiences. The findings indicated that new teachers have significant challenges regarding teaching and learning transfer, learners' issues following directions from the teacher, inadequate descriptions, and risks posed by COVID 19. The recommendations suggest that even though most abilities are regarded to be similar and relevant across settings, newly appointed teachers can substantially benefit from training, support, and faculty development to make the transition from teaching in a face-to-face setting to teaching in an online setting.

Keywords: Teaching performance, knowledge, foundation phase teachers, covid 19

Introduction

New concepts for teaching and learning have always abounded in the field of education. Since there are continually new theories about learning and teaching, it is important to have a firm understanding of the underlying concepts of teaching, including theories. Moreover, there is a need to discuss the best ways to help children learn, what they should learn, and how teachers can help.

The COVID-19 crisis has resulted in a significant rise in online education. Most of the training that was once intended to be delivered in classrooms are now being delivered online. Furthermore, universities are encouraged to take advantage of the time made available by short-timework programs to train online from home and pick up new skills that will be helpful after teaching and learning. The sudden switch to remote teaching was made more difficult by the fact that carefully designed online teaching and learning differ substantially from emergency remote teaching, which is done in response to a crisis

(Scherman, 2020). The professional knowledge of a teacher is separated into three categories: general pedagogical knowledge, pedagogical content knowledge, and content knowledge (teacher subject-specific knowledge) (knowledge about learners and learning, principles of classroom management, and educational purposes in general), which serves as the foundation for decisions related to teaching (Schmidt, Cogan and Houang, 2011).

Studies conducted in Canada, the United Kingdom, India and China offer a variety of viewpoints while highlighting common challenges and opportunities brought on by the forced transition to online learning (Godber and Atkins, 2021). The most recent empirical studies on how new knowledge transfer affects teaching and learning in primary schools were reviewed by Nag, Chiat, Torgerson and Snowling (2014). The researchers outline a conceptual approach to foundation phase teachers in primary schools the encounters, way of life (home), and livelihood (employment). They add that introduction of online learning has significantly decreased the quality of instruction at educational institutions that are not fitted to it, which is based on the theory that the realization of teaching is reliant upon the educational system and the mechanism of information transfer. To improve on the quality of online courses, teachers must be well trained in how to present them. In this regard, some countries are creating curricula that can help teachers and training facilities manager the abilities they need to convert the training offer to an online format. Online classrooms have many advantages over traditional classes for learners. The ability to access the platform from any location and on any internet-connected device, as well as the ability to review previously recorded content, are unquestionably the two major benefits of online teaching. Cekiso, Meyiwa and Mashige, (2019) argue that putting teachers in the center of the learning and teaching process is crucial since they play a crucial role in carrying out the teaching policies. According to the researcher, new teachers need to be encouraged to express what is effectively internalized reflective knowledge, they will increase their knowledge base by sharing judgments and developing their professional competence to connect practice and theory, especially in this time of COVID 19. Against this background, this paper seeks to determine whether foundation phase teachers who graduated during COVID 19 transfer knowledge of learning and teaching. Thus, it pursues this aim to answer the following questions.

i. How is knowledge of teaching and learning be transferred by foundation phase teachers who graduated during COVID 19?
ii. What do teachers who graduated during COVID 19 do in their lessons to design a learning-teaching process appropriate to learners?

Theoretical Framework

Urie Bronfenbrenner's (1979) socio-ecological theory served as the foundation for this research. The theory illustrates how many environmental systems have an impact on human development. It also offers a theoretical framework to assist in making sense of the challenges posed by new technology, alterations in societal norms and livelihoods, and the effects of social isolation. This theory emphasizes the article's underlying premise that understanding the teaching and learning growth, for Foundation Phase learners, depends critically on the role of the teacher, for example how the teacher guides, shapes, and facilitates. As Bronfenbrenner argued, the social and cultural background had a significant impact on how children learned. Planning, understanding curriculum

requirements, evaluating technologies to be used, teaching and learning strategies determining the assessment regime while considering the need for rigor, integrity, and validity of assessments, and reviewing and evaluating the results are all necessary for online teaching (Wang & Torrisi-Steele, 2015).

The transfer is the blending of experiences, values, knowledge, and personal understandings (Rajalakshmi & Banu, 2012). Additionally, knowledge can be expressed, condensed, recorded and assembled to create experiences and new knowledge (Nonaka, Krogh,Von & Voelpel, 2006). Knowledge can as well be acquired in a variety of ways, including written materials, visual images, audio files and video (Du et al., 2012). Transferring knowledge involves agreeing upon a sequence of experience, expertise, events, and thoughts between the presenter and the receiver. Additional activity in knowledge management is knowledge transfer (Beatrice et al., 2010). Based on this article, the term "transfer knowledge" refers to the sharing of information between teachers and learners, including notes, tests, quizzes, and projects. According to other research, using technology in the classroom could enhance student performance and lessen educational inequity (Yao et al., 2020). Currently, most of these studies have employed technology as a catalyst to shift the teaching process from one that is "teacher-centered" to one that is "student-centered".

To make the shift from "leaders" to "helpers" of learning, teachers can employ information technology to assist learners in producing better academic results by granting them greater autonomy in their learning (Tian, 2018). To promote information transmission among foundation phase teachers, who have a restricted diversity of knowledge, organizations, especially elementary schools, should create knowledge repositories (Al-Busaidi, Olfman, Ryan & Leroy, 2010). Consequently, through the knowledge transfer effort, the repository will be able to gather information from teachers. Thus, the knowledge can be obtained and re-used for the purposes of learning and teaching. In addition, management's assistance is required for repository formation, particularly for administering and coordinating the repository. This is done to make sure that schools prepare for current issues, especially a transition. of online and face-to-face teaching and learning and vice versa.

Today, more studies have developed activities that resemble tests to evaluate teachers' knowledge and understanding of relevant grade-level curriculum information (Taylor, 2014). Taylor (2014) also reported a significant increase in students' learning when teachers' expertise and time on task were combined. This, however, was only discovered at very high levels of knowledge, suggesting that there is no a straight line between teacher knowledge and learner achievement. The main purpose of teaching is to gain knowledge, and the teacher has to facilitate the learning process for this to be achieved. Because of the COVID-19 epidemic, there is an urgent need to update education as new approaches and ideas are employed to improve the fewest currently used, most effective ones. In addition, teaching innovation can assist instructors with novel methods of instruction, increase creativity in the classroom, and improve student learning. Lecturers must improve instruction using the notion of multimedia teaching by implementing creative reforms in the classroom that incorporate new tools or methods for teachers to

accomplish their educational goals (Yu, 2018). However, knowledge transfer is what raises the value of innovation and advancement.

Research Methodology

Design

A qualitative research design was used. Focusing on the foundation phase teachers who lack experience graduated during COVID 19 on the question of knowledge of learning and teaching transfer, 10 foundation phase teachers (three men and seven women) were randomly chosen from 3 Amathole District elementary schools selected using convenience sampling. Their ages varied from 22 to 26 years old, and they had one to two years of experience teaching the foundation phase. The selection criteria required that participants were new foundation phase teachers who had graduated during the pandemic. Due to their proximity, the researchers had easy access to all three schools and experience only depends on how to teach after the challenges of COVID 19.

Data Collection Instrument and Procedure

Semi-structured interviews were used to gather information. The open-ended and flexible semi-structured interviewing enabled the researchers to elicit detailed information (Nel, 2011). The interviews enabled the researchers to learn more about the teachers' experiences transferring teaching and learning expertise in the foundation phase classes during Covid 19. Also, the interview guide asked questions about how teachers' training helped them in the classroom, how the materials at their disposal helped teachers, what challenges they face when teaching all the foundation phase learning areas, and what methods and strategies could be added. The interview guide was written in English.

Potential participants were contacted by phone and email. Four participants were discovered by mailing a letter to a list of novice teachers; the remaining six teachers were located through personal interactions with researchers. The study included primary school teachers who had light loads. The four foundation phase learning areas were taught at the primary school level by the study's participating teachers. There were both big schools (with more than 400 learners) and little schools among the foundations (fewer than 100 learners). The participating teachers typically led classrooms of 30 to 40 learners.

Trustworthiness and Credibility

According to Connelly (2016), rigorous research demonstrates its reliability toward the techniques used to verify the study's quality as well as its level of confidence in the data and its interpretation. The description of the tactics used to improve the study process' credibility, reliability, confirmability, authenticity, and transferability follows the researcher's further explanation of trustworthiness. Since the study was conducted in a location familiar to the participants, it was much more credible because the researcher’s exercised reflexivity while gathering the data. In the current study, the researchers exchanged "analytical views" with participants through this procedure, ensuring that participants recognized and rectified misinterpretations after the transcription of interviews (Varpio et al., 2017). The supervisor served as a co-coder during the data analysis, confirming and validating the coding as it was applied to the transcribed data

(verbatim transcripts of semi-structured individual telephonic interviews), field notes, and findings from the document analysis.

Data Collection Procedure

Interviews took place at the participants' respective schools between October and December 2021. According to Maree and Pietersen (2016), the sampling technique utilized in this study was the method used by academics to select the participants who would participate in a study. The key requirement for the study's participants was that they should have had first-hand knowledge of teaching in the foundation phase, and they all meet this requirement. The study's participants included ten foundation phase instructors from the chosen study location. Since they all graduated during COVID19, the teachers have all had first-hand teaching experience and have less than five years of foundation phase teaching experience. Given that the Foundation Phase is the stage of education during which intellectual obstacles initially surface. With a sampling technique that was most effective in addressing the research topic, participants in the study were found. Permission was acquired from both the subjects and the place where the research was done. According to Creswell and Poth (2017), it was crucial to choose the information kind that would best address the study issue. The third phase is to create the instruments that will best collect the data and contribute to a thorough analysis and interpretation of the data. The data collection process was then divided into two stages while keeping ethical considerations for the study process in mind. A focus group and face-to-face interview with all ten teachers took place after school in one of the foundation phase classrooms and lasted about an hour and a half. The time was chosen by the teachers to prevent any unneeded disruption of the school's teaching and learning activities during the interview.

Data Analysis

Data were collected using an open-ended narrative that allowed participants to talk about their experiences with different modules of instruction or self-learning, emphasizing major themes, difficulties they had to face, and coping mechanisms they used. For the study of the data, content analysis was used. As the recorded data was obtained and transcribed, the researchers suggested performing regular data analyses. The responses to the semi-structured interviews were transcribed, examined, and periodically read and reread by the researchers to spot any patterns, categories, or links that might have been present. After rereading the book numerous times, common topics were found and categorized under headings. To ascertain whether the kind of instruction is most suited to enhancing student performance by inexperienced teachers, we compared the disparities in teaching efficacy between the three schools during the pandemic. This demonstrates that techniques that could be used to benefit from teachers' experiences, which is crucial for the current study, can be used. The following process is used by the researchers to examine the data they have gathered: they carefully study each participant's narratives, extract significant statements, formulate meanings, group the meanings into themes, interpret the themes, and make suggestions.

Findings and Discussion

How is knowledge of teaching and learning be transferred by foundation phase teachers who graduated during COVID 19?

This question was motivated by the assumption that early teacher preparation will influence how well teachers perform in the classroom. The following is a response from the participants.

> *It was very difficult to understand or to stand in front of learners without knowing how to start. We were supposed to do practice teaching, but COVID 19 was in a high spread, so we did not do the practical part.*

One may argue that Covid-19 has exacerbated social marginalization and the inequalities that go along with it. The lack of students' access during the shift to remote learning has further entrenched exclusion and built barriers to learning. As is obvious from the lessons from China, "quality and equality" of provision is a fundamental precept for the university; this must be considered in this atypical shift to distant learning (Wu, 2020). The issue was also considered pertinent given that professional training for teachers includes steps and provisions intended to give educators the information, perspective, and know-how they need to carry out their duties in the classroom. Regarding their initial training, the participants to this question expressed a range of opinions. Responding to the above question, Teacher 3 said:

> *When we start teaching teachers were supposed to guide us as new teachers, but they were not attending school they work from home because of comorbidities.*

To possess knowledge of teaching and learning transfer, new teachers should be familiar with their learners' backgrounds, including their preferred societal structures. Teachers that are aware of this will be able to better understand their learners and plan their lessons to accommodate all the learners in the class. Three out of ten teachers gave the following responses when asked the same question:

> *As teachers, we have the responsibility for making sure that learners learn irrespective of COVID 19 or not. The way new teachers were trained. We need to equip ourselves as we are in this field. And if a teacher is creative and a learner likes a teacher I may also like the learning area.*

The participants' replies expose that teachers were unhappy with the relevance of their initial professional training. The subject will advance because of the teacher's instruction. Hence, suggestion one is rejected. Teachers' attitudes are significantly related to learners' growth or performance. Learners' academic performance respectively correlates positively and depends significantly on teachers' teaching skills. The correlation between learners' perceptions of teachers' topic knowledge, attitudes, and instructional techniques and academic performance is supported considering the study's noteworthy findings. Teaching needs considerably more research if learners are to be used as resources and teachers are to consistently advance their professional expertise.

Therefore, new teachers need to be equipped by attending workshops, seminars, teacher discussions, and projects because when they are new in the field supposed to be couched by experienced teachers. For this purpose, teaching materials such as relevant books, picture charts, annual assessment planners, quizzes, and practical questions are needed. Teaching materials can modify lesson content to meet the needs of various pupils.

Teachers explain the second question: What do teachers who graduated during COVID 19 do in their lessons to design a learning-teaching process appropriate to learners? The response of Teacher 4 is presented below:

> *Planning learning activities should take into account the kinds of activities that learners will need to participate in to acquire the skills and information necessary to demonstrate effective learning in class. Learning activities should be closely tied to the learning objectives of the subject matter and offer opportunities for engagement and practice.*

Teacher 6 responded to the same question thus:

> *I estimate the amount of time I will spend on each learning activity as I plan them. Planning for lengthy explanations or discussions, but always ready to move swiftly to other applications or issues and to think of ways to ensure that learners understood.*

The shift to online today and face-to-face tomorrow in education means changing lesson plans to accommodate a greatly altered structure. As new teachers, you must redo all of the curriculum planning, because a lot of it was dependent on you being there and leading the learners through certain things. Four out of ten teachers gave the following responses when asked the same question:

> *A lesson plan is the teacher's blueprint for what the class will cover and how it will be done efficiently. Following that, you can create instructional strategies and relevant learning exercises to gauge the progress of your learners. Each 3-hour lesson should have a carefully thought-out lesson plan, which will give you more confidence when you enter the classroom and increase the likelihood that your learners will learn something valuable.*

Teacher 5 responded thus:

> *My key goal in using the purpose of lesson plans is to address the issue of evaluated pacing and offer curriculum remediation to learners who have gotten behind.*

It was noticed that in schools, despite opposition, scripted lesson plans were well accepted by teachers in situations where they had previously been unsure of what to teach and what resources to use daily. Although some instructors believed their initial training prepared them for the demands of the current curriculum, other teachers believed it made no difference at all in their ability to meet the standards. Online learning must offer high-quality chances for upskilling and reskilling that can lead to long-term career opportunities to be a worthwhile substitute for in-person training. Academics were able to

discuss challenges as well as novel approaches to teaching and engaging their learners through several committee structures and frequent meetings. This was crucial since many learners had written to academics and spoken to them about their struggles and experiences with the shift to online teaching and learning. According to the participant, such brief sessions are unlikely to help the new foundation phase teachers improve their teaching abilities to close the gap. It is crucial to remember that despite their training, teachers still lack crucial knowledge. The world has changed; there is now more access to popular culture, visual literacy, digital technologies, iPods, CDs and movies. We must acknowledge that multiple pedagogies and curricula are necessary for effective schooling. To encourage the development of their learners, beginning teachers must be able to grasp teaching and learning well enough to modify the learning environment, materials, and approaches to specific situations and learners. However, face-to-face interaction and efficient communication between professors and learners continue to be essential for learners' learning. Furthermore, if teachers are fully "absent," we have no way of knowing what role they should play in learners' use of technology to study. This demonstrates that our conclusions hold for both offline and online instruction during the pandemic. According to Carnoy and Chisolm (2008), some teachers use techniques that suggest formal training in the use of highly effective techniques that call for both a solid conceptual understanding of the subject matter and pedagogical expertise. However, it was shown that most teachers only employed a small number of instructional strategies, which was a sign of the rigidity of their training. Furthermore, according to Carnoy and colleagues' (2008) research, teachers working in historically black and coloured schools were found to have lower content knowledge and pedagogical content knowledge transfer scores than those working in independent and formerly white schools, where student aptitude is also generally higher.

Conclusion

Most educational institutions were compelled to transit to online instruction due to a circumstance that had an impact on the entire planet. The results of the Microsoft Teams platform experiment of interacting with learners have demonstrated that introducing an online teaching platform directly affects the improvement and standards of teaching. A significant impact was seen in the sector of lowering the expenses of educational institutions in different fields, such as the requirement for amphitheaters and electronic classrooms, in addition to the impact on the teaching itself. We address the fundamentals of computer network security as well as secure communication procedures between teachers and learners. This essay's major goal is to increase public awareness of the value of online teaching. Because more people are using the Internet, end users should not have a difficult time adjusting to online education methods. After considering everything mentioned above, it can be said that switching to an online teaching method provides for a thorough transfer of information and the ability to revisit the material. This concept can be applied to an infinite number of users across all institutions, regardless of whether their primary focus is on education or not. The study concluded that the person conducting the training may have an impact on the outcome of an intervention that employs training to support instructors. This is significant in a profession where in-class coaching is increasingly valued for enhancing literacy training (see Pretorius, 2014).

Recommendations

We require critical thinking, communication, teamwork, and innovation to solve challenges and coexist in our continuously evolving world. Teachers are obliged to equip their students with the necessary skills to overcome obstacles when confronted with unforeseen circumstances. Planning for the transformation should be done with a sustainable viewpoint and with great care. Regarding the educational requirements following COVID19, decision-makers should consult with administrators from schools and universities, educators, students, parents, and other interested parties.

The researchers suggest that teacher preparation programs offer adequate and pertinent pre-and in-service training to accommodate any situation that may happen irrespective of online or face-to-face.

The Department of Basic Education should encourage and assist the new teachers appointed after COVID 19 in enrolling in a continuing education program that should last at least a year. Universities should also be a major contributor to teachers' retraining. The staff of training institutes should go to these teachers' schools, keep an eye on them, and provide support to, among other things, resolve any issues with how the course material is applied. The researchers suggest that new teachers should get incentives from the Department of Basic Education. This course should be made compulsory for all new teachers.

When choosing the best strategies and tactics to meet the demands of the learners and their sociocultural learning environments. New teachers get greater freedom and judgment and are less constrained by the natural shifts. Teaching is deeply ingrained in and inseparable from certain social settings, according to a socio-cultural viewpoint and knowledge adopted by new teachers who have previously viewed literacy merely as a decontextualised, psycholinguistic skills standpoint that only exists in the head.

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TEACHER EDUCATOR REFLECTIONS ON EXPERIENCE OF FIRST YEAR PRE-SERVICE TEACHERS FOR SCHOOL-BASED WORK INTEGRATED LEARNING IN THE SWITCH TO ONLINE MODE OF TEACHING

[1]Mpu Yolanda, [2]Roy Irene & [3]Hackmack Karin

[1,2&3]University of Fort Hare, South Africa

Abstract

The COVID 19 pandemic caused a sudden switch from traditional face-to-face interaction to virtual learning, when-teachers were not prepared for such shift. Against this background, this qualitative, exploratory study was undertaken to analyse the teaching, learning and facilitation experiences of three teacher educators who engaged in a formal online teacher training program with first year pre-service teachers enrolled on the Bachelor of Education qualification at an institution of higher learning in South Africa. Data was collected from three Teacher Educators in the form of interviews and reflective reports prepared at the conclusion of the 2021 academic year. The data was thematically analysed to highlight common lessons, challenges and points for the 3 Teacher Educators with the intention of learning from and improving on practice. The paper was guided by three research questions. Thematic issues found in the study relate to areas of student access to the learning platform; knowledge transfer from online lectures to practical application in the form of portfolio of evidence; and the alignment between theory and practice. It thus recommended use of a hybrid approach to preservice teacher preparation; using formative and summative assessment in making a judgement on competence and mastery and re-focussing student feedback as reflective essays.

Keywords: Digital pedagogies; Paradigm shift; Teacher Educators; Pre-Service Teachers; School-Based Work Integrated Learning

Introduction

Teaching is perceived, traditionally, to be a skill-based activity which requires the teacher to draw from different funds of knowledge. A typical initial teacher preparation curriculum includes both conceptual and contextual knowledge (Dreyer, 2015). Teachers-in-training are required to develop, first as part of their training and later as an outcome of practice, subject matter knowledge, pedagogical knowledge and pedagogical content knowledge. Subject matter knowledge, also known as theoretical disciplinary knowledge, is crucial in enabling teachers to be effective in the classroom and school environment. Qualified teachers also need knowledge of teaching methods referred to as pedagogical knowledge. Pedagogical knowledge includes knowledge of general teaching and learning practices in classrooms which creates conducive environment for learning to take place (Zeidler, 2002). At the intersection of subject content knowledge and pedagogical knowledge lies pedagogical content knowledge. Pedagogical content knowledge is the term which describes the process where competent teachers transfer

what they know, in their area of specialisation, to the students (Rollnick et al., 2008). This requires teachers to engage in constant reasoning, reflecting and assessing the suitability of their selected approaches linked to a specific context.

The educational benefit of learning from observation is the rationale for making observational practices and is a requirement in teacher education and training (Weber et al., 2016). Teacher Educators enter into pedagogical relationships with Pre-Service Teachers for the purpose of imparting theoretical knowledge and modelling appropriate behaviour and pedagogical practice for the duration of the course. The pedagogical relationship is based on the Teacher Educator using instructional approaches in imparting knowledge whilst the Pre-Service Teachers observes an experienced teacher in-action. Pre-Service Teachers learn as much (if not more) from observing as they do from engaging in set academic tasks themselves (Cuenca, 2010). In addition, as part of the practical component of the work integrated learning process, Pre-Service Teachers are required to spend time in school classrooms observing the behaviour patterns of qualified teachers.

The global COVID 19 pandemic brought an abrupt end to face-to-face interaction between Teacher Educators and Pre-Service Teachers for at least eighteen months at institutions of higher learning in South Africa. Before COVID 19, the use of technology in education was regarded as an innovative optional approach attempted by progressive educators (Gilakjani, 2013). The pandemic further forced all educators to online teaching and learning as the only possible safe option to ensure ongoing educational engagement. Social distancing was one of the many strategies that were used to curb the spread of the virus; and large gatherings were considered as super spreaders and were discouraged. Working from home came as a drastic measure, which brought about a fundamental paradigm shift in the mode of teaching and learning. Higher education as a result was forced to transition to remote/ online delivery of teaching and learning.

The transition started in March 2020 when the 1st year Pre-Service Teachers had completed registering and had just commenced with face-to-face classes. (Pre-Service Teachers are students who are entering higher education for the first time since Grade-12.) In the Faculty of Education, first year Pre-Service Teachers are required to spend a 3 weeks-observation period in a functioning school as part of their School-based Work Integrated Learning module. The observation provides the Pre-Service Teachers with an opportunity to develop an understanding of the various components of teaching. This practical experience also assists students to attain specific competencies relating to the skills that will make the Pre-Service Teachers ultimately employable and valuable members of the teaching profession.

At the institution of higher learning, where the research was conducted, the pandemic forced Teacher Educators to learn not only about how to use online technological platforms but also the most effective instructional approaches for the delivery of online learning content. This necessitated Teacher Educators to adapt their exiting instructional approaches to accommodate for the absence of a crucial element in the training process i.e. observation of best practices by Pre-Service Teachers. The Pre-Service Teachers were now unable to observe lecturers demonstrating pedagogical methods that they could use especially for practical undertakings such as School Based Work Integrated Learning.

In 2020, when COVID-19 restrictions were enforced, online teaching modalities took centre stage in institutions of higher learning. In South Africa, some institutions are more highly disadvantaged in terms of resources. This meant these institutions were even more ill-prepared for the mandatory technological shift in the mode of teaching. Face-to face lectures were replaced with online learning which meant that the physical connectedness of students with lecturers and students with other students was absent. One of the principles of the social learning theory by Lev Vygotsky (1962) helps us to understand how people learn in social contexts. With the move to on-line learning the social aspect of learning was absent. Ormrod (2016) found that four principles, namely competence, excitement, self-determination and connectedness, are fundamental needs in online learning. These principles were not initially fulfilled, in these circumstances, because of the various challenges brought by online learning.

During School Based Work Integrated learning, Teacher Educators had various experiences whilst preparing first year Pre-Service Teachers for School-Based Work Integrated learning using an online learning environment (Dautbašić & Saraćević, 2020). This was true of the three Teacher Educations involved in this study. Their reflections on challenges they experienced in their preparation of 1st year Pre-Service Teachers are dealt with in the following segments. Some of these challenges include, but were not limited to, the lack of technological knowledge and ability, connectivity issues caused by load shedding during online classes and linking theory to practice.

The critical questions that drive this research were:

i) What instructional methods did Teacher Educators use in the preparation of Pre-Service Teachers prior to the shift to online-learning?

ii) How did Teacher Educators adapt their instructional methods to an online setting?

iii) What were the successes/challenges Teacher Educators experienced during the transitioning from face-to-face to online learning platforms?

Research Methods and Design

This research was qualitative in nature and used a Case Study design. Qualitative research approaches are used for exploring and understanding the meaning that individuals ascribe to a social and human problem (Creswell & Creswell, 2018). In this research, the problem under investigation was the transitioning to training Pre-Service Teachers, to be ready for their School Based Work Integrated Learning, using an online platform. The aim of the research was to investigate the experiences of three Higher Education/University lecturers on training Pre-Service Teachers using an online method.

Sampling Techniques and Sample Size

In this research, purposive sampling was used. Purposive sampling is a selection process where the candidates who are most likely to answer the research question are selected (Campbell et al., 2020). Three lecturers who lecture on the School Based Work Integrated Learning course were purposively selected. The three lecturers were all working with online courses, preparing the Pre-Service Teachers for their experience of

the primary school classroom for the first time during their course. Each participant was allocated a pseudonym in order to protect their anonymity.

Data Collection

Data were collected from individual semi-structured interviews and documentation. Semi-structured interviews are designed to obtain subjective responses from the participants on the phenomenon under investigation (MacIntosh & Morse, 2015). In this research, interviews were conducted with individual Teacher Educators, with a set of guiding questions used to guide the interview. The interviews were recorded and transcribed.

Data Analysis

The transcriptions from the interviews were firstly read in order to get a sense of the responses from all participants. Thereafter, the transcripts were re-read and emerging themes were noted. The themes were then coded and grouped according to the relevant research question(s). During the document analysis the documents were scrutinized for information pertinent to the research questions.

Results/Findings/Discussions

The three research questions and subsequent discussion and findings will be discussed in this section.

What instructional methods did Teacher Educators use in the preparation of Pre-Service Teachers prior to the shift to online-learning?

Training curricula is designed to develop a set of competences in Pre-Service Teachers over a set period of time (Cuenca, 2010). This process starts in year 1 of the qualification. In 2018, the Faculty of Education, at the institution where the study was conducted, rolled out a newly re-curriculated Bachelor degree in foundation phase studies, in line with the Minimum Requirements of Teacher Education policy (Department of Higher Education and Training, 2015). The introduction of the Bachelor in intermediate phase studies followed in 2019. This necessitates a discussion of practice prior to the move to online learning.

Instructional approaches – Team Teaching Approach (2018)

In 2018, six (6) teacher educators working in three teams were assigned to teach approximately 150 year 1 pre-service student teachers. Each team was led by a 'lead teacher' or 'team leader'. Contact sessions of 90 minutes in duration were time-tabled to take place on Monday afternoons in the second semester. These sessions were conducted over a 6-week period at the start of the second semester. The purpose of these sessions was to introduce and orientate Pre-Service Teachers to School Based Work Integrated Learning.

The team leader used a variety of instructional approaches depending on their individual teacher's character and preference. These methods included direct instruction; blended learning; group work; active learning, reading, reflective writing, plenary discussion, journaling, presentations, role-plays, and group tutorials. All members of the team were

present in the venue with the team leader facilitating the session whilst the other two team members acted as resource persons in support of the main facilitator.

One of the aims of the module was to develop the individual Pre-Service Teacher's academic and reflective writing skills in the form of journaling. Pre-Service Teachers were required to continuously reflect, in writing, on key learning points after each of the six sessions and ~~every~~ daily during their 3 weeks at the school. The journals were submitted as part of the portfolios, Pre-Service Teachers were required to develop during their practical experience.

Group interaction was an important aspect of the individual student's engagement with the content of the modules. In addition to lectures and daily writing activities, students were required to form discussion group to debate and 'sound out' thoughts and ideas. Each group was required to submit a group poster reflecting their school-based work integrated learning process after their observation period at the school. These posters formed part of the assessment regime for the module.

The assessment regime for this module was aimed at fully supporting the desired attributes in Pre-Service Teachers. Every aspect of the pre-service teacher's experience was valued and assessed as can be seen in the table below:

Table 1: 2018 Assessment of SBW 121e – Extract from Learners' Guide

Formative Assessment Tasks		
Attendance at Contact Sessions *Attendance of contact sessions of this module is mandatory. A mark reflecting attendance will constitute 10% of the mark toward this course.*	Formative	10%
Host Teacher Review: Professional Conduct *Your host teacher will complete a 10 item assessment of your professional conduct, indicating whether or not you arrived on time, behaved appropriately, and treated children, teachers and others in the school community kindly and with respect. The mark of this assessment will account for 20% of your mark toward this course. See Host Teacher Assessment in your Student Guide for this course.*	Formative	20%
Written Assignment / Group Project There will be one written assignment or group project assigned by your lecturer team	Formative	10%
Summative Assessment Task: Portfolio Submission		
Organisation and neatness of portfolio		5%
Evidence of careful notetaking (observation schedule and note book)		10%
6 reflective pieces (180-250 words) (5% each)		30%
Summative Reflection (750 words)		15%

Instructional approaches: One lecturer – one class (2019)

With the introduction of the intermediate phase qualification in 2019, the 6-member staff team assigned to work with the Foundation Phase Group, in 2018, were split into 2 groups of 3 staff, one for the foundation phase and one for intermediate phase. Only one of the staff members involved with the group the previous year stayed on as part of the teaching team. In 2019, the idea of a 2 -3 member team working on one class with a

group was amended due to an increase in student numbers and the lack of staff members. The instructional time remained the same as that of 2018.

In 2019, the instructional approaches to developing the desired competences followed more of a lecturing approach with the lecturer responsible for preparing and presenting material. One of the drawbacks of working one teacher educator to a group of Pre-Service Teachers was that there was only one instructional leader present in a session. The content stayed the same but the assessment regime changed as it proved to be over-ambitious and bulky. The following extract, from the assessment rubric for 2019, reflects the shift in assessment focus in comparison to what was expected from the 2018 cohort.

Table 2: School-Based Work Integrated Learning Experience Rubric - 2019

COMPLETE & NEAT: (Compliance with formatting requirements)				No	Yes
Instructions for structure adhered to: labelled file + Contents Page + 5 Signposted Sections					
Overall neat/professional presentation					
Declaration of Professional Ethics					
Section 1: Attendance Register with School Stamp					
Section 2: Daily Record with School Stamp					
Section 3: Host Teacher's Summative Evaluation					
Section 4: Observation Essays (9)					
Section 5: Summative Reflective Task					
OBSERVATION ESSAYS					
0 – No Evidence**; 3-** Poor; **5-** Adequate; **7-** Good; **10-** Excellent					
The Classroom Environment A well substantiated description and reflection on the organisation of the classroom environment. A well substantiated description and reflection on a typical classroom day. A well substantiated description and reflection on the classroom management strategies used by the host teacher.	**0**	**3**	**5**	**7**	**10**
Children and Learning Learning Interactions: Speaking Learning Interactions: Reading and Writing Thriving versus struggling learners Language	**0**	**3**	**5**	**7**	**10**
Teaching and the Organisation of Lessons Mathematics Lesson Home Language/First Additional Language	**0**	**3**	**5**	**7**	**10**
Self-Reflective Task An authentic self-reflection report indicative what was learnt, what gaps were identified and a clear strategy on how the gaps will be addressed.	**0**	**3**	**5**	**7**	**10**
Subtotal (100 marks)					
TOTAL (100 marks)					

How did Teacher Educators adapt their instructional methods to an online setting?

The team involved in the teaching of SBW 121E, in 2020, was faced with taking new entrants into the profession through their first exposure to the practical component of teacher training in an online-setting. The members of the SBW 121E team included two Teacher Educators with a foundation phase focus and two Teacher Educators with an Intermediate phase focus. In 2021, the teaching team membership changed to four

members on the team. The instructional time per week stayed at one 90 minute lecture per week.

For content, both phase groups were combined into one online session. Each member of the team was responsible for teaching one of the 4 generic curriculum themes to the entire first year student cohort using the online platform. Every member of the teaching team attended every session. Each session had a lead teacher with the rest of the team playing a supporting role which included alerting the presenter to raised hands and issues raised in the chatroom. The fifth theme which was phase specific were taught by either the 2-member team representing the Foundation Phase or the two-member team representing the Intermediate Phase on the same platform on different days. For this presentation, the students were split and only attended one of the sessions. The online setting required that sessions be created on the e-learning platform and all participants be sent the link in-order to join sessions. The team leader was responsible for creating sessions and uploading all content.

The decrease in staff and the increase in the number of first year Pre-Service Teachers resulted in the online environment approach changing to predominantly lecture mode. The lead presenter would present content and only stop if alerted by the team if there was a hand or a question raised in the 'chatbox'

The third and final question which the study sought to answer was:

What were the successes/challenges Teacher Educators experienced during the transitioning from face-to-face to online learning platforms?

The shift to online learning was not without its successes. Firstly, the Teacher Educators worked successfully as a team and all content was uploaded onto the e-learning platform. This included everyone assisting with team teaching and assisting each other with technical issues. The shift to online learning meant that the Teacher Educators had to quickly improve their technological skills and competence. Teacher Educator 1 noted, "*Wow, if I remember what I knew then [before COVID 19] and what I know now there is no comparison. I am so much more competent. I have even become used to teaching 'faceless' students*". While some of the Teacher Educators had limited experience with the online platform they had to adapt too. Teacher Educator 2 noted,

> *I had used the online platform but mainly for putting up notes and readings. I had never used it for teaching and assessing. Fortunately, we had some experts and our institution was able to provide us with some training. I also learned from my colleagues. The ones who were more advanced than me. When I had a question, I would ask them and they would help me.*

Furthermore, the on-line learning also meant that the Teacher Educators were not tied down to a specific venue and teaching slot, which allowed for more flexibility and scheduling of classes during optimal connectivity times. Student migration and attendance to the online platform was successfully done, the issue of data was circumvented (but not eliminated) with cell phone providers providing zero rated data

and funded students each receiving a laptop. Furthermore, lectures were recorded and students could go back and ensure that they understood the lecture, a resource that they did not previously have at their disposal.

However, despite the successes, a number of challenges were encountered. The move to the e-learning platform was successful but it only worked as long as the Teacher Educators and Pre-Service Teachers had connectivity and the necessary technological skills. Even though they are provided with a laptop, many students had not had the advantage of being exposed to technological skills or sufficient technological skills that they needed to make the shift during their high school career. The majority of the Pre-Service Students had come from disadvantaged areas and had never operated a laptop let alone attended online classes. Initially, many students could not log on, were not in the correct course room or logged on late. Teacher Educators 3 noted that, "*They arrive late and proceed to query matters which were dealt with at the start of the session. This disrupts the flow of session. Late arrivals disrupt the flow of the class"*.

In addition, based on the individual's access to a stable internet connection as most participants connected from home, staff and students alike experienced connectivity challenges as well as intermittent load shedding in 2021. Teacher Educator 2 noted,

> *I was in the middle of my lecture, using the online platform, and had assigned a group task. It was a disaster. I put the students into groups and then had to redo the groups as the Pre-Service Teachers experienced load shedding and one or two groups only had one participant in it. It did not work at all. At other times, student's connectivity is low and they have to reconnect all the time. This means that sometimes they miss 10% of the lecture. I sometimes find it easier to just lecture.*

The Teacher Educators also noted that additional technical challenges included Pre-Service Teachers not able to activate their microphone, not able to hear presenters and loosing connectivity.

Furthermore, listening to a lecturer through a computer screen was an additional shift that students needed to make. Due to issues of bandwidth, everyone, including the presenter, worked 'invisibly' with cameras switched off. Only the projected presentation could be seen on the online platform. The lack of human interaction can be alienating for both the Pre-Service Teachers and for the Teacher Educators as they are used to being aware of the classroom atmosphere and facial expressions in order to gauge the effectiveness of their lecture.

The issue of answering question(s) was another disadvantage. When the lead presenter posed questions, the support team would identify who needed to answer the question. The Pre-Service Teachers' reaction, when they were called upon to answer the question or were unwilling to answer, would often be to disconnect; leave the session or use the excuse that their microphone did not work. Teacher Educator 1 noted,

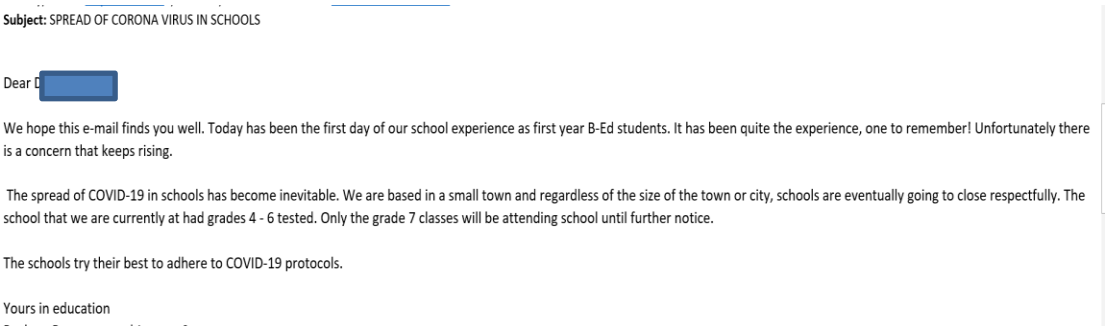
> *I found it frustrating when students ignore questions in the online setting, they just keep quiet. At least when I am in a classroom, I can ask someone, or I can physically move to*

the student and ask them to answer the question. We do not have this in an online setting.

Student attendance at these sessions was low. The Pre-Service Teacher would report that they were attending other lectures, or incorrectly logged onto the incorrect lecture not dealing with their teaching phase. This was not desirable as the attendance numbers reflected incorrectly. In addition, the Pre-Service Teachers took advantage of the fact that lectures were recorded and did not always attend classes and sometimes missed information that was dealt with in a previous session. The decrease in staff to student ratio adversely affected the course. In 2020, six staff members were allocated to teach on the course, this number decreased in 2021 with only 4 teacher educators being responsible for in excess of 300 students. The decrease in allocated staff members was not ~~only~~ an issue during virtual lectures, however became a challenge during the assessment of the 300 students' portfolios.

Kolb (1984) refers to a cycle of learning as including knowledge internalization, application of knowledge, and analysis and synthesis of knowledge and activity. School Based Work Integrated Learning is in essence a cycle of learning. It requires Pre-Service Teachers to actively engage and reflect on their experiences. Traditionally, preservice teachers learn theories, pedagogies, and practical strategies from lectures and within lectures prior to their Work Integrated Learning at schools. The lectures provide an opportunity for lecturers to demonstrate good practice that they expect the Pre-Service Teachers to use. Work Integrated Learning is therefore essential in providing an opportunity for the application of learned knowledge and is a key element that allows for experimentation between knowledge and practice. One of the major challenges of moving to the e-learning platform was the fact that in 2020 Pre-Service Teachers were unable to do their teaching experience within an authentic school setting. This meant that Pre-Service Teachers could not experience hands-on teaching, gain experience and develop their professional skills such as classroom management and planning and assessing (Ersin et al., 2020) apply the knowledge from lectures.

In 2021, first year students were able to do their School Based Work Integrated Learning, however this was during what was known as the "third COVID wave" which meant that COVID infections were high at schools with teachers and learners becoming infected and schools having to close while they were being sanitised. The following communique was received in 2021 from the first-year class representatives.



Subject: SPREAD OF CORONA VIRUS IN SCHOOLS

Dear [redacted]

We hope this e-mail finds you well. Today has been the first day of our school experience as first year B-Ed students. It has been quite the experience, one to remember! Unfortunately there is a concern that keeps rising.

The spread of COVID-19 in schools has become inevitable. We are based in a small town and regardless of the size of the town or city, schools are eventually going to close respectfully. The school that we are currently at had grades 4 - 6 tested. Only the grade 7 classes will be attending school until further notice.

The schools try their best to adhere to COVID-19 protocols.

Yours in education

The following communique received from a pre-service teacher at a local school, illustrates how the COVID infections and subsequent educational disruptions that

occurred in their school impacted on their experience during the work integrated learning period.

COVID 19 – SCHOOL and CLASS CLOSURES

DATES	REASON/CLASS
Monday, 2 August	Grad[redacted]mann's class
Friday, 13 August	Grad[redacted]'s class
Friday, 13 August	Grade 2 [redacted]' class
Friday, 13 August – Tuesday, 24 August	Grad[redacted]' class
Monday, 16 August	School was closed for deep cleaning and fumigation.
Monday, 16 August – Friday, 20 August	Grad[redacted]'s class
Friday, 19 August – Tuesday, 24 August	School was shut down for 5 days due to the current COVID cases at the time.
Wednesday, 18 August	[redacted]s (FORT HARE STUDENT) tested positive. Grad[redacted]k's class

In the 2021 period, the School Based Work Integrated Learning team received a number of reports from students about infections during their School-Based Work Integrated learning period. The following e-mail from a student states that she had to self-isolate as the host teacher was tested positive for COVID 19

Good Morning Ma'am,
I hope that you're in good health.

Yesterday was my first day at [redacted] Primary School, and my host teacher received COVID-19 results later the afternoon testing positive. I have been in close contact with her and spoke to the principle and he advised me to isolate for the next 10 days and test when I show any symptoms.
I would like to know what the way forward would be with regards to my School Experience and what are the necessary documents I need to send to the University due to my absence at school.

Regards

The 2021 School Based Work Integrated Learning period was stressful, filled with a number of disruptions for many Pre-Service Teachers. Even though pre-service teachers managed to attend schools, the period was disrupted and the learning was therefore not consistent.

The submission of tasks using the online platform also posed some challenge. Pre-Service Teachers were not used to this platform and often submitted their work in a format that could not be opened on online platform. Furthermore, the online platform did not accept late submissions. This resulted in additional work for the already burdened 4 Teacher Educators as they now had to communicate each issue to the Pre-Service Teacher. Not all Pre-Service Teachers responded to the communique which resulted in a number of students receiving a zero mark for the course which then had to be amended later. In addition, not all Teacher Educators were comfortable with the shift to marking online and were adequately conversant with the e-learning platform and downloaded students' tasks which resulted in the downloaded work being deleted from the system.

Table 3 below shows the increase in student numbers from 2018 to 2021. In addition, the number of pre-service not meeting the 50% pass requirement increased, the failure rate in

2021 was much higher than in the preceding years. Furthermore, the failure rate amongst Pre-Service Teachers tended to be lower among students registered on the Bachelor in Foundation Phase Teaching (FPT) than students registered on the Bachelor in Intermediate Phase Teaching (IPT).

Table 3:
Increase in student numbers: 2018 - 2020

Year	No. of Teacher Educators	No of Student enrolled	Students who achieved a course mark less than 50 %
2018	6	150	5
2019	6	300	2(FPT) 10 (IPT)
2020	5	352	4(FPT) 5(IPT)
2021	4	402	62

Summary of Findings

Human Resource Allocation

There was a significant increase in the number of Pre-Service Teachers but the Teacher Educators allocated to the course decreased from 2018. The preparation of Year 1 Pre-Service Teachers prior to COVID 19 was the responsibility of 9 Teacher Educators organised into 3 teams under the leadership of a lead teacher in 2018. With the introduction of the Intermediate Phase qualification in 2019, the team-teaching approach was abandoned and phase groups were taught separately. In the time-period 2020 – 2021, a team of 4 academics taught the module to a combined group of foundation and intermediate phase students with a marked increase in student numbers.

Instructional Changes

The instructional time stayed the same for SWB 121E from 2018 to 2021. One 90-minute contact session were conducted over a period of six weeks with the Pre-Service Teachers. This means that in 2018 and 2019, Pre-Service Teachers spent 9 hours with the experienced Teacher Educators teams modelling appropriate pedagogical approaches in preparation for their practical experience in a school. In 2020 to 2021, the instructional time stayed the same, however the delivery of content shifted from face-to face (classroom based) sessions to online (computer-screen based) sessions.

Assessment Practices

The assessment of the module in 2018 included both formative and summative aspects with every aspect of the training being valued. The development of reflective practice through daily journaling during the preparation period and practical experience was a crucial aspect of the module. In 2019, there was a shift in assessment practices with less

formative assessment and a reduction in the number of summative tasks. The assessment changed in 2020 from pre-service students not undertaking School Based Work Integrated Learning experiencing and instead producing four (4) assignments as the means of a summative assessment.

In 2021, Pre-Service Teachers did attend schools. However, the assessment was in the form of an e-portfolio. The online assessment process was handled differently by individual members of the Teacher Educator team. The majority of the team opted for online assessment with a rubric whilst one of the team preferred to have submission printed out. Many Pre-Service Teachers did not know how to upload the document in an appropriate format resulting in the assessment process being more complex.

Move to the Online Platform

Both Teacher Educators and Pre-Service Teachers were able to make the technological shift to the online platform. Nonetheless, the use of the online platform presented the team with a number of challenges. The challenge of not physically being able to see the students and use pedagogical practices to encourage Pre-Service Teachers to participate in lectures was noted. Pedagogical strategies used for teaching on an online platform are not always pedagogical strategies appropriate for the face-to-face nature of a school classroom. Furthermore, the 2020 cohort of students have had less practical experience of being in a classroom which could have implications later on.

Conclusion

No one was prepared for COVID 19 and the shift to an e-learning platform, however teaching Pre-Service Teachers using the online learning platform presented a number of challenges. The 2020/2021 SBW period as compared to the 2018/2019 was disrupted and was not as effective for preparing first year pre-service teachers. Therefore, in order to not only ensure that we enter and stay abreast of the fourth industrial revolution and potential future pandemics as well as ensuring Pre-Service Students have sound pedagogical knowledge, a hybrid or blended approach be used for the teaching of courses.

Recommendations

School Based Work Integrated Learning is an integral part of any pre-service teacher's training and therefore an appropriate staff-student compliment is essential.

In order to negate the alienating and impersonal nature of the e-learning platform, a hybrid approach be implemented with both e-learning and face-to-face lectures being conducted Furthermore, the pairing of a Bachelor of Education 4th year student with a first-year student as a mentor would assist in not only humanizing the course but also provide the student with added guidance. In order to mitigate the problem that students have of submitting their work using the e-learning platform, more detailed guidance and training to be provided to the Pre-Service Students. The use of formative as well as summative assessment as well as the use of reflective essays be used as part of the assessment process.

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PERCEPTIONS OF TEACHERS AND PARENTS ON THE USE OF PLAY METHOD IN EARLY CHILDHOOD CENTRES

[1]Sibonginkosi Mhlanga & [2]Sitshengisiwe Nkomazana

[1&2]Department of Early Childhood Development,
Faculty of Education, BA ISAGO University of Botswana

Abstract

Parents and teachers have varied ideas of play as reflected in the past and present philosophies of education. The study addressed perceptions of teachers and parents on using play method for learners in Early Childhood Development (ECD) centres. A case study was carried out using semi-structured interviews which engaged five purposively sampled teachers and ten randomly sampled parents living in communities within Bulawayo Central District. Qualitative data was analysed using emerging themes and descriptively presented. Piaget's theoretical cognitive framework provided the lenses that enabled an understanding on how an individual construct knowledge through the use of their senses, by manipulating objects in the environment. The study revealed that teachers and parents favoured unstructured play as they indicated that play offers more opportunities for children to create their own knowledge; develop holistically and understand the world around them. The study concludes that teachers, parents and policy makers should view children's structured and unstructured play as learning. It was also indicative that parental perceptions have great influence on the way children learn through play. Recommendations put forward included that parental awareness seminars are to be conducted regarding the way children learn.

Keywords: Perceptions, teachers, parents, play way method

Introduction

Play method in Zimbabwean curriculum is one of the greatly recognised and regarded the best pedagogy to teach young children and it has been considered since time immemorial by parents and teachers in Zimbabwe. It is also viewed as part of quality education practices which are part of Sustainable goals 2030. However, the twentieth century teachers and parents differ on their views of the play method as a tool that can enhance children's holistic development. Educators and parents still differetiate between a time for learning and a time for play without seeing the vital connection between the two. Play is defined by Gray (2011) as self-chosen and self-directed, intrinsically motivated, guided by mental rules that leave room for creativity, and imaginative. The characteristics of play define play in a broad way laterally with their influences to the developmental and educative value of play.

Structured play is viewed as lessons, participation in competitive sports (including practice time), and participation in organizations (Hunter et al, 2017). This is a clear indication that structured play is teacher directed. Unstructured play includes: active non-competitive sports, playing games, outdoor activities, passive leisure (including watching television), music and arts, socializing and attending events, shopping for personal items,

working on hobbies, and miscellaneous (Hunter et al., 2017; Bubikova et al., 2019). From the above definition, unstructured play is self-directed and self-chosen.

Play plays a fundamental role in children's development. A research done by Ducusin and Marison (2016) indicates that parents view play as a vehicle to the holistic development of the child. Parents indicated a number of reasons why play is important to their children which include: it helps the child to explore knowledge, promote a healthy and a strong body, creative, language development, problem solving, emotional stability, social judgment, effective peer interaction and many more. Parents perceive that play way approach in early childhood centres is the best method for teaching as it helps in total learning, and it facilitates developmental outcomes in children (Dauber et al., 1993). Thus, play develops the child holistically. Nature play could be risky or dangerous to children but a lot of things can be learned with these experiences to let the child get out of his/her limitations and explore more (Hunter et al., 2017).

The correlation between play method and learning has been viewed differently by many scholars. According to Gray (2011) the cognitive, physical, emotional and social behaviours of children are connected to play. In his study, he established that play is vital for a child's overall health and wellbeing. On the other hand, Bubikova et al (2019) indicate that teachers value play in children's programs. Regrettably, as pointed out by Gray (2011), the opportunities presented by play are not valued by teachers as they observe learning and development of children. Bubikova et al. (2019) found a pattern of most educators seeing play as contributing to children's holistic development, and laying a foundation for later learning, along with some disbelief of play's relevance as a learning context.

A research study done in South Africa by Shak and Abrahim (2015) revealed that early educators hold several beliefs about playful practices, which vary in perceptions where learning is in favour of play, or not in favour. Others have introspective stances on learning in play, which recognises a variety of playful practices and the importance of adopting a responsive educator role. In many studies teachers preferred structured and unstructured play depending on the social content of the child (Shak and Abrahim 2015; Gray 2011).

This study is hinged on Piaget's cognitive theory. Piaget believed that, cognitive structures are basic, interconnected psychological systems that enable children to process information by connecting it with prior knowledge and experience, finding patterns and relationships, identifying rules, and generating abstract principles relevant in different applications (Hanne et al., 2021). They further states that Piaget identified the successive systems, practice play, symbolic and play with rules. These systems are the respective counterparts of sensorimotor, preoperational and concrete operational stages of development.

In short, researches done globally on perceptions of teachers and parents convey different views of play method in early childhood centres. It was noted that in similar researches, it was done mostly with teachers disregarding the part played by parents as key stake

holders of the programme. Consequently, it is aimed in this study to determine the views of both parents and teachers. For this reason, the major aim of this research is find out on the perceptions of teachers and parents on the use of Play Method in Early Childhood Centres.

Research Methodology

Design

This study followed a qualitative research approach with bias for a case study design. A qualitative case study design was adopted because it gave the researchers opportunity to interview people, analyzing their responses, observing them and listening to their social interaction (Paton, 2002; Punch, 2009). A case study is ideal when a holistic, in-depth investigation as required to understand a particular phenomenon or experience (Babbie, 2008; Okeke, 2010; Creswell, 2014). Qualitative researchers tend to collect data in the field, at the site where participants experience the issue or problem under study. Qualitative validity entails archiving the truthfulness, correctness or accuracy of research data (Bartlet & Buron, 2007). In qualitative research, issues of trustworthiness suggest that the research is credible when those familiar with the topic of the study recognise the findings to be true. It is indispensable to address trustworthiness measures in this research.

Location of the Study

The study area was in the urban community of Bulawayo Central District in Bulawayo Metropolitan Province in Zimbabwe. Once the proposal was approved, a comprehensive discourse on the dynamics of the study site and its influences on perceptions of teachers and parents on the use of play method in early childhood centres was commenced.

Sample

The researchers used purposefully select participants that best helped the researchers understand the problem (Creswell, 2014). Purposive sampling has been used to come up with a sample because it enables people or respondents who have particular specific characteristics which are relevant to the topic of the research to be selected on the basis of these characteristics (Zink, 2012). Babbie (2013) mentions that, in purposive sampling the units to be observed are selected on the basis of the researcher's judgement about which ones are most useful or representative. The researchers used the above information to sample five teachers and ten parents in this study.

Table 1

	Teacher A	**Teacher B**	**Teacher C**	**Teacher D**	**Teacher E**
Gender	Female	Male	Female	Female	Male
Age	40	55	48	35	39
Qualifications	Diploma	BEd in ECD	Diploma	Paraprofessional	Diploma
Teaching experience	16 years	15 years	10 years	3 years	7 years
Marital status	Married	Married	Married	Single	Married
No of children in class	20	30	38	25	30

Demographic information for the teachers

Table 2

PARENTS	**1**	**2**	**3**	**4**	**5**
Gender	Female	Female	Male	Female	Female
Age	40	37	40	35	55
Marital status	Married	Married	Married	Widow	Single
Level of education /qualification	Nurse	Banker	Self employed	Teacher	Policeman
No of children	4	2	3	2	3
Breadwinner	Yes	Yes	Yes	Yes	Yes
No of people in the family	6	5	5	4	7

Demographic information for parents Group A

Table 2

PARENTS	**6**	**7**	**8**	**9**	**10**
Gender	Female	Female	Male	Female	Female
Age	50	35	30	42	30
Marital status	Married	Married	Married	Married	Married
Level of education/ qualification	Entrepreneurship	Bank manager	Photographer	Chef	Nurse
No of children	4	2	1	4	2
Breadwinner	Yes	Yes	Yes	Yes	Yes
No of people in the family	7	4	3	6	4

Demographic information for parents group B

Instruments for Data Collection

This study was conducted through the use of focus group discussion for parents, semi-structured interviews for ECD teachers. The researchers decided to use the focus group discussion as one method for this study because it is convenient to obtain detailed information about personal and group feelings, perceptions and opinions, they can save time and money compared to individual interviews and they can also provide a broader range of information. The interviews were used in this study because it enabled the researchers to have access not only to what participants say, but also how they say it (Punch, 2011). Thus, non-verbal behaviors provided some clues on how the participants perceive the use of play method in Early Childhood Centers. In addition, Best and Khan (2007) points out that interviews provide the researcher with the opportunity to probe and make a follow up questions which also assist to have more information. The researchers observed these advantages in using interviews.

Data Collection Procedures

Face to face interviews were planned, organized and conducted by the researcher to gather information from the participants. Boyce (2006) stipulates that interviews can be defined as qualitative research technique which involves conducting interview with small number of respondents to explore their perspectives on a particular programme or situation. Newman (2002) says that, an interview is a face to face discussion. With the interviews, the researchers sought to establish and understand parents' experiences with involvement in the educational development of children below six years of age. An interview guide was prepared and used to keep the interview focused. These interviews involved open ended questions which were intended to elicit stakeholders' views on their experiences in the involvement in the education and development of children. Interviews lasted between 40-60 minutes and were recorded with participants' consent.

Data Analysis Procedures

The purpose of this qualitative research was to explore the perceptions of teachers and parents on the use of play as a teaching and learning method. Following the endorsements of Creswell (2014), the data was organized and prepared by transcribing the information gathered. A general overview of the results of the coding process for all the individual cases will then be presented. Selected cases were repeatedly read and interpreted precisely with reference to a particular question asked and answered by the participants during the interview.

Ethical Considerations

Ethical considerations in this study focused on the following principles: confidentiality, informed consent and gaining entry, respecting the right to privacy, voluntary participation, avoiding harm to participants, and anonymity. All information obtained in the study was treated confidentially. The participants were assured that the collection of data from the interviews was for academic purposes only and no information would be revealed that might result embarrassment or direct negative consequence. A sense of caring and fairness was part of the researchers' thinking, actions and personal morality. The researchers received ethical clearance from Great Zimbabwe University and asked for permission from Bulawayo Metropolitan Provincial Department of Education to conduct the research.

Results

The result showed that, teachers perceive play as an important tool for learning, less knowledgeable parents valued structured play, unstructured play offers children opportunities to create their own knowledge, older parents did not value structured play and demographic information may influence child's experiences.
The results are specifically presented below.

Teachers perceive play as important tool for learning.

The interviewed teachers had different levels of qualifications ranging from degree, diploma, and certificate in early childhood, as well as para-professionals. It emerged during the discussion that almost all the teachers perceived play as an important tool for learning, irrespective, of whether be it structured or unstructured play. Further meditative on the perceptions of teachers on the use of play method revealed that the current

findings add substantially to the teacher's understanding of unstructured play as an avenue for the children to look at matters from different perspectives.

Less knowledgeable parent's value structured play.
Significant differences were appreciated among parents regarding the value of structured play. The less knowledgeable parents seemed not to value the structured play. On the other hand the knowledgeable parents supported the structured play equal the same as unstructured play.

Unstructured play offers children opportunity to create their own knowledge.
Interview discussions unraveled divergent perceptions on unstructured play. Parents with higher qualifications perceived unstructured play to be appropriate for early childhood children. The majority of parents were not convinced on how unstructured play benefit the young children, while on the other hand teachers evidently understood that unstructured play offered learners any opportunity to create their own knowledge.

Older parents did not value structured play.
It was thought-provoking to establish during the interview discussions that older parents did not really value structured play. These parents reported that when children are taught only through play way they tend to become non-serious.

Parents with higher qualifications perceived unstructured play to be appropriate for ECD children.
During the discussions, it was noted that parents with higher qualifications purported unstructured play to be most appropriate for the young children.

Demographic information may influence child's experiences.
The wide-ranging perceptions on the use of play way method significantly showed that demographic information has an influence on children's learning. These are socioeconomic information such as education, employment, income, and marriage rates just to mention a few.

Discussion
The interviewed teachers had different levels of qualifications ranging from degree, diploma, and certificate in early childhood, as well as para-professionals. It emerged during the discussion that almost all the teachers perceived play as an important tool for learning, irrespective, of whether be it structured or unstructured play. This denotes that teachers understood the difference between structured and unstructured play and how it benefits the teaching and learning of young children. This might also be an indication that the teachers have employed the method. Hence, their understanding that it can be used as a tool for learning for the young children. Further interrogation of the perceptions of teachers on the use of play method revealed that the current findings add substantially to the teacher's understanding of unstructured play as an avenue for the children to look at matters from different perspectives. This means that teachers understand that if children are exposed to unstructured play they are able to generate their own knowledge, through

exploration of the environment. Exploring helps children understand how they can relate to their environment and how the environment relates to them.

Significant differences were appreciated among parents regarding the value of structured play. The less knowledgeable parents seemed not to value the structured. This might suggest that the less knowledgeable parents might not see the difference between structured and unstructured play as well as their benefits in the total development of the young children. On the other hand, the knowledgeable parents supported the structured play equal the same as unstructured play. This means that these parents understand that in structured play, children learn new concepts as well as skills. Furthermore, they might understand that in structured play there is an adult input with specific objectives to be achieved unlike in unstructured play where everything is based on the interest of the child.

Interview discussions uncovered varied perceptions on unstructured play. Parents with higher qualifications perceived unstructured play to be appropriate for early childhood children. Some parents were not convinced on how unstructured play benefit the young children, while on the other hand some parents and teachers clearly understood that unstructured play offered learners any opportunity to create their own knowledge through activities that are initial started by the children themselves. Additionally, the teachers might be in contract with Paget's theory which emphasizes that children are not merely passive recipients of knowledge. Instead, children are constantly investigating and experimenting as they build their understanding of how the world works.

It was thought-provoking to establish during the interview discussions that older parents did not really value structured play. These parents reported that when children are taught only through play way, they tend to become unserious. This implies that older people might believe that through structured play, children do not learn anything; it is as good as the unstructured play. This might also mean that according to them play, is play be it structured or unstructured. For the older parents children benefit absolutely nothing from play besides entertainment.

During the discussions it was noted that parents with higher qualifications purported unstructured play to be most appropriate for the young children. This implies that these parents perceive that play way approach in early childhood centres is the best method for teaching as it helps in total learning and facilitate developmental outcomes in children. This is also in line with Piaget's theory which chronicles that if children are given an opportunity to explore the environment they are able to create their own knowledge.

The wide-ranging perceptions on the use of play way method significantly showed that demographic information has an influence on children's learning. These socioeconomic information such as education, employment, income, and marriage rates just to mention a few have an influence on how children learn.

Limitations

Experience has shown that all investigations carried out have weaknesses. The limitation of this study is a small sample which was used of ECD teachers as well as parents to

explore teachers and parents' perceptions on the use of play method in early childhood centres in the Bulawayo Central district of Zimbabwe. Therefore, the present qualitative findings cannot be generalized to a larger population of ECD teachers and parents.

Conclusion

Based on the results, the study concludes that:

- Children may exhibit observable learning patterns that indicate learning has taken place as a result of play.
- Parental perceptions have a good influence on the way children learn through play.
- Quality formal and informal learning are essential parts of a sound ECD programme.
- Teachers, parents and policy makers should view children's structured and unstructured play as learning.
- The consensus view seems to be that unstructured play offers more opportunities for children to create their own knowledge.

Recommendations

Based on the findings and conclusions of the study, the researchers recommend that:

- ❖ Parents should be enlightened on the activities their children are engaged in during the course of the day.
- ❖ Parental awareness seminars to be conducted regarding the way children learn.
- ❖ Participatory consultations with all ECD stakeholders, defining the expected quality of service and framework.
- ❖ Revise regulations and curriculum.
- ❖ Feasibility situational analysis study have to be carried out regarding the way children learn through play.

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ADULT AND LIFELONG LEARNERS' PREFERRED MEDIUM FOR SUSTAINABLE DEVELOPMENT IN THE ERA OF POST COVID-19

Temilola T. Apena
National Open University of Nigeria
Faculty of Education, Department of Educational Foundations

Abstract
COVID-19 pandemic shook the in this 21st Century in an unprecedented effect on education globally. After the pandemic has subsided, the world is faced with the challenge of educating the out of school adults. The major means of achieving this desired change is through adult and lifelong learning. Thus, this paper assessed the preferred medium of adult and lifelong teaching and learning in the post endemic or pandemic era. The design adopted by the study is descriptive survey research and a research question was answered and four hypotheses tested in the course of the study. A total of 1320 out of school adult learners were selected through total inclusive convenient or accidental sampling technique across the geopolitical zones of the country. A validated instrument tagged Preferred Medium of Learning Questionnaire (PMLQ; r=0.87) was used for data collection in the study. The results showed that a higher percentage of out of school adults learners preferred mostly radio programmes as their medium of lifelong teaching and learning in the post pandemic educational development in Nigeria. Besides this, their preference was not gender sensitive ($t_{(1,1318)}$ =0.60; p=0.20>0.05), age biased ($F_{(4,1319)}$=1.21; p=0.31>0.05), occupational different ($F_{(3,1319)}$=0.50; p=0.68>0.05) and regional specific ($F_{(5,1319)}$=0.98; p=0.43>0.05). The implications for educating the out of school adults in general were discussed. It was recommended that radio should be given priority attention in adult and lifelong learning programmes.

Keywords: Education, Lifelong, Out of school Adults, Pandemic, Medium

Background of the Study
COVID-19 pandemic shook the world in this 21st Century in an unprecedented manner, resulting in high number of death and consequentially having a very serious effect on economic, health, social and educational lives of citizens globally. It grounded the world to a halt, making people in every country to formulate various coping strategies. However, after the pandemic has subsided, people were face with the aftermath challenge which is inflation. Individuals, organizations, states and countries have to struggle for survival. It becomes difficult to cope with the new created normal life because of its impact on economies of people and generally on the country.

In life, man desires knowledge for a number of reasons, which may be for qualification, for entry into labour market; for job placement, promotion, and enhancement of technical know-how or creativity, for societal recognition and the fulfilment of lifetime aspiration. These reasons make lifelong, distance learning, continuing education, adult literacy and non-formal education germane to adults. While there is no standardized definition of lifelong learning, it is generally understood to mean learning that occurs outside of a

formal education institute, such as a school, university or corporate training. Ojo-Ajibare (2017) asserted that knowledge explosion in the re-design of jobs integrated with robotics which seems to have taken the place of human labour and emerging trends in the application of industrial technology at workplace to manufacturing processes necessitates the essentials of lifelong learning and continuing education or learning by discovery (heuristic education or problem-solving education) for adults to continue in learning and consistently renewing knowledge, skills and attitudes throughout lifetime. Aruma (2015) corroborated the imperatives of Lifelong learning by saying that it is important for any group of people who desire to encourage sustainable societal change to engage in adult and lifelong learning in the society.

Valamis (2022) described lifelong learning as 'a form of self-initiated education that is focused on personal development. Apena (2020) posited that lifelong learning is mainly the affair of the adult who have various engagements. Obviously, this group of people hardily get in involved in conventional social developmental changes. due to lack of education or acquisition of training of any form needed for development. Therefore, the education of this group of people is a worthwhile investment., because will enhance their capacities and encourage them to engage in developmental programmes of the country. Thus, it becomes imperative to give priority attention to the education of this group of people in this era of post Covid 19 pandemic.

Lifelong learning involves all forms of education received by adults to make them productive, as it is often said that learning is from cradle to grave. The 5th Global Report on Adult Learning and Education (2022) explained that reskilling and upskilling through adult learning and education must become routine. This is for the purpose of empowerment and consequently sustainability. The document further indicated that the main challenge for adult learning and education across the globe is how to reach those who need it most that is, the disadvantaged and vulnerable groups. Oghenekohwo (2017) stated that the most critical problem concerning education globally is on translating learning into the world of work using the development and acquisition of appropriate knowledge, skills and competences among learners. This is why lifelong involving people who are already engaged in the labour market is preferable as they will likely study courses relating to their engagements unlike new applicants, most of who cannot fit in due to the nation's poor education system.

Investment in the field of adult and lifelong education guarantees needed development and sustenance in human capital. Studies of authors such as Onyenemezu and Okanezi (2013) and Duke (2018) have shown that adult and lifelong education is the bedrock of sustainable development. The Director General of UNESCO, in her message, stated that sustainable development requires changes in people's action and thought as global citizens and only education can shape the new values, skills and knowledge for the next century. Duke and Hinzen (2012) pointed out that the national adult learner body can inspire and mobilize all its members and all their communities to inspire change where government effort is minimal. This statement showed the extent at which adult and lifelong learning can entrench sustainable development in a country. Therefore, it is impossible for the 17 Goals of Sustainable Development to be achieved without lifelong education. Goals such as to: Eliminate Poverty, erase hunger, establish good health and

well-being, provide quality education, enforce gender equality, improve clean water and sanitation, grow affordable and clean energy, create decent work and economic growth, increase industry, innovation, and infrastructure, reduce inequality, mobilize sustainable cities and communities, influence responsible consumption and production, organize climate action, develop life below water, advance life on land, guarantee peace, justice, and strong institutions and build partnerships for the goals have bearing on the level of education of citizens.

The major means of achieving desired change that can sustain development is through lifelong learning. Brundtland official Report of 1987 described sustainable development as the idea that human society must survive and meet their needs without affecting, compromising or mortgaging the ability of the future generations to meet their needs. The focus must be on improving and developing the knowledge and capacity of every group of adults from youth to the oldest adult through adult and lifelong learning for sustainable development. Apena (2019) stated that adult literacy programmes like health literacy, social literacy, political literacy, environmental literacy, finance literacy and computer literacy to mention a few are programmes that need to be funded and sustained for long term results. She explained further that there is serious need for the development of effective strategy of instruction particularly in a post pandemic period like this when the global economy has been badly battered from which most countries have not recovered.
The achievement of Sustainable Development (as nick named by Mensah (2019) should be crucial now more than ever before because of the closeness of the target year. The consideration of adult and lifelong learning should be the joker across the globe especially in Africa where much still need to be done in the areas of development and sustainability. Citizens need to be trained to meet up with the technological and climatic changes affecting every sector including education. During the period of pandemic, different countries worldwide introduced various media to continue the academic process ranging from online libraries, TV broadcasts, guidelines, resources, video lectures. Live transmissions of lessons were broadcasted through TV channels on different topical issues nationwide. The havoc caused by pandemic will be felt for years if proper preparation was not put in place for future occurrences, as pandemic is capable of closing down all face-to-face academic activities (Ajibo, 2020).

Landicho (2021) submitted that there should be a paradigm shift from traditional face-to-face instruction to various mode of adult and lifelong methods of learning. Old practice of face-to-face adult and lifelong instruction have to be revisited and recalibrated to fit the demands of a global community at the post pandemic era. In order to respond to this paradigm shift and revisitation and recalibration to fit the demands of a global community due to the COVID-19 pandemic, e-learning modalities in the form of Mobile service(WhatsApp, Telegram); Social Media (YouTube, Facebook); Virtual Conferencing (Microsoft Teams, Zoom, Cisco Webex); Radio; Television Home schooling/Personal Tutoring; Learning Management Systems (School website, Moodle, Google Classroom, Skooleeo, EdVes, Edmodo); Self-Study (textbooks, reading etc) were put in place in institutions ranging from universities to pre-schools across the globe by each country based on their capabilities.

Besides, in order to have a positive paradigm shift from traditional face-to-face instruction to these modes of adult and lifelong methods of learning in an online distance learning setup, both the teachers and students must have the means to engage in these online platforms. These changes with their associated challenges that include the redesigning of lessons and assessments, the limitations on technological resources and the effects of other factors such as decreased social interactions among learners and teachers has called for the exploration of novel solutions to these challenges of sustaining adult and lifelong teaching and learning (Landicho, 2021).

This research work is therefore set to identify the most preferred medium of adult and lifelong teaching and learning among Mobile/social media, Virtual conferencing and Radio/Television as a means of preparation for teaching and learning at the post endemic or pandemic era.

Statement of the Problem

The enormity of the effects of Covid 19 pandemic on all areas of human endeavor necessitated the use of various coping strategies for different sectors. The effect of the pandemic coupled with the poor economic situation in Nigeria culminated in inflation thereby causing increase in prices of goods and also causing social vices of different kinds in different regions of the country. We have insurgency and banditry in the north, militancy in the east and internet fraud and ritual killings in the west. These social vices created room for high level of insecurity perpetuated by ignorant, illiterate and poor and misguided individuals by the powers that be. Therefore, government at all levels need to shift attention to adult and lifelong learning for the empowerment and self-sufficiency of the people will go a long way in sustaining development. According to Apena (2021), if people are empowered and self-reliant, they will not be available to be used as political thugs or for other crimes. Lifelong learning takes place through various communication media, but seemingly with less success as attrition rate remains high. This paper, therefore, sought to assess the most preferred medium of adult and lifelong teaching and learning at the post endemic or pandemic era that can be used to sustain development in Nigeria.

Objective of the Study

The main objective of this study is to assess the most preferred medium of adult and lifelong teaching and learning that can be used to sustain post pandemic educational development in Nigeria. The specific objectives are to:

- Assess the age wise disparities in this preference.
- Assess the occupational disparities in this preference.
- Assess the regional disparities in this preference.
- Assess the gender disparities in this preference.

Research Question

The underlying research question was raised to guide the study is: What is the most preferred medium of adult and longlife teaching and learning to sustain post pandemic educational development in Nigeria?

Hypotheses

The following null hypotheses were formulated and tested at 0.05 level of significance.

Ho_1: There is no significant difference in the gender of adult learners for the most preferred medium for adult lifelong teaching and learning.

Ho_2: There is no significant difference in age range for the most preferred medium of adult and lifelong teaching and learning.

Ho_3: There is no significant difference in occupational for the most preferred medium of adult and lifelong teaching and learning.

Ho_4: There is no significant difference in regional for the most preferred medium of adult and lifelong teaching and learning.

Methodology

Research Design

The descriptive survey research design was adopted in this study.

Population

The targeted population for this study comprised all out of school adults from the age of thirty across the country. The reason for the choice of this group of people is partly because adult and lifelong learning is for them, and partly because they are the change makers. They are the working population, most of who are policy makers and the implementation group.

Sample and sampling Technique

Total inclusive convenient or accidental sampling technique was used to select all the 1320 out of school adults at their different working places across the six geopolitical zones (South-West (SW), South-East (SE), South-South (SS), North-East (NE), North-West (NW) and North-Central (NC)) in Nigeria with a minimum of two hundred participants in each zone.

Instrumentation

A self-structured instrument tagged Preferred Medium of Learning Questionnaire (PMLQ) was used to elicit information from the participants on their preferred medium of adult and lifelong teaching and learning during or after pandemic. This is an 18-item instrument designed to collect from the participants information from out of school adults on preferred medium of adult and lifelong teaching and learning. The instrument was made up of two sections. Sections A dealt with the background information of respondents like their gender, occupation, region and age while sections B consisted of items in relation to the preferred medium of teaching and learning in adult and lifelong education. The items statements were rated on a four-point likert scale of Most preferred (4), Fairly preferred (3), Least preferred (2), and Not preferred at all (1).

An initial pool of twenty-five (25) items was developed in the instrument. The items were subjected to face and content validity, which were validated by experts in Adult Education and Educational Evaluation validated the items. eighteen (18) items survived the scrutiny. Comment about wordings and arrangement of items made were incorporated into the final edition of the instrument. The instrument was therefore pilot tested at a

different location apart from the sampled towns. The reliability coefficient of the instrument was calculated using Cronbach Alpha's Coefficient and the instrument yielded a reliability index of 0.87.

Procedure for Data Collection

The researcher with some trained research assistants directly administered the questionnaire to 1320 respondents.

Method of data Analysis

To make meaningful deductions, the data collected were statistically analyzed using descriptive statistics, which involves percentage, mean and standard deviation produce answer to the research question and inferential statistics, which involves t-test and Analysis of Variance (ANOVA) were used to test the hypotheses at 0.05 level of significance.

Analysis and Results

The tables below show the analysis of data and results of the study.

Table 1:

Socio-Demographic Attributes of the Respondents

Variables		Freq.	%
Gender	Male	634	48.00
	Female	686	52.00
	Total	1320	100.00
Age Range	30-40 Years	147	11.10
	41-50 Years	574	43.50
	51- 60 Years	275	20.80
	61-70 Years	163	12.30
	71 years and above	161	12.20
	Total	1320	100.00
Occupation	Nil	112	8.50
	Trading	480	36.40
	Farming	497	37.70
	Artisan	231	17.50
	Total	1320	100.00
Region	South-West	219	16.60
	South-South	226	17.10
	South-East	223	16.90
	North-West	219	16.60
	North-Central	217	16.40
	North-East	216	16.40
	Total	1320	100.00

Table 1 shows the socio-demographic attributes of the respondents. 634 (48.00%) of the respondents were males while 686 (52.00%) were females. It also revealed that 147 (11.10%) of respondents were in the age range of 30 - 40 years, 574 (43.50%) were within the age range of 41 – 50 years, 275 (20.80%) were within the age range 51 – 60 years, 163 (12.30%) were in the age range of 61 – 70 years while the remaining 161 (12.20%) were above 70 years. So also, 112 (8.50%) were without any specific

occupation, 480 (36.40%) were traders, 497 (37.70) were farmers while 231 (17.50%) were artisans. Furthermore, 217 (16.60%) of the participants were from the south-western part of Nigerian, 226 (17.10) from south-south, 223 (16.90) from south-east, 219 (16.60) from north-west, 217 (16.40) from north-central and 216 (16.40) were from the north-eastern part of Nigeria.

Answering the Research Question

What is the most preferred medium for adult and lifelong teaching and learning to sustain post pandemic educational development in Nigeria?

Table 2: Descriptive Statistics of the preference for the medium of adult and lifelong teaching and learning to sustain post pandemic educational development in Nigeria

		Freq.	%	Mean	Std. Dev.
Preference for Radio Programme	Not preferred at all	101	7.70	3.02	1.00
	Least preferred	344	26.10		
	Fairly preferred	306	23.20		
	Most preferred	569	43.10		
	Total	1320	100.00		
Preference for Reading Books	Not preferred at all	220	16.70	2.27	0.85
	Least preferred	646	48.90		
	Fairly preferred	329	24.90		
	Most preferred	125	9.50		
	Total	1320	100.00		
Preference for Television Programme	Not preferred at all	81	6.10	2.61	0.71
	Least preferred	450	34.10		
	Fairly preferred	690	52.30		
	Most preferred	99	7.50		
	Total	1320	100.00		
Preference for Interactive Radio Programme	Not preferred at all	77	5.80	2.63	0.81
	Least preferred	537	40.70		
	Fairly preferred	500	37.90		
	Most preferred	206	15.60		
	Total	1320	100.00		
Preference for Interactive Television Programme	Not preferred at all	463	35.10	2.05	1.02
	Least preferred	521	39.50		
	Fairly preferred	146	11.10		
	Most preferred	190	14.40		
	Total	1320	100.00		
Preference for SMS	Not preferred at all	564	42.70	1.84	0.92
	Least preferred	528	40.00		
	Fairly preferred	108	8.20		

	Most preferred	120	9.10		
	Total	132	100.0		
		0	0		
	Not preferred at	592	44.80		
Preference for Phone Call	all			1.7	0.87
Conversation	Least preferred	539	40.80	7	
	Fairly preferred	95	7.20		
	Most preferred	94	7.10		
	Total	132	100.0		
		0	0		
	Not preferred at	782	59.20		
Preference for Video Call	all			1.5	0.81
Conversation	Least preferred	414	31.40	6	
	Fairly preferred	49	3.70		
	Most preferred	75	5.70		
	Total	132	100.0		
		0	0		
	Not preferred at	583	44.20		
	all			1.8	0.91
Preference for Audio Course	Least preferred	517	39.20	1	
Delivery	Fairly preferred	110	8.30		
	Most preferred	110	8.30		
	Total	132	100.0		
		0	0		
	Not preferred at	595	45.10		
	all			1.7	0.85
Preference for Whatsapp Teaching	Least preferred	570	43.20	4	
	Fairly preferred	60	4.50		
	Most preferred	95	7.20		
	Total	132	100.0		
		0	0		
	Not preferred at	420	31.80		
	all			1.9	0.83
Preference for Home Schooling	Least preferred	688	52.10	1	
	Fairly preferred	120	9.10		
	Most preferred	92	7.00		
	Total	1320	100.00		

From table 2, the result showed 569 (43.10%) with mean and standard deviation of 3.02 and 1.00, respectively for the respondents who made the most preference for radio programme. About 125 (9.50%) with mean and standard deviation of 2.27 and 0.85 respectively made the most preference for reading books, 99 (7.50%) with mean and standard deviation of 2.61 and 0.71, respectively made the most preference for television programme, 206 (15.60%) with mean and standard deviation of 2.63 and 0.81, respectively made the most preference for interactive radio programme, 190 (14.40%) with mean and standard deviation of 2.05 and 1.02 respectively made the most preference for interactive television programme, 120 (9.10%) with mean and standard deviation of 1.84 and 0.92, respectively made the most preference for SMS, 94 (7.10%) with mean and standard deviation of 1.77 and 0.87 respectively made the most preference for phone call conversation, 94 (7.10%) with mean and standard deviation of 1.77 and 0.87 respectively made the most preference for phone call conversation, 75 (5.70%) with mean and standard deviation of 1.56 and 0.81 respectively made the most preference for video call conversation, 110 (8.30%) with mean and standard deviation of 1.81 and 0.91

respectively made the most preference for audio course delivery, 95 (7.20%) with mean and standard deviation of 1.74 and 0.85 respectively made the most preference for whatsapp teaching and 92 (7.00%) with mean and standard deviation of 1.91 and 0.83 respectively made the most preference for home schooling.

Testing the Hypotheses

The following null hypotheses were tested at 0.05 level of significance.

Ho_1: There is no significant difference in the gender of adult learners for the most preferred medium for adult lifelong teaching and learning.

Table 3: Descriptive Statistics of gender perception of the most preferred medium of adult and lifelong teaching and learning.

	Gender	N	Mean	Std. Dev.	Std. Err. Mean
Preference for Learning Medium	Male	634	23.25	2.93	0.12
	Female	686	23.15	2.87	0.11

Table 4: T-test analysis of gender perception of the most preferred medium of adult and lifelong teaching and learning.

		F	Sig.	t	df	Mean Diff.
Preference for Learning Medium	Equal variances assumed	1.65	0.20	0.60	1318	0.10
	Equal variances not assumed			0.60	1304.93	0.10

Results in tables 3 and 4 show that there was no statistically significant difference ($t_{(1,1318)} = 0.60$) in male and female respondents' perception of the most preferred medium of adult and lifelong teaching and learning ($p = 0.20 > 0.05$). The mean and standard deviation values also show no statistically significant differences in male and female respondents' perception of the most preferred medium of adult and lifelong teaching and learning. Therefore, we accept the null hypothesis that says that there is no significant gender difference in the most preferred medium of adult and lifelong teaching and learning.

Ho_2: There is no significant difference in age range for the most preferred medium of adult and lifelong teaching and learning.

Table 5: Descriptive Statistics of age range perception of the most preferred medium of adult and lifelong teaching and learning.

	N	Mean	Std. Dev.	Std. Err.
30-40 Years	147	23.04	2.86	0.24
41-50 Years	574	23.40	2.86	0.12
51- 60 Years	275	23.02	3.02	0.18
61-70 Years	163	23.02	2.98	0.23
71 years and above	161	23.15	2.79	0.22
Total	1320	23.20	2.90	0.08

Table 6: ANOVA of age range perception of the most preferred medium of adult and lifelong teaching and learning

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	40.54	4	10.14	1.21	0.31
Within Groups	11059.26	1315	8.41		
Total	11099.80	1319			

Tables 5 and 6 showed that there was no statistically significant difference ($F_{(4,1319)} = 1.21$) in respondents' age range perception of the most preferred medium of adult and lifelong teaching and learning ($p = 0.31 > 0.05$). The mean and standard deviation values also showed that there was no significant differences in respondents' age range perception of the most preferred medium of adult and lifelong teaching and learning. Therefore, the null hypothesis was accepted, indicating that there is no significant age range difference in the most preferred medium of adult and lifelong teaching and learning.

Ho_3: There is no significant difference in occupational for the most preferred medium of adult and lifelong teaching and learning.

Table 7: Descriptive Statistics of occupational perception of the most preferred medium of adult and lifelong teaching and learning.

	N	Mean	Std. Dev.	Std. Err.
Nil	112	22.98	2.68	0.25
Trading	480	23.24	2.95	0.13
Farming	497	23.27	2.92	0.13
Artisan	231	23.07	2.86	0.19
Total	1320	23.20	2.90	0.08

Table 8: ANOVA of occupational perception of the most preferred medium of adult and lifelong teaching and learning

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	12.59	3	4.20	0.50	0.68
Within Groups	11087.21	1316	8.43		
Total	11099.80	1319			

Results in tables 7 and 8 show that there was no statistically significant difference ($F_{(3,1319)} = 0.50$) in respondents' occupational perception of the most preferred medium of adult and lifelong teaching and learning ($p = 0.68 > 0.05$). The mean and standard deviation values also show no statistically significant differences in respondents' occupational perception of the most preferred medium of adult and lifelong teaching and learning. Therefore, we accept the null hypothesis that says that there is no significant occupational difference in the most preferred medium of adult and lifelong teaching and learning.

Ho_4: There is no significant difference in regional for the most preferred medium of adult and lifelong teaching and learning.

Table 9: Descriptive Statistics of regional perception of the most preferred medium of adult and lifelong teaching and learning

	N	Mean	Std. Dev.	Std. Err.
South-West	219	23.04	2.67	0.18
South-South	226	23.42	3.02	0.20
South-East	223	23.00	2.96	0.20
North-West	219	23.05	2.98	0.20
North-Central	217	23.32	3.01	0.20
North-East	216	23.38	2.74	0.19
Total	1320	23.20	2.90	0.08

Table 10: ANOVA of regional perception of the most preferred medium of adult and lifelong teaching and learning.

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	41.40	5	8.2	0.98	0.43
Within Groups	11058.40	1314	8.42		
Total	11099.80	1319			

Results in tables 9 and 10 show that there was no statistically significant difference ($F_{(5,1319)} = 0.98$) in respondents' regional perception of the most preferred medium of adult and lifelong teaching and learning ($p = 0.43 > 0.05$). The mean and standard deviation values also show no statistically significant differences in respondents' regional perception of the most preferred radio programmes as their medium of adult and lifelong teaching and learning. Therefore, we accept the null hypothesis that says that there is no significant regional difference in the most preferred medium of adult and lifelong teaching and learning.

Discussion

The study discovered that the highest percentage of out of school adults mostly preferred radio programmes as their medium for adult and lifelong teaching and learning to sustain post pandemic educational development in Nigeria. Moreover, there were no statistically significant gender, age range, occupational and regional differences in respondents' perception of the most preferred medium of adult and lifelong teaching and learning to sustain post pandemic educational development in Nigeria. This finding is in line with that of Sanusi, Talabi, Adelabu & Alade (2021) who recommended that there should be a venue where learners will come together and listen to radio educational programme rather than individual listening. According to them, that is the model under *Lagos is Learning Project*. They also advocated that for *Mooko Mooka* programme to be successful, the frequency of the transmission should be increased to six (6) times a week. This finding is in support of Mwendar (1963) who among other things found that well-presented radio programme that meets the need of the learners will impact on learners. This finding is at variance with the study of Nicalaou and Kalliris (2020) who opined that the use, value and understanding of non-verbal communication in education especially Adult Education

is important. In the same vein, Ibrahim and Mishra (2016) revealed appreciable coverage of radio-based learning at Sur College of Applied Sciences in Oman. Jegede, Akintayo, Chioma and Okechukwu (2015) found out in a study they conducted that learner would prefer to listen to entertainment programmes rather than educative programme which means educative programmes must be simple and captivating. However, Ajaegbu, Akintayo and Akinjiyan (2015) discovered that radio was easily assessable to learners and that it was the quality of the programmes that protected them from distraction.

Conclusion

Conditions posed to the people as consequent effect of the pandemic make it difficult and almost impossible to cope with the 'new normal' life. Economic situation in particular has robbed off on other areas like health, social, education and recreation to mention a few. In as much as adults want better life for themselves, they have to take care of responsibilities with their time and money. They need to attend to issues, work and pay bills, hence, the preference for radio programmes. This factor is responsible for truancy and consequently attrition which is common with adult programmes. Radio is easily assessible by all as indicated by Ajaegbu, Akintayo and Akinjiyan (2015), adults' choice of it will improve their performance and aid completion rate in all praogrammes. The needed essential will be that programme coordinators must ensure short, interesting, participatory and relevant programmes. It must be captivating enough to arrest the attention of learners.

Recommendations

Based on the findings of this study, it is recommended among other things that:

- Radio medium of communication media should be given preference in learners programmes at all levels of adult and lifelong learning as learner regardless of age, region or occupation feel more comfortable with it.
- The content of radio programme meant for adult learning should be relevant to their needs and coincice.
- Educative radio programmes meant for adult learner should be captivating and brief because time is of great essence to them due to their various responsibilities and commitments.

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CLASSROOM ATTENDANCE, CHALLENGES AND MODE OF INSTRUCTIONAL DELIVERY IN THE POST COVID-19 ERA: THE STUDENTS' PERCEPTION

[1]**Adebakin, A. B.,** [2]**Ajadi, O. T.** & [3]**Akinniranye, O. I.**

[1&2]Department of Educational Management
Obafemi Awolowo University, Ile-Ife, Nigeria
[3]School of Education
Adeyemi College of Education, Ondo, Nigeria

Abstract

The global effect of COVID-19 pandemic has shone a harsh light on economy, health and education, particularly, university education. It has shown the apparent gap and existing inequalities in education services between the global north and the global south. Hence, this study examined students' desirability for virtual classroom attendance, identified students' perceived challenges in virtual classrooms and established students' preferred mode of instructional delivery in the post COVID-19 era. These were with a view to exploring the experiences of Nigerian university students in receiving university education in the post COVID-19 Era. Using the survey approach of quantitative design, the study covered 35,000 undergraduates and postgraduate students of the Obafemi Awolowo University, Ile-Ife, Nigeria and drew 10 respondents randomly from the 13 faculties and two colleges in the university making a total of 150 respondents for the study. A 25-item electronic google survey title 'Post COVID-19 University Education' (PCUE) was designed and circulated via various students' platforms on social media (WhatsApp and Telegram) to elicit responses. Data collated were analysed and presented descriptively. The study found that university students: do not attend virtual classrooms regularly; encounter challenges that restrain them from participation in virtual classes; and prefer the hybrid mode of instructional delivery. It was, therefore, suggested that the hybrid mode of instructional delivery should be further encouraged among university teacher.

Keywords: University education, Students, COVID-19, Virtual class, Face-to-face, Hybrid

Introduction

COVID-19 seems to be the most discused of all the pandemics that have ravaged the world in the time past. This might not be unconnected to the fact that it affected all areas of human lives, including education, across the world. To curtail the spread, there were pronouncements of total or partial lockdown of the global economy and university education switched unexpectedly from a predominantly face-to-face mode, in Nigeria, to a full virtual or hybrid mode. This necessitated a fundamental change to core university activities of teaching and learning. However, universities in the west are not as badly hit as those in developing countries such as Nigeria. Those in the west were able to, within a short time, migrate their teaching mode from physical to virtual because e-learning was already an integral part of their university education prior to this time.

The pandemic has revealed how Nigerian universities' unpreparedness for drastic shift from face-to-face to virtual learning mode without having the requisite infrastructure to deal with the altered university activities of teaching and learning. Lecturers, in many cases, had to re-work their teaching material to provide content for virtual delivery, without the necessary training or support to do so. According to Abdulazeez (2020), public universities in Nigeria are unable to cope with the challenges of virtual learning as a result of their level of technological development. Grant and Gedeon (2020) observed that lecturers and students in the universities found the changes imposed by the pandemic challenging. This was not because they had to transit to a new mode of learning but also contend with many other factors that influenced their learning experience as a matter of compulsion. For example, some students found it difficult, or even impossible, to study at home: possibly a reflection of their socio-economic status. In the findings of Akinyemi et al. (2020), it was reported that lecturers' knowledge of using technology-aided materials to support teaching is a major constrains impeding the success of virtual teaching in Nigeria. The level of disposition of the Chief Executive Officer in the universities in Nigeria was also identified by Adeola and Mabayoje (2021) as a bottleneck to the success of virtual teaching in the universities. In addition, Bolarinwa and Atunwa (2021) posited parents' hardship to meet up their children financial demand for technology devices for virtual learning constituted an issue against the success of virtual teaching in the universities in developing countries.

The pandemic has brought dangerous times for university education in Nigeria with challenges of coping with students who are unprepared for alternative learning mode and have been away from the school over a period of time. Some of the students inform poor (economic) background rely on physical settings in their universities to provide educational materials, guidance and, sometimes opportunity to trade and network for assistance. Hence, this period should not last longer because students, parents and the community have come to realize the roles of physical interaction in the university for Well-being of students and in ensuring healthy teaching and learning.

University education can be rewarding and challenging (Ogunode & Abubakar, 2021). This is because it is given in an institution that teaches courses leading to award of degree and where research on providing solution to identified problems is carried out. One of the challenges confronting university education is teaching and learning related. Deborah (2020) reported that high disparities in information communication technology and internet broadband connectivity exist across socio-economic status and rural-urban cities. This is most evident among students from low economic status in the rural cities and those living in poverty, many of whom ordinarily required financial support, even in a normal situation. According to Nambiar (2021), university education during COVID-19 pandemic has not met the challenge of 21st century university educational needs in the developing countries. In many cases, students reside in remote areas without devices and internet availability, lecturers lack requisite knowledge of virtual teaching, parents do have challenges with resources to support their children's internet needs which negatively affected students attendance in virtual classroom.

Attendance is a common practice to ensure two-way communication. It is the act of being present at a meeting, class or an event. It is virtual when students are not physically present but attend through multi-media platform. Class attendance according to Gottfried (2010) is regular participation of students in class activities. Through this, students access regular education assistance to improve their academic performance. In the opinion of Noh, Yusoff, Hassanudin and Sukri (2018), it is the act of been physically or virtually present in a class for a lesson to be delivered by a class lecturer at a given period. Boyanle and Harrinson (2020) posit that it is the act of physically participating in the class activities during a lesson or participating through video or audio platform. Roby (2004), Fleming (2008) and Oghuvbu (2010) conclude that class attendance is a must for students to be highly engaged in learning activities. In a school setting, class attendance can be physical or virtual. Class attendance must be maintained against the school set standard. In Nigerian universities, students must have at least 75% attendance to qualify to write end of semester examination.

Boyanle and Harrinson (2020) conducted a study on physical and virtual class attendance, participation and academic performance and found that students' attendance in the physical class is responsible for improved academic performance than that of virtual class. In addition, Denis, Frederick and Naluwenba (2020) conducted a study and found that more students attended classes of courses they enrolled for in a face-to-face setting. This was because it was the primary responsibility of student in the school. Roby (2021) found low students attendance in virtual class. The students complained of getting tired of being constantly connected in order to learn. Hence, attendance dropped off in many virtual classes occasioned by COVID-19 pandemic. In the findings of Lynch (2021), it was reported that student's attendance in virtual class is not encouraging. They easily skip classes due to issues associated with online learning.

As COVID-19 dread is fading out across the globe, government of Nigeria is relaxing various restrictions that were in place. Physical interactions are gradually resuming and face-to-face teaching of small and large classes are coming back alive in Nigerian universities. Khlaif et al. (2021) informed that digital technology that enables virtual teaching is a formidable facilities, however, this is not a source of innovation and expanded potentials. It should be noted that virtual teaching mode will increase gap of inequalities in the university, not only in the developing countries but even in the well-developed ones. University education does not underestimate physical interaction, and free expression of ideas by stakeholders. It is an illusion to think that virtual mode of education delivery in the university is the way forward to replace physical interaction. To sustain and protect university education under unpredicted situation created by any form of pandemic, to facilitate learning and continuity of human existence, and support the universal right of people to education, alternative mode can be opted for as a temporary arrangement in times of pandemic (Zhou & Zhang, 2021). This will ensure that decades of progress and development are not mirage. Given the importance of university education as a common good, knowledge should be explored as a global common good. However, to achieve this, university education must be seeing well beyond expanding and democratizing the ways it is provided. Consideration must also be given to the ways

of providing and disseminating university education at all times irrespective of the situation.

Over two decades, issues confronting universities have been on top of higher education discourse (Ajadi & Subair, 2013; Dumford & Miller, 2018; Davis, Gough & Taylor 2019). As a result of technology advancement, university education has changed dramatically. This might may not be unconnected to the position of Garrison (2011) and Ikenberry (1999) which concluded that the jet speed of Information Communication Technology (ICT) and ability to network space and time for teaching modes and objectives of university education, have also been acknowledged. Hence, university education today has been confronted with a new generation of students which Prensky (2016) refers to as the digital natives. Thus, students' thinking and learning are at variance with that of the less digitally-proficient lecturers. It is a must, if a university will stand test of time, to attend to the observed differences and ways of using knowledge to enable more interaction, and provide quality university education. According to Gatson (2006), university students of this age are heavily influenced by various digital media without professional skills to use digital technology but have acquired a range of new learning styles and methods of using them.

To Dede (2005), the outlines of the new learning styles acquired by the new university students is active learning based on experience, collectively seeking, sieving and synthesising experiences, co-design the learning experiences personalised to meet individual needs and preferences and expression through non-linear, associational webs of representations rather than linear stories, and fluency in multiple media. Literature on university education has grown increasingly in the study of key issues in relation to the mode of delivery. Dumford and Miller (2018) argue that students in the university are less engaged in group learning, student-faculty discussion with their peers. In addition, the major issues confronting university students include interpersonal and communication skills (Adebakin, Ajadi & Subair, 2015) as well as productive use of learning aid technology (Norton, Sonnemann & McGannon, 2018). Issues have also been raised by researchers during performance assessment in the universities. The upsurge of varieties of teaching pedagogies has led to e-Learning in the university (Anderson, 2008; Reeves & Reeves, 2013). However, a less addressed challenge is not whether technology will replace physical interaction but whether technology will drive the redesigned university education (Norton, Sonnemann & McGannon, 2018).

Making clear distinctions between virtual and physical teaching modes in the university has been a subject of discourse. There is need to comprehend the best way to support innovation and group learning making use of relevant instructional aids irrespective of the mode of delivery in the university. It is also important to identify the form of technology that will support the existing pedagogy or change it. Johnson et al. (2017) informs that capitalising on new teaching technology in emergency situation is not enough in the university; the emergency situation must use these technologies to engage students on a higher level. This to Hattie (2009) and Watson (2011) propel other researchers in giving attention to technology over pedagogy which is a barrier to effective integration of technology and quality university education.

Virtual can be complementary to physical mode of instructional delivery in the university. This accords today's hybrid mode as the most popular pedagogy in universities in the west (Alexander et al., 2019). According to Khlai et al. (2021), hybrid model is featured by the mix of rigorously chosen virtual and physical methods and design in agreement with the course content. To bring about more effective hybrid model, Reeves and Reeves (2013) informed that several approach is required.

Student's perception about university education is the way in which university education is regarded, understood, or interpreted by students. It can also be referred to as the students' awareness, comprehension or understanding of university education. The student's perception about university education during COVID-19 pandemic is influenced by technology. Norton et al. (2018) note that competition between virtual and face-to-face mode will be most likely, according to the motivations to mix digital technologies and face-to-face to ensure quality education come to the fore. Despite the general held critique that digital technologies are transforming university education or in some instances, disrupting the students' learning around the world, Henderson, et al. (2017), Marshall (2018), Selwyn (2017) and Adebakin et al. (2021) perceived digital technologies as integral part of university education all over the world.

According to recent study by Peimani and Kamalipour (2021), students' perceived hybrid teaching mode as the possibility of enabling qualitative engagement with the course materials, teaching and non-teaching staff with increasing university education demand irrespective of situation and environment. Hence, attention is paid to the capacity of digital technology to support and enhance students' university education. Hybrid mode combines physical and virtual modes of lecture delivery. According to Wright et al. (2014), university students are referred to as digital residents. They are used to perceiving digital technologies as seamless and interactive social spaces. In this case, digital spaces such as internet act as a way of life instead of merely a form of functional tools. Henderson et al. (2017) investigated 1,658 undergraduate student' actual perception of digital technology and found 11 particular digital benefits varying between flexibility of place and location, organising and managing the logistics of studying to the ability to review, replay and revise digital materials.

The COVID-19 pandemic disruption changes the university landscape. Studies, Adebakin et al. (2021), Gamage (2020), Watermeyer et al. (2021) as well as Peimani and Kamalipour (2021) perceived the dynamics of virtual education in the university across different content and context during the pandemic as a complimentary mode that cannot replace the traditional face-to-face means in the university as a result of the type of students in the universities all over the world. A related study (Tick, 2019) established that computer rather than smartphone and internet access was essential to access study materials. This was identified as a problem for students to access university education during COVID-19, hence, reversal to face-to-face mode of learning in earnest. However, Venter and Daniels (2020) found that university students in South Africa mostly access internet from their smartphones but prefer face-to-face, because it is prohibitively expensive to buy data for accessing lecture. Furthermore, Grant and Gedeon (2020) found

that students prefer conventional interaction mode in the university, because in all countries students who usually have to hold down jobs to support their studies in universities, now found themselves unemployed and without funding when virtual mode is deployed

Gamage et al. (2020) provided information on how COVID-19 and increased use of learning technologies to support virtual teaching have posed challenges to academic integrity management and assessment security. In a related study conducted by Kamalipour and Peimani, (2022) on the experience of online teaching during the COVID-19 lockdown in the UK, as well as the opportunities and challenges associated with the online mode of course delivery. The study found students' non–satisfactory response on upholding virtual mode in place of face-to-face and recommends that focusing on pedagogy should be prioritised over focusing on technology in course delivery. This finding further highlighted the importance of challenging and exceeding stereotype pedagogies to enhance the productive capacities of resilient and adaptive approaches to virtual teaching and remote learning. In another UK-based survey by Watermeyer et al. (2021), a large number of academic respondents from various disciplines and positions debated critically about the dark side of the rapid digital transformation, whereas only a small group of optimistic academics articulated the capacities and viewed the pandemic as an opportunity to deliberate its impacts on university education.

COVID-19 and its attendant consequences have been exhaustively debated in various contexts across disciplines. Studies in education, particularly university education, have largely noted that the pandemic stroke teaching-learning activities with its numerous challenges (Adebakin et al., 2021; Bolarinwa & Atunwa, 2021). However, there is dearth of research evidence on the post COVID experience of students in relation to their learning challenges during the post COVID-19 era. Consequently, this study filled the research and literature gaps on students' views of the state of university education in the post COVID-19 Era. Thus, this study:

1. examined students' desirability for virtual classroom attendance in the post COVID-19 era
2. identified students' perceived challenges in virtual classrooms in the post COVID-19 era
3. established students' preferred mode of instructional delivery in the post COVID-19 era.

Question

1. What is the desirability of students for virtual classroom attendance in the post COVID-19 era?
2. what are the students' perceived challenges in virtual classrooms in the post COVID-19 era?
3. What is the students' preferred mode of instructional delivery in the post COVID-19 era?

Methods

This study employed the quantitative design using the survey approach in order to explore the views of selected university students (undergraduate and postgraduate) on the university education in the post COVID-19 Era. The design, using quantitative data, provides a comprehensive analysis of the research problem and presents a complete understanding of the variables (Creswell & Creswell, 2018) as they are perceived by university students. As a result, the researchers were able to do an in-depth assessment and analysis of university students' views and perceptions for the purpose of describing and interpreting their instructional method preference. The study covers 35,000 undergraduates and postgraduate students (Obafemi Awolowo University, 2021) of the Obafemi Awolowo University, Ile-Ife, Nigeria who served as respondents for the study. The entire 13 faculties and two colleges in the university were chosen to ensure adequate distribution and representation of respondents. To ensure an equal chance of selection, 10 respondents were randomly selected from each faculty and college give a total of 150 respondents for the study.

A 25-item electronic google survey title 'Post COVID-19 University Education' (PCUE) was designed to elicit the views of university students on the subject. The survey link was circulated via various students' platforms on social media (WhatsApp and Telegram) and responses were automatically generated through back-end of the google form. The choice of electronic survey was informed by its widespread use in recent researches (Caputo, 2017; Howell et al., 2010), safety precautions against COVID-19 infection and easy access to diverse respondents across disciplines. The survey was measured on a 4-point Likert-type rating scale with appropriate response structures and coded 4, 3, 2, and 1 for ease of data administration, collation and analysis. Data collated were analysed quantitatively using version 20.0 of the Statistical Package for Social Sciences (SPSS). The descriptive statistics of frequency counts and percentages were used to answer the research question raised.

In compliance with research ethical standards, all the activities involved were jointly conducted by the researchers. The researchers obtained a letter of authorisation from the relevant university organ to administer the survey prior to circulation of the link. Consent from all respondents was also sought before engaging them in the completion of the survey through and invitation to participate in the survey. They were assured of the strict confidentiality of their opinions and anonymity of their personality.

Results and Discussions

Question One

What is the desirability of students for virtual classroom attendance in the post COVID-19 era?

To answer this question, a structured four likert-type rating scale was used. This structure include N- Never, O – Occasionally, AE - Almost every time, ET– Every time. The summary of the results is presented in Table 1.

Table 1: *Students Desirability for Virtual Classroom Attendance*

Item	N=150			
	N	**O**	**AE**	**ET**
Virtual classes are interesting to me	100 (66.7%)	50 (33.3%)	-	-
Virtual class are fix at convenient times	25 (16.7%)	120 (80%)	5 (3.3%)	-
I missed virtual classes	10 (6.7%)	40 (26.6%)	90 (60.7%)	10 (6.7%)
I maintain regular attendance in virtual classroom	40 (26.7%)	80 (53.3%)	20 (13.3%)	10 (6.7%)
I desire to have all courses taught virtually	120 (80%)	30 (20%)	-	-

Table 1 showed the how much university student desired to attend virtual class. Views expressed by students showed that virtual classes are not really interesting to them as they are either never had interest (66.7%) or occasionally developed interest (33.3%) in attending virtual classes. Students also expressed that views on the time schedules for virtual class as majority (80%) occasionally find the timing convenient, few others (16.7%) do not while only 3.3% find the timing convenient almost every time. Furthermore, the results showed that students (60.7%) missed virtual classes as scheduled almost every time while 40% missed classes occasionally. Others either missed classes every time (6.7%) or never (6.7%) missed any class. As a follow up statement, the results showed that regular attendance in virtual classes were only maintained almost every time (13.3%) or every time (6.7%) by 30 students while the remaining 120 students either occasionally (53.3%) or never (26.7%) maintained regular attendance. Lastly, with exception of only 30 (20%) students, others (80%) do not desire to have their courses taught using virtual mode.

The implication of these results is that university students do not enjoy virtual classrooms, may be, for reasons identified in Table 2, as such, do not attend and/or desire attending virtual classes. Supported by the findings of Boyanle and Harrinson (2020), students' attendance in the physical classes is responsible for improved academic performance than that of virtual classes. In addition, Denis, Frederick and Naluwenba (2020) found that more students attended classes of courses they enrolled for in a face-to-face setting because they hold class attendance in high esteem. Roby (2021) also reported that students complained of getting tired of being constantly connected in order to learn. Hence, attendance dropped off in many virtual classes occasioned by COVID-19 pandemic. In the findings of Lynch (2021), it was reported that student's attendance in virtual class is not encouraging; they easily skip classes due to issues associated with online learning.

Question Two
What are the students' perceived challenges in virtual classrooms in the post COVID-19 era?

To answer this question, a structured four likert-type rating scale was used. This structure include SD - Strongly Disagree, D – Disagree, A – Agree and SA – Strongly Agree. The summary of the results is presented in Table 2.

Table 2: *Perceived Challenges of Virtual Classrooms*

	N=150			
Item	**SD**	**D**	**A**	**SA**
Access to technology facility hinders my participation in virtual classes	30 (20%)	10 (6.7%)	70 (46.7%)	40 (26.6%)
My parents cannot cope with the required funds to acquire IT gadgets	-	10 (6.7%)	50 (33.3%)	90 (60%)
My IT knowledge needs improvement to be able to use gadget for virtual class participation	40 (26.7%)	10 (6.7%)	20 (13.3%)	80 (53.3%)
My house is located where there is internet access	-	70 (46.7%)	70 (46.7%)	10 (6.6%)
Virtual classes consume more internet data than I can afford on regular basis for virtual learning	30 (20%)	30 (20%)	70 (46.7%)	20 (13.3%)

Table 2 showed the views of students on their perceived challenges on virtual classrooms in the post COVID era. The results showed that majority (73.3%) of the respondents were hindered in virtual class participation because they do not have access to technology facility such as computer laptop. The remaining (26.7%) respondents disagree with the statement which implies that they have access to such facility. Also, respondents whose parents can afford to buy the required gadgets for virtual classes were only 10 (6.7%) while the parents of the remaining 140 (93.3%) respondents could not cope with the required funds to acquire such gadgets. In addition, it was shown that most (66.6%) of the respondents require training to be able to use IT gadgets for virtual class participation while the remaining (33.4%) seem to have some degree of competence and may not require additional training to be able to use gadget for virtual class participation. As shown earlier, many do not have access to IT gadget, however, 80 (53.3%) respondents agree that their houses are located where there is internet access while 70 (46.7%) respondents disagree. This shows that majority live in urban areas. Lastly, 90 (60%) respondents cannot afford to buy internet as frequently required to participate in virtual classes while 60 (40%) respondents disagree that virtual classes consume more internet data than they can afford on regular basis for virtual learning.

These results imply that there are many challenges that restrain students' participation in virtual classes. The challenges include but not limited to access to the required IT facilities and affordability of internet. These results are in congruence with Abdulazeez (2020) whose finding showed that public universities in Nigeria are unable to cope with the challenges of virtual learning, possibly, for socio-economic reasons (Deborah 2020;

Grant & Gedeon, 2020), low bandwidth (Oladipo et al., 2020), lecturers' knowledge of using technology-aided materials (Akinyemi et al., 2020), parental financial strength to acquire technology devices required for virtual learning (Bolarinwa & Atunwa, 2021). Results of this study is broadly supported by the report of Nambiar (2021) that many students reside in remote areas without devices and internet availability, lecturers lack requisite knowledge of virtual teaching, parents do have challenges with resources to support their children's internet needs. These serve as major constrains impeding the success of virtual teaching and learning in Nigeria.

Question Three

What is the students' preferred mode of instructional delivery in the post COVID-19 era?

To answer this question, a structured four two rating scale was used. This structure include Yes and No. The summary of the results is presented in Table 3.

Table 3: *Students' Preferred Mode of Instructional Delivery*

	N=150	
Item	**YES**	**NO**
I prefer the virtual mode of teaching	30 (20%)	120 (80%)
I prefer the face-to-face mode of teaching	50 (33.3%)	100 (66.7%)
I prefer a combination of both virtual and the face-to-face teaching.	70 (46.7%)	80 (53.3%)

Table 3 showed the preference of university students for any of the three modes of instructional delivery which are virtual, face-to-face and hybrid (a combination of both virtual and face-to-face). Clearly from the three modes, results showed that most respondents 70(46.7%) prefer the hybrid mode of instructional delivery. While 30 (20%) respondents showed preference for virtual mode of instructional delivery, 50 (33.3%) preferred to be taught in a face-to-face environment.

This implies that most students will not totally miss their classes as the face-to-face will serve as alternative for them. This finding is in support of various studies that regarded other modes of instructional delivery as complimentary to the face-to-face (Adebakin et al., 2021; Gamage, 2020; Peimani & Kamalipour, 2021; Watermeyer et al., 2021) considering the type of students in the universities especially in the developing nations. Similarly, South African students in the study of Venter and Daniels (2020) showed preference for the face-to-face mode of instructional delivery because of the prohibitive expenses incurred in buying data for accessing virtual lectures. In addition, Grant and Gedeon (2020) found that students prefer conventional interaction mode in the university because in students who usually have to hold down jobs to support their studies, now found themselves unemployed and without funding when virtual mode is deployed. In giving credence to the hybrid mode of instructional delivery as popularly supported by respondents in this study, Alexander et al. (2019) submitted that the hybrid is the most popular mode of instructional delivery in the western universities. This is because Peimani and Kamalipour (2021), noted that students' perceived hybrid teaching mode as

the possibility of enabling qualitative engagement with the course materials, teaching and non-teaching staff with increasing university education demand irrespective of situation and environment. This shows that hybrid virtual compliments the physical mode of instructional delivery in university. Therefore, Khlai et al. (2021), explained that hybrid mode is featured by the mix of rigorously chosen virtual and physical methods and design in agreement with the course content.

Conclusion and Recommendations

COVID-19 has potentially shown long-term consequences, revealed vulnerabilities and surfaced extraordinary human resourcefulness and potential for the futures of public education and university education in particular. Therefore, to bring about formidable actions that will advance the course of education generally and university education in particular in the post COVID era, UNESCO (2020) is committed to strengthening education as a common good; expanding the definition of the right to education to addresses the importance of connectivity and access to knowledge and information; valuing the teaching profession and teacher collaboration; promoting student and youth participatory rights; protecting the social spaces provided by schools; making free and open source technologies available to teachers and students; ensuring scientific literacy within the curriculum; protecting domestic and international financing of public education; and advancing global solidarity to end current levels of inequality exposed by COVID-19.

Consequent upon the massive shift away from learning and teaching in traditional settings with physical interactions, this study suggests that Nigerian university students must be encouraged to embrace virtual learning mode as the occasion demands in the post COVID era. This encouragement should involve provision of IT gadgets that promotes virtual teaching and learning. Considering the social-economic inequality among university students basic access to internet facilities should be provided on campus as well as students' halls of residence. Furthermore, government intervention in term of subsidy should be made available to students who live off-campus for buying data that will enable them attend virtual classes and access online learning materials. As preferred by most respondents in this study, the hybrid mode of instructional delivery should be further encouraged among university teacher.

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HOME-BASED TEACHING EXPERIENCES OF ECD PARENTS IN MARGINALISED COMMUNITIES DURING COVID -19 LOCKDOWN: CATALYST FOR DEVELOPING SUSTAINABLE STRATEGIES FOR FUTURE CRISIS

Mapuranga Enock

Department of Basic Education and Childhood
BA ISAGO University
Botswana

Abstract

Uncertainty in life has always posed a threat to human existence. However, the human race has survived many eventualities because of people's ability to learn and shape their future through lived experiences. The study was motivated by uncertainties of parental involvement in new learning shifts imposed by the COVID -19 pandemic. The purpose of the study was to examine the strategies that parents in marginalised communities employed to ensure continuity of learning for their pre-academic children during COVID -19 pandemic lockdown. The research was a qualitative case study and data was obtained from four parents through in-depth interviews. The participants were selected using convenience and snowball sampling techniques. Participants with ECD children were chosen and were believed to have the experiences which the study seeks. The study showed that most parents in marginalised communities faced multiple involvement challenges during the lockdown. Findings further revealed that effective parental participation in crisis period helped in continuity of learning. The study recommends an upgrade in terms of rural infrastructure to improve connectivity issues and provision of free technological gadgets to learners. The study further recommends that the parents be made aware of their children's curriculum through involving them in curriculum development processes.

Keywords: Home-based teaching, Early Childhood Development, Marginalised communities

Introduction

The world's shocking attack by COVID-19 pandemic and the learning losses that were seen at all educational levels, from early childhood schooling to university level, are a wake-up call for all societies to work towards sustainable solutions to combat future uncertainty. Lack of long-term planning for potential national, regional or international attacks by natural disasters or catastrophic events that force learning to be home based is not proactive, and it negatively affects children's learning and development. The utilization of parental experiences in teaching and learning at the early childhood development stage during the COVID-19 pandemic lockdown could direct the creation of frameworks that serve as tools for overcoming potential future challenges.

The study investigated parents in marginalised communities with pre-academic children's experiences of home based teaching during COVID-19 pandemic lockdown. The lived experiences of parents in challenging times can be used to build future plans to navigate

future crisis. According to Reid, Flowers and Larkin (2014) amongst those things that are critical in psychology is the understanding of human experiences, learning from the insights of the experts who are the research participants. This research harvests from parents with pre-academic children what is it like to teach young children at home in challenging times. It is critical to understand challenges and opportunities that COVID - 19 pandemic brought to mankind. Such insights are vital for developing a blueprint that can be consulted in future difficult times to inform action.

This study sought to understand lived experiences of parents from marginalised communities and use the knowledge gained to develop sustainable ways to deal with this group of the population in case of similar situations. This study stood up for this sector of the world populations so that pre-academic learners from these communities are not left out in developmental programs especially during challenging times when schools are closed due to wars, natural disasters or pandemics. What transpired in terms of teaching and learning at home and challenges encountered were explored.

The following research questions guided the research study

1. Which activities do parents engaged in with their children during COVID 19 pandemic lockdown?
2. What challenges do parents face in ensuring continuity of learning for their ECD learners during COVID 19 pandemic?

Research Objectives

The objectives of were to:

- find out how parents are involved in the learning of their children during COVD 19 pandemic lockdown in Buhera District.identify challenges of parental involvement in ECD programs during COVID 19 pandemic.

Literature Review

The COVID 19 pandemic's invasion of the world has caused many changes in people's lives, including how they learn. Learning was mostly classroom based before the pandemic, but after the COVID-19 attack on the planet, learning was moved to the home, with parents serving as the primary educators (Agaton and Cueto, 2021). Consequently, parents are taking a new approach to making sure their kids stay receiving educational content and are protected from danger posed by COVID (Winthrop et al., 2020). The key to creating long-term crisis management plans is to learn from the home-based teaching experiences of ECD parents in marginalized communities during COVID-19 lockdown.

There are difficulties in involving parents in ECD programs. Parents are supposed to make sure that their kids keep learning even while schools are closed. They are required to provide their kids with learning opportunities at home. Most parents find it difficult to do this activity (Ribeiro et al., 2020). According to an observations by Garbe et al. (2020), it was challenging to get all parents in America involved in homeschooling since some parents had trouble accomplishing tasks linked to their jobs and helping their kids with their academics during the COVID-19 pandemic lockdown.

When there is a crisis, teachers and parents work together to offer lessons, which are typically done utilizing technology tools that most parents in rural areas lack (Bhamani et al., 2020). Parents' lack of pedagogical or topic understanding presented difficulties for involving them in online and remote learning methods (Brom et al., 2020). In an Italian study, Cwetna (2016) found that lack of parental understanding of their role in their child's education makes parental participation difficult to accomplish.

For this reason, it is important to investigate what parents around the world did to help their children at home. This study aims to develop a framework that should be in place to handle future crises by drawing on parents' experiences during the COVID-19 pandemic lockdown.

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Parental Involvement in ECD Programs during COVID -19

From an African perspective, parents in Nigeria participated in their young children's education by taking on a full-time role in educating them and providing them with virtual support, according to Azubuike and Aina (2020).

In western countries, Save the Children UK (2020) reported that parents in the United Kingdom were including developmental activities in routine tasks that addressed all developmental areas. Parents in the majority of nations, such as Poland, Sweden, Belgium, and Germany, have a responsibility to give their children leisure activities so they can continue to enjoy from the leisure pursuits they once enjoyed while in school (OECD, 2020). Parents plan indoor video games and fitness exercises for their kids. Children's cognitive and social developments were supported by screen-based activities, while their physical health was taken care of by physical activities. To assist their kids with coloring and sketching various objects, parents utilized laptop programs like paint. This supports the development of kids' fine motor skills. According to OECD (2020), caregivers in Europe spend lots of time reading to their younger children and helping them with their homework. Parents in Italy were actively involved in their children's education as schools were closed due to COVID 19 pandemic as reported by supporting continuous access to educational resources and innovations (UNESCO, 2020).

Parents in America were helping their Early Childhood Development children study and stay healthy throughout the crisis and they supported them in developing regular learning routines and coping with stress (Carvalho et al., 2020). More parents than ever are involved in their children's education in Bangladesh and Nepal (Save the Children, 2020). Every district in these locations has a coordinator who contacts families on a regular basis by phone to give them assignments that they can try out with their children spanning several child development areas. The coordinator speaks to parents in their native tongues.

In India, parents were proactively involved in providing their children with psycho-social support at such a difficult time (UNICEF, 2020). Children's wellbeing is unavoidably impacted by COVID-19 because young children may watch, absorb, and react to the

stress that their parents, teachers, and peers are experiencing. Parents ensured that their children will grow up well regardless what they had been going through. In India, families were attempting to help their children grow resilience by teaching them psychological skills to aid them through these tough times. For virtual learning, internet-enabled gadgets like PCs and cellphones were needed. If parents did not procure these resources for their children, there would not be any online learning to talk about. According to Dhawan (2020), parents in India were looking for information on how to use computer-related devices so they can assist their children in learning via ICT equipment.

Challenges of Parental Involvement in ECD Programs during COVID-19 Pandemic Lockdown

Dhawan (2020) asserts that it is challenging to include all parents in India, particularly when it comes to giving PPEs, because they come from diverse backgrounds and some struggle just to provide food for their children, let alone PPEs. It will be more difficult for people, especially those in rural regions, who are already trying to make ends meet, to take care of their children's PPE needs. The difficulty of providing PPEs is closely tied to the challenge of providing suitable teaching and learning tools in order to prevent the sharing of materials at school that could cause the COVID-19 viruses to spread (Global Education Cluster, 2020). The economic situation prevailing in a country can make it very difficult to effectively involve parents in ECD programs as some of involvement patterns require money which the majority of parents with low economic status do not have.

Another challenge in involving parents in helping educating their children on the essence and ways of wearing face masks and keeping social distance is that these health protocols are not observed at home (Spitzer, 2020). As children are at home, no one cares about them masking up or maintaining physical distance; they are only reminded of a mask as they leave home for shops or school. Considering the age of the ECD learners, they can only master a skill which is repeated time and again. As long as people in a household are not masking up or keeping physical distancing at home the problem of involving parents as the knowledge bank for children concerning COVID -19 pandemic prevention becomes a pipe dream.

Parents have other engagements to do to support the family. It is therefore difficult for them to check whether their children are masking up or maintaining physical distance to and from school (Spitzer, 2020). Parents can talk to their young children on the importance of masking up or taking social distance but it is not natural especially for young children to adhere to such rules. As long as children are away from parents, a lot happens contrary to parental education. There is need to put extra effort by parents and teachers so that the ECD programmes continue to be safe homes of learning for young children in these difficult times.

Parents get involved in the education of their young children through tuning in on radio and television programmes. The availability of gadgets is a problem for this type of interaction. Lack of access to radios and televisions, according to Winthrop (2020), is another obstacle to properly involving parents in radio and television ECD programs.

Without the required gadgets, children cannot learn effectively. Although lessons were aired over the radio, according to a study by Bol (2020) carried out in Kenya, some pupils did not benefit from them because their family did not have a radio.

One big challenge of involving parents in ECD programs is their ignorance of the early child development curriculum (UNICEF, 2020). Everyone anticipates that throughout the COVID-19 pandemic lockdown, families will keep educating and providing opportunities for learning at home for their young children. However, parents' lack of familiarity with the ECD curriculum content hindered them from executing this important role. Obiakor and Adeniran (2020) found that there are little options for learning at home in Nigeria because parents' ability to assist their kids' education depends on their general literacy level and competencies. A similar observation was made by Winthrop (2020) who noted that it is challenging to effectively involve parents in the learning of their young kids during the COVID-19 pandemic lockdown in India because a larger percentage of parents lack confidence in their own capacity to support children's learning and they were unfamiliar with the subject matter.

Parents will not be able to deliver meaningful learning experience amid COVID 19 lockdowns if they are unaware of the curriculum. According to Human Rights Watch (2020), many children did not receive any education after the closure of schools in March 2020 across the African continent because families had nowhere to start from. According to a study by Brom, Lukavsky, Greger and Hannemann (2020), parents are unable to substitute teachers because they lack the necessary expertise in both content knowledge and pedagogy. ECD programs are distinctive because they are peculiar in nature and require unique implementation strategies.

Parental involvement in ECD programs during the COVID-19 pandemic differs from parental involvement prior to the epidemic. Before the global attack, parents contributed labor, paid fees, and assisted with homework as well as in the establishment of ECD play centers. More parental support in ECD programs is necessary, given the pandemic's invasion into schools; nevertheless, the type of that involvement raises concerns. The educational system has changed to include online learning (Orgulu, 2020). Parent's participation in online learning is highly challenging because the bulk of them had no taste of the computer from their early childhood. Han (2020) in a study in America found that although most parents had access to technology this did not guarantee learning. Digital skills are necessary to use technology, but most parents, particularly those from impoverished backgrounds, lack them. To ensure that their young kids benefit from using computers, parents need to learn more about how to do so.

Apart from lack of knowledge, it is hard to invite parents to help their children using online platforms which require electronic media which they do not have. Azubuike and Aina (2020) in their study on how parents were supporting their children's learning during COVID -19 pandemic in Nigeria found that one of the main challenges that is faced by parents in teaching their children remotely is lack of financial resources to adequately provide learning tools. The majority of people in rural areas live in poverty they could not afford the luxury of buying computer related tools for their children especially the ECD learner whom they consider young and not in a position to use ICT tools. For those lucky ones who happen to own computer related gadgets, their

involvement in ECD programmes will be hindered by high costs of internet data as found by Goodall, (2016) in Kenya. ECD learners need an exposure in video games, cartoons, and on line puzzles. These are accessed on the internet with the help of data. Parents struggle to have data and this becomes a barrier to their involvement.

Theoretical Framework: Epstein's Model for Parental Involvement

The Epstein Model for Parental Involvement (Epstein et al., 2002) serves as the framework for the current study and support the construct of parent's involvement in children's schooling. The theory is revolves around the six typologies of parental involvement, which focuses on involvement by parents which is instrumental to a child's development and his/her school and educational success. These typologies, which constitute the tenets of the model, are discussed below.

Parenting

Parenting involves assisting families with parenting skills, family support, understanding child and adolescent development, and setting home conditions to support learning at each age and grade level.

Communicating

Communicating is the second tenet as identified by Epstein. Teachers should communicate with families about school programs and student progress during school lockdown. Schools should create two-way communication channels between school and home.

Volunteering

Volunteering is a parent involvement domain which improves recruitment, training, activities, and schedules to involve families as volunteers and as audiences at the school or in other locations. Enable educators to work with volunteers who support students and the school. Learning at Home is another tenet that involves families with their children in academic learning at home, including homework, goal setting, and other curriculum-related activities. Encourage teachers to design homework that enables students to share and discuss interesting tasks.

Decision Making

Decision-Making include families as participants in school decisions, governance, and advocacy activities through school councils or improvement teams, committees, and parent organizations.

Collaborating

Collaborating with the community entails coordinating resources and services for families, students, and the school with community groups, including businesses, agencies, cultural and civic organizations, and colleges or universities. Enable all to contribute service to the community.

This model is chosen as a theoretical framework in this study because it offers the direction that research under the broad topic parental involvement should take.

Research Methodology

The study adopted a qualitative research case study to gather information needed to create a plan for maintaining learning in rural, isolated places even during difficult times. The case study was chosen because it fits the study's goals, which include gaining an understanding of participants' experiences with home-based instruction during the COVID-19 pandemic. The qualitative technique was adopted because it is an appropriate method that unfolds in a natural context and enables the researcher to generate a degree of detail through close involvement in the real experience (Creswell, 2009). It allows the researcher to be closer to the participants thereby understanding their experiences and feelings in a more naturalistic way. According to Daher et al. (2017), qualitative research takes experience and meaning of the participants as the foci of qualitative analysis. Since this study sought to describe participants' views and experiences of home based teaching during the pandemic a qualitatively oriented research approach would make the analysis of such perspectives easier.

Four participants were identified using convenience sampling coupled with snowball sampling techniques. The researcher identified one participant with ECD learners, the identified participant helped to recruit more participants for the research. Semi-structured interviews were used to gather data for this study. The use of this single data collection method was deemed necessary especially for this study where focus was on parents who may have differing abilities to respond to other forms of data collection. Data was analysed using previously created themes that were used to categorise the data.

Results and Discussion

The acquired data was organized and examined using themes that were based on the study questions. The results are explored under the themes identified: what parents in marginalised communities did to support learning continuity during the COVID-19 pandemic lockdown; difficulties parents encountered in supporting learning continuity through home-based teaching; and what parents believe should be done to put them in a position to effectively support their children at home both during and after trying times.

Coding of interview guide participants

The interview was meant for parents in marginalised Chigidi village in Buhera District in Zimbabwe. For confidentiality purposes, participants were coded using district names in Mashonaland East Province.

Participants' codes

Participants	Coded name
1	Mr Chikomba
2	Mr Hwedza
3	Mr Goromonzi
4	Mrs Seke

What Parents did to Promote Continuity of Learning during COVID -19 Pandemic Lockdown

Parents were asked to share their experiences with regard to assisting their young children during COVID-19 pandemic lockdown. Discussion with them was tailored towards implementation of the ECD curriculum, explaining educational video exercises from teachers, provision of radio and television sets for national programs, provision of ICT tools for online learning, reading aloud for their children, providing pictures and story books for reading and making use of home chores to enhance child learning.

Implementation of the ECD curriculum

The majority of the participants were of the view that their preschool children did not benefit much from home based schooling since they did not know the curriculum activities for the children. Their hope for continuity of learning was the re-opening of schools. It emerged from three of the participants that very few parent lead education activities took place during COVID-19 lockdown among the Early Childhood Development learners. Mrs Seke said she was not sure whether there was any form of ECD curriculum implementation facilitated at home by parents. Mr Chikomba echoed that parents in the area he lived depended entirely on the school to educate their children. He hardly witnessed parents with ECD learners participating in the education of their children during the COCID -19 pandemic lockdown. On the same note, Mr Hwedza did not think that parents contributed meaningfully in ECD programs during lockdown. However, one participant, Mr Goromonzi was of the opinion that parents did get involved in ECD programs although the quality of their involvement was not guaranteed.

Based on the responses, it also came to the researcher's attention that marginalised children were further marginalised by COVID -19 pandemic. The responses speak to the high degree of learning losses in rural remote areas. There was actually little learning that took place during the COVID -19 pandemic lockdown. Of great concern is the idea that pre-school children did not benefit much from home based schooling. When the whole world assumed that there was learning that was taking place across all global populations, the voice from the marginalised communities contest that position. Very few parent led education was witnessed in these underserved areas. The possibility of ECD curriculum implementation at home during COVID-19 pandemic lockdown was questioned by the participants. Let's blame the shocking attack of the globe by the pandemic for now, but, are we going to blame the next encounter again or ourselves for not preparing for eventualities? We should not question the quality of home based learning in future when we have today to plan for our future. This calls for an interrogation of each construct experienced by parents during home based teaching and map ways of changing the situation in case of future crisis.

Parents need to be equipped with content knowledge of their children's curriculum and appropriate pedagogies so that they can effectively engage their kids at home for holistic child development. In the face of any form of global crisis parents shouldn't hope for re-opening of schools but to feel confident in their abilities to move the education of their children forward. As models for future crisis are developed with parental involvement as the foci of the discussion, the same models ought to strengthen our school systems as well so that greater parental support comes from schools is trying times.

Explaining video exercises from teachers

The majority of the participants agreed that parents had the responsibility of explaining video exercises forwarded to them by teachers to their children. There was a general consensus among the participants' responses that no videos were sent by teachers to parents. Mr Hwedza opined that indeed parents through the use of their smart phones are the avenues through which educational materials move between schools and the learners. However, few parents if any received video lessons from schools and teachers. One participant, Mr Chikomba, acknowledged that teachers at his school sent some reading materials not videos to parents.

Use of videos in the teaching and learning at ECD level should be mandatory and teachers need to have access to multiple educational videos. Teachers and parents need to discover cheaper ways of sharing the videos before the trying times so that parents have a bank of videos for their children's learning. It emanated from the findings that videos are the most appropriate way of transferring knowledge to pre-academic learners since they are not able to read and write. Parents should be equipped with knowledge on how to use videos for children's learning and development.

Provision of radio and television sets

Responding to the interview question on whether parents were involved in the provision of radio and televisions sets for the education of their ECD children during COVID -19 pandemic lockdown, most participants believed that although radio and TV lessons were believed to be the answer to the continuity of learning during the pandemic less children in marginalised communities benefited from these platforms. This was because of the cost associated with procuring these gargets, and hence, a few parents if any were involved in the ECD programs by sourcing radio and television sets for their children. It emerged from Mr Goromonzi that those who already have the gargets used them to access national TV and radio programs for their children. Mrs Chikomba was of the view that, due to the harsh economic conditions prevailing in Zimbabwe, very few parents in remote rural areas could afford purchasing the gargets for their children.

Based on the aforementioned discussion, parents appreciated the importance of radio and television lessons as the answer to ensure continuity of learning. However, its effectiveness among learners in marginalised communities is still to be celebrated. This study believes in the ability of radio and TV sessions to be an important and cheaper avenue for children in disadvantages communities to access educational content. What is needed for now it to remove the remoteness of some communities, expanding broadband and electrify such locations? Among all the things that the government celebrates as providing for its people let them ensure each household has at least a radio for educational purposes. Radio lessons should be a weekly business with the state paying service providers to screen the radio and TV sessions. If this is done for every learners and all the times, when situations arise where radio and TV are to the major sources of educational content then the nation will be guaranteed of quality access by all the learners. The whole story is we win through training, this is the training period as we move post COVID -19 era.

Provision of internet enabled devices and data for online learning

The majority of participants were not aware of online learning in primary school especially for ECD learners. Mrs Seke believed it was difficult to conclude that parents in Buhera Cluster were involved in buying internet enabled devices and data for their pre-school children. Mr Goromonzi asserted that although families knew the benefits of IT devices for family life and education of children, most of them struggled to secure one device because of their economic disadvantage well before the pandemic. It is this economic disadvantage which needs to be addressed as one strategy to conquer future crisis. From the literature, it was found that some nations cleared all the ground for online learning to kick off, states like Zimbabwe needs to follow suite and provide all what is needed for online learning especially in remote rural areas.

Provision of picture books and reading aloud to children

All the participants believed that parents were not involved in buying picture and story books for their children during COVID-19 pandemic lockdown. The participants believed that they were more worried about their children's health and food than buying picture books for them. The other part concerning reading aloud to children received an overwhelming response skewed toward the fact that parents were not reading aloud to their children due to lack of reading materials at home which is suitable for young learners. Mr Hwedza was of the view that schools could not distribute print materials to parents during COVID -19 pandemic lockdown, so it was difficult to come to a conclusion that there was some form of reading which was taking place for ECD learners at home. The same sentiments came from Mr Chikomba who elaborated that he didn't remember buying any printed teaching and learning materials during the lockdowns period. This speaks to the fact that most ECD learners were not helped through reading aloud by their parents. Mrs Hwedza, believed that only children of educators received some form of education through reading since most homes had no reading materials.

As we move forward in the post COVID-19 era, developing a culture where parents are provided with picture and story books and read aloud to their children would be a viable way of ensuring continuity of learning. Homes need to be hives of learning opportunities. Transforming every home into a rich learning environment is work in the right direction and work for fighting future eventualities.

Making use of home chores to enhance child learning and development

Most of the participants agreed that parents were making use of home chores to educate their children. As viewed by Mrs Seke, parents taught their children as they do home chores, but the activities are not planned. Mr Goromozi echoed that the teaching is random and there is need to train parents how to make use of home chores to develop young children holistically.

Challenges Faced by Parents in Marginalised Communities in Home-based Teaching during COVID 19 Pandemic Lockdown

The interview also bordered on challenges faced by parents in marginalised communities in home based teaching during COVID 19 pandemic lockdown. Also, the interview in this regard was guided by the themes discussed above. They are implementing the ECD curriculum, explaining educational video exercises from teachers, provision of radio and television sets for national programs, provision of ICT tools for online learning, providing pictures books and reading aloud to children and making use of home chores to enhance child learning.

Implementation of ECD curriculums

The interview showed that involving parents in the implementation of ECD curriculum was not possible since parents lacked curriculum knowledge and pedagogy. Mr Chikomba said that ECD is a specialized area which even teachers not trained in the area could not effectively handle. If teachers face challenges in handling this group of learners then it is a nightmare to think that parents can provide meaningful teaching and learning experiences for their children at home. Using Mr Hwedza's words, parents were not involved in ECD programs as a result of their lack of knowledge of the curriculum, lack of methods to use in teaching young children and lack of teaching materials at home. According to Mrs Seke, lack of tools like computers, smartphones and the internet connectivity are barriers to parental involvement in ECD programs especially during COVID -19 pandemic lockdown. Mr Goromonzi postulated that lack of school based parent training programs by ECD teachers is one of the challenges faced in promoting parental involvement in ECD programs.

Explaining educational videos from teachers

The majority of the participants were of the view that the major challenge of parental involvement in explaining educational videos from teachers was the failure to download the videos due to network and cost of data. Mrs Seke said even in case the parent managed to download the video, he/she will remain stuck on what to explain to the child to enhance learning and development. In Mr Hwedza's view, explaining videos for the benefit of the learners requires curriculum content and knowledge of the developmental domains so that the explanations will be tailored to such.

Provision of radio and television sets

The results shows that parents face monetary challenges in securing radio and television sets for their children's continued learning through national radio and TV programs. In Mrs Seke's view, some parents with the radio and television sets couldn't tune in to national radio and television programs for their children due to work commitments. The cost of radios and television sets was cited by Mr Goromonzi as one of the challenges that is faced by parents in their effort to provide such tools for their children. Mr Hwedza cited lack of electricity in their area as linked to failure by parents to provide TV and radio sets for their children. Parents find it pointless to buy these gargets where there is no power. Making use of solar is another burden to parents.

Provision of internet enabled devices and data for on line learning

Mr Chikomba was of the view that, the first challenge in involving parents in ECD programmes with particular focus on online teaching is lack of internet enabled phones. Most parents in rural areas have small phones which cannot support online learning. Mr Hwedza believed that for those parents with smartphones, cost of data was the main barrier for their involvement in ECD programs. Mrs Seke is of the view that parents in rural areas were mostly peasant farmers who could not afford to supply everyday data needs for their ECD children.

Provision of picture books and reading aloud to children

The only challenge that was identified by all participants in respect to reading aloud was lack of reading materials by parents. The study results revealed that parents face challenges in selecting the write picture and story books for their children. Mr Hwedza said, there is need for ECD teachers to have a catalogue of books distributed to parents so that they get light on which books to buy. The other challenge as outlined by Mr Goromonzi is the cost of the books. Books are expensive, and parents could not buy books since their means of raising money was affected by COVID-19 pandemic lockdowns.

Making use of home chores to enable child learning

The research responses pointed to the fact that parents do teach children as they engage in chores. It's something which is naturally happening; parents are not planning for it. Mr Chikomba thought that the challenge which parents may face is lack of knowledge of curriculum content of ECD hence could not think of areas to develop during home chores with their child.

Conclusion

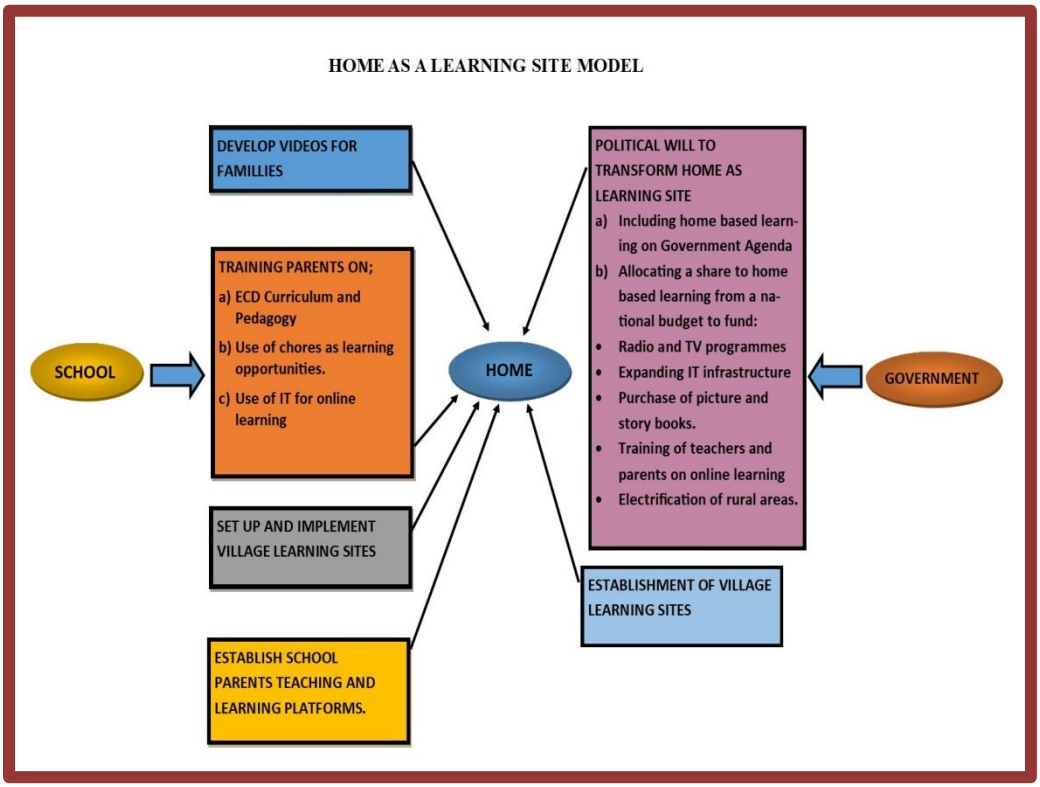
From the aforementioned responses, it is evident that parents may experience the same problems they encountered during the pandemic in the future if the globe does not consider the obstacles that families faced and devise a strategy to address them before the next world crisis. The crisis has taught us that it is not always safe to rely on classroom based teaching and learning but to strengthen home based teaching so that we have two pillars to anchor on in case of difficult times. It emanated that parents could not help their pre-academic learners because they lack ECD curriculum content and ways of implementing it. Our future parents need to be parents of difference. As curriculum for young ones is developed or reviewed parents should be invited as active actors in the curriculum development process. Schools should capitalize on any gathering they have with parents being it graduations, prize giving days or annual school parent meetings to discuss issues concerning the curriculum and how to implement it in a home based context. It is through such discussions that topics like use of home chores can be interrogated. Trainings and workshops for parents with young children by specialist educators will equip them with skills and competencies they need to fight challenges that confront the education of their children at home. Through trainings parents can be in a

position to make picture and story books from and print material they find in the home or shops. They are taught how to read with their children. They understand the domains of early childhood development that early education thrives to achieve. They then try to develop the same domains at home.

Online learning was the other challenge that parents especially those in marginalised communities continues to endure. The use of online platforms to ensure continuity of learning is something yet to be realised in remote rural areas. The places need internet connectivity and internet devices first before we talk of online learning in these marginalised communities. Remote rural areas in some parts of Africa are still haunted by the ghost of colonization. The colonizers had since left but the stratified societies that they created are still in existence and its subject still suffering as before and had no access to life's significant services and amenities. There is need for planning on how to navigate this phenomenon in terms of laying the infrastructure that promotes modern ways of teaching as well as home based learning with parents as the sole educators or in partnership with teachers.

Recommendations

It is not too late for the world to develop sustainable strategies that can answer the question of continuity of learning in trying times for pre-academic learners. This study recommends the adoption of the following ideas in the table below as a post COVID path to prepare for future eventualities in marginalised communities. The future of the world is in its children so let's spare a minute to map the future of our children against all odds.



Source: own

The home was the Centre of this discussion. In order to transform it in to a learning environment that guarantees continuity of learning even in case of uncertainties, schools and the government were seen an frontline actors in this transformation. This transformation is needed now because the next global attack by any form of threat is not known to anyone. What is clear is one day history repeats itself and when this happens we need not to be taken by surprise again.

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INNOVATIVE PEDAGOGY IN EDUCATION DURING AND AFTER THE COVID-19 ERA

Majaha Ndlovu
BA ISAGO University
Department of Education
Francistown Campus

Abstract
The Covid-19 pandemic that struck the country in mid- March, 2020 changed what was generally regarded as the norm in the delivery of lessons in education. Face to face, teaching had been the common route for instructional delivery, the world over, for time immemorial. Covid-19 forced teachers to temporarily abandon this instructional delivery style because gatherings were discouraged, as it was through such occasions that the virus causing the disease rapidly spread amongst the people. This study sought to find out how lecturers coped with innovative methods they were expected to use during Covid-19 and the level of success they registered. The qualitative design was adopted; data were collected through the means of interview and a questionnaire. The results of the study indicated that the majority of the participants were of the feeling that while virtual meetings and lessons were doing fairly well as a stop gap measure for the time being, they were not sustainable in the long run especially in countries that were poorly resourced. It was therefore desirable and recommended that a type of blended learning be the norm to cater to all the learners, particularly those who prefer to be taught face-to-face.

Keywords: Pedagogy, Innovation, Covid-19, Digital Equipment, Sustainable, Inclusive Growth

Introduction

The emergence of Covid-19 ushered in a period of great anxiety amongst the populations throughout the world. The governments were placed in an uncertain position where they worried about stopping the spread of the disease. Activities that involved gathering of people were prohibited, as a measure to contain the spread of the coronavirus. The available literature indicates that the virus spreads through contact and/or breath. Educational institutions were amongst the hardest hit as most of them were traditionally used to the face–to-face interactions during the teaching and learning process (Sali, 2020). Pedagogy suffered as the lockdowns, masking up and social distancing threw every form of face-to-face teaching out through the window. Educators had to think outside the box and come up with possible ways of continuing to deliver instruction to their learners. This required them to innovate in pedagogy. Communication at a distance became a possible viable solution to the predicament that Covid-19 problem had thrown the world into. Digital equipment would be needed in greater quantities given that more and more people would use cellphones, laptops and other gadgets to communicate. There would be need for inclusive growth, a situation where the benefits of growth would reach all the different sections of the society. The world was at crossroads and uncertainty

clouded the future. The rapid spread of the disease and the rising death toll gave governments a difficult time as they battled to get the vaccine to try to save lives and bring normalcy to the lives of the people. This paper examines perceptions of lecturers and students on the impact of the Covid-19 pandemic on pedagogy at tertiary education level. This level was selected because the researcher had confidence in that the respondents would provide relevant responses, as they are mature enough to be able to decipher the implications of Covid-19 in the teaching and learning environment. There would be need for innovation in the field of pedagogy if students would continue receiving instruction.

Literature Review

Literature on Covid-19 is available in many sources including scholarly works, newspapers and journals. The literature is abundant and recent given that the pandemic has not been with us for long. Researchers suggest that current workforce characteristics are radically different from what they were several decades ago (Cummings & Worleym, 2009). They demand accurate information and consultation on issues that may affect their wellbeing. This suggest that information about any phenomenon has to be checked for accuracy so that whatever is disseminated is accurate information. This is the period of Unions where more and more dialogue is expected as opposed to instructions and directives. Covid-19 can be viewed as a life threatening diasese that has to be handled with utmost care. The presence of the virus, amongst the populations, meant that the teaching and learning environment could no longer be treated as a place where it would just be 'business as usual'. Changes in the way workers related to each other became pararmount. Moorhouse and Wong (2021) view the Covid-19 pandemic as a catalyst for teacher pedagogical and technological innovation and development. They view the pandemic as a means by which teachers began to consider alternative ways of delivering instruction. The use of technology became central to the teaching and learning environment. Sali (2020) was of the view that distance education was the way to go during the Covid-19 pandemic. The author was however open to ideas and other perspectives that could be used in education to bring about some normalcy in the 'new normal'. He advocated for a re-think on distance education in the face of the pandemic (Li, Li & Han, 2021).

Ali (2021) viewed Covid-19 as the major push factor towards online and remote learning in higher education. The author maintains that it was a necessity for the teachers/ lecturers to engage in online teaching and learning in order to ensure that institutions were not forced to close. Torqueo (2021) referred to the impact of Covid -19 as an emergency remote educational experiment that was necessary to push the powers that were to act.

Issues Relating to COVID -19

The pandemic, as has been discussed, influenced many changes in the delivery of instruction which in some institutions had remained unchanged for a long time. Some authors have come to regard the changes brought by Covid-19 as the 'new normal'. Use of technology has become widespread with lessons, meetings and conferences being held virtually. This has called for greater investment in Information Technology both in the

purchasing of the gadgets and training of the end users. Face-to-face meetings and pedagogy has been greatly reduced in order to avoid spread of the disease which has not been eliminated. Indeed in some parts of the world such as China, there has been a resurgence of the pandemic. Countries that are not able to raise the required funds in order to purchase technological gadgets have problems in carrying out pedagogy. In some instances, such countries have gone back to face-to-face meetings with reduced numbers of participants. This, however, has led to more classroom space required to cater for the increased groups further straining the resources of those countries who are low in terms of resources.

Methodology

The investigation employed dedicated literature review and focus group interviews. Four institutions of higher learning were purposively selected for this study. These institutions were selected looking at their similarities in terms of programs that they offer. The kind of pedagogy used during face-to-face or online teaching was found, by the researcher, to be similar. Forty participants, comprising of twenty (20) lecturers and twenty (20) students were purposively sampled to participate in the study. Data were collected from them using an open-ended questionnaire, which sought to capture their views on how Covid-19 had affected the teaching and learning process. The focus group interview was carried out with four (4) randomly selected students on their own and four randomly selected lecturers on their own to find out in a question and answer/discussion form their views about innovative teaching and learning methodologies during the Covid-19 era. They also had to state whether the use of the online teaching and learning system would still be relevant in the post Covid-19 era. The students and lecturers were separated to give each group the freedom and confidence to express their views amongst their peers. A recording device was used to capture information during the focus group discussion. This was meant to assist the researcher to focus on asking questions and following through those questions that were not clearly explained without the burden of writing notes.

For ethical reasons, the researcher explained and sought permission from the participants to record the proceedings. The questionnaire comprised of Sections A, B and C. Section A sought demographic information from the participants; Section B required the participants to indicate their views on the impact of digital usage in the teaching and learning environment. Section C required the participants to express their views on the online teaching and learning. Their views were also sought regarding how the lecturers and university management mitigated against the negative effects of Covid-19 in as far as teaching and learning was concerned. The data collected were analyzed thematically. The methodology followed an interpretive paradigm with a view to getting social reality as viewed by the participants. A number of studies have been carried out in the area of Covid-19. This study adds to the many that have been done and brings along its own or similar literature. Each of these studies has a place in the addition of literature pertaining the subject of Covid-19. Each of the studies is therefore relevant in bringing a different perspective of the disease. The various areas in the world that attempt to study the Covid-19 and how mankind can survive it brings all the players closer to coming up with a solution that may eventually lead to the possible eradication of the disease.

Findings and Discussion

Despite the fact that the introduction of online teaching and learning was literally forced onto the lecturers and students by the outbreak of the Covid-19 pandemic, the participants viewed this as an appropriate and welcome solution to the problem posed by the prohibition of face to face pedagogy. Ninety percent (90%) of the lecturers and ninety five percent (85%) of the students expressed the view that the method was adequate in providing a stopgap solution for the problem of none face-to-face teaching and learning. They further stated that they would be very happy to continue using the online teaching and learning system if government and parents would have sufficient resources to provide the needed resources. The participants (students) viewed the move towards increased usage of digital platforms in teaching and learning as a step in the right direction. This, according to the students, would place them in a position where they would have moved beyond the traditional of teaching and learning just as people have generally moved away from the traditional ways of writing letters as a way of communication. The lecturers, on their part, expressed happiness about the development of online teaching and learning. They saw it as a development that would move countries away from the traditional talk and chalk to advanced online methods of pedagogical delivery.

One of the participants cited the Asian countries particularly Malaysia as having made significant strides in the use of digital platforms for lesson delivery. Their concern was about the ability of the Ministry of Education and Skills Development affording to avail the necessary equipment to make online teaching and learning a permanent feature in the Botswana Education System. However, despite the support that the majority of the participants gave to online pedagogy, they were still of the view that online pedagogy had some shortcomings which would need to be dealt with for it to be a success in education. They maintained that the process is not sensitive to those who may not have the necessary gadgets to be able to learn online. It is therefore neither inclusive nor equitable. Lecturers had challenges that related to their knowledge in terms of operating the gadgets as well as poor internet connectivity. The lecturers further stated that they possibly could not connect the gadgets either due to lack of expertise or to problems related with the functionality of the gadgets themselves. Students could fail to participate in the lesson, due to challenges such as gadgets malfunctioning, connectivity issues or may just play truant.

Conclusion

The study has highlighted its findings regarding the Covid -19 pandemic and its attendant prons and cons as viewed by the participates who comprised lecturers and students. The pandemic has brought about both positive and negative consequences to the teaching and learning environment in Universities and other institutions of learning. It has affected general life activities especially in instances where people needed to come into groups or into contact with each other. The positives include amongst others, increased flexibility in dealing with time, flexibility in terms of when to have lessons and a choice as to where to have lessons. This level of flexibility makes it possible drastically cut down on absenteeism by students since a suitable time could be arranged by both students and lecturer to have lessons with minimum disruption of lessons. This could be even at night thus bringing about a situation that would never have obtained if children had to attend lessons in a classroom at school. Depending on the availability of digital equipment,

students and lecturers can have their lessons in the comfort of their homes. The negatives include, amongst others, reduced inclusivity and equitability for students in terms of access to the gadgets and internet connectivity. The issue of inclusion is always very sensitive in all spheres of life. People with disabilities need to be always catered for in whatever other people without disabilities get or are able to access. Access to all the school facilities needs to be granted if the students who live with disabilities are not to raise issues. The participants have recommended long-term solutions which may be cost effective. Research in the area of Covid-19 has to be continuous with a view to eliminating the virus or greatly reducing or eliminating its impact as well as being prepared for possible future pandemics. All Covid -19 protocols need to be adhered to while the virus is with us. There is need for international collaboration even during the war times to ensure that pandemics such as Covid -19 are constantly kept under check. There is need for continued vigilance so that any potential outbreaks are detected at an early stage. The general population need to be constantly educated on the need to remain vigilant in guarding against Covid-19 infection.

Recommendations

Further research is recommended in this area with the intention of finding out how the negative effects of Covid-19 can be mitigated. The advert of Covid-19, while it was not expected, provided a chance for innovation in the teaching and learning environment. It ushered in e-learning with both advantages and disadvantages. It is, therefore, recommended that lecturers embrace the changes in the delivery of lessons and work towards mastering the operation of the gadgets. The new normal may be with society for a long time. Governments are encouraged to budget for the purchasing of the relevant Information Communication Technology (ICT) gadgets so that connectivity of the students and lecturers become easier. There is also need to find ways of assisting those countries that may not be economically strong enough to provide the necessary and relevant gadgets for use during virtually meetings and lessons. It is not known yet how long the pandemic will be around because while the research title talks about post Covid-19 state, it is only the desired state of affairs. The situation remains fluid and as such all must remain vigilant and actually prepare for possible mutations of the current virus or emergency of new ones.

Future Research

Future research should aim at nipping some of these pandemics in the bud so that their impact is reduced. Research needs to be carried out with a view to getting ideas from every stakeholder regarding the possible way forward in dealing with future pandemics. Communication is key in getting the people's buy in to solving problems that are common to the society. It is important that different professionals work together with a view to dealing with known pandemics as well as mitigating against those that may be opportunistic in nature. This may call for greater collaboration amongst world nations as well as organizations like the World Health Organization. International organizations, which are likely to have the means of raising funds, would be encouraged to assist in funding those countries that may be affected by the pandemics but without the necessary finance since pandemics can easily spiral out of control when not contained right at the

beginning. Medical personnel throughout the world have to be encouraged to work together in an attempt to get countries to wade off pandemics. There is need for teamwork amongst the authorities and world leaders so that reaction to pandemics can be swift and aim at preventing the loss of lives.

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TEACHERS' EXPERIENCES ON THE ROLE OF SCHOOL-BASED VIOLENCE IN SELECTED SOWETO PRIMARY SCHOOLS

Mkhomi Ms
University of Fort Hare,
South Africa

Abstract
The South African schools are under siege as the intergroup conflicts take a centre stage and the safety of both learners and teachers is not guaranteed. This paper investigated the perspectives of teachers on the conceptualisation of school-based violence in selected Soweto primary schools. The qualitative research approach was used. Purposive sampling was used to select six teachers from three primary schools. The study followed interpretive paradigm with focus group interpretative as a data collection method. The collected data was analysed and arranged into themes of participants' perspectives on the role of intergroup conflicts and how it perpetuates school-based violence. This study found that school-based violence is the main challenge in schools, and it is exacerbated by external factors such as violent communities which import violence into schools and using schools as trading posts for drug distribution. This study recommends that the Department of Basic Education should embark on a speedy and focused strategy to implement Peace Education in schools. Such strategy should adopt collaborative approach and involve all relevant stakeholders.

Keywords: Gangsterism, Intergroup conflict, School-based violence, Peace education

Introduction
There is overwhelming scholarly work on school-based violence (SBV) and gangsterism, particularly about delinquent youth in South Africa. The common narrative in these literatures is that gangsterism is an external force and operates outside the school in the communities, and make drugs available to learners to and from school (Mncube & Madiya, 2014; Mncube & Harber, 2014; Maphalala & Mabunda, 2014). Violence in the South African communities seems to be institutionalised and this has caused escalation of violent behaviour in our schools (Mncube & Madiya, 2014). This view is shared by Segoe and Mokgosi (2007) who argue that SBV has its roots in violent societies. Mnyaka (2009) states that, the schools have always been regarded as safe, but have turned into a war zones, characterised by violence and aggressive behaviour of learners. Mncube and Steinmann (2014) assert that the teachers are expected to teach learners from different backgrounds, even those who display antisocial behaviour by swearing and back chatting teachers. The verbal abuse and total disrespect and challenging of teachers are common features in some South African schools.

SACE Report (2011) asserts that the school is space in which children can come and learn in a safe and protected environment, however, in reality this is not the case. Jacob and Furgerson (2014) defines school violence as an intentional use of physical or other

force or power to threaten another person or a group. Ncontsa and Shumba (2013) are of the view that the environment and climate necessary for effective teaching and learning is increasingly undermined by a culture of school-based violence and this is becoming a matter of national concern. The prevalence of SBV forces educators to spend most of their time focusing on solving problems associated with school violence instead of focusing on effective teaching and learning.

School-based violence (SBV) may also involve different actors at different times inside the school – for example, learners may bully each other, teachers may bully learners, learners may bully teachers, parents may bully teachers, and principals may bully teachers or be bullied by them. The Department of Basic Education (DBE) through, The National School Safety Framework (NSSF) (2015) state that most violence in schools is perpetrated by learners and peers from the school, rather than young people outside the school. This research finding is in contravention of the nation's commitments to uphold the rights of all children to learn in a safe environment, South African children are exposed to high levels of violence within their school contexts in addition to the high levels of violence in South African homes and communities. Ncontsa and Shumba (2013) are of the view that the escalation of violence in South African schools has led researchers to conclude that schools are rapidly and increasingly becoming arenas for violence, not only between pupils but also between teachers and pupils, and thus schools are no longer viewed as safe and secure environments where children can learn, enjoy themselves, and feel protected. However, SBV is not carried out by individual learners in schools, but by groups of learners with antisocial behaviour.

Problem Statement

The schools are not only unsafe, but are also not peaceful; the prevalence of school-based violence violates the rights of learners to learn in a peaceful environment (Masitsa, 2011). Recently there are studies that have shown that SBV incidents have drastic changed and teachers are now the victims of this scourge. It is on these school-gang related incidents that the researcher of this paper sought the perspectives of the teachers on how they conceptualise SBV which adversely affect teaching and learning in schools. Literature abounds on SBV as phenomenon as well as its causes. However, this paper seeks to highlight and project the voices of teachers in dealing with SBV in their daily teaching activities.

Research Question

The main research question that this paper seeks to answer is:

- What is SBV?
- What are the manifestations of SBV in schools?
- How does SBV impact on teaching and learning?

Aim of the Study

The aim of this paper is to articulate how teachers experience SBV through its manifestation in schools.

Theoretical Framework

As this study focusses on the teachers' experiences of SBV, thus it opted for Erikson's Psychosocial Theory (2010), which emanates from sociological and psychological human behaviour in a given context. According to Cherry (2016), psychosocial theory focuses on the development of one's ego-identity and development of the self-consciousness in a social context. According to the psychosocial theory, children go through 8 psychological developmental stages namely; Identification, identity formation process, identity achievement, identity crisis (Tatlılıoğlu, 2018). These stages need to be fully developed for healthy and normal socialisation, self-control within a social context that provides an orientation toward or against constructive communal living (Tatlılıoğlu, 2018).

Literature Review

What is SBV?

School-based violence is a sub-set of violence and the latter has to be explained to grasp the former concept. School violence is defined as a threat or use of force with the intention of causing harm, either at school or during school-related activities (Turanovic, & Siennicj, 2022). According to Pruitt and Kim (2004), violence is meant to inflict physical injury to another person. The National School Violence Study (2012), Mncube and Harber (2013) and Jacob and Furgerson (2014) refer to school violence as daily learners' experiences within the schools, a behaviour by people with intentions to physically or psychologically harm others. For Ferrara et al. (2019), school violence occurs both inside and outside the classroom, around schools, on the way to and from school. The existence and prevalence of SBV outside the school is echoed by Khumalo (2019), that violence manifested in schools is a practice that is expressed in communities, streets, homes and in whatever places where human beings find themselves. The definition of SBV therefore, alludes to harmful and destructive intentions to both individuals and property. SBV is an anti-social behaviour which develops from aggression, with the intent to injure or harm others either being hostile or instrumental. Thus, Turanovic and Siennicj (2022) are of the view that the strongest predictor of school violence antisocial behaviour. Bergh and Geldenhuys (2014) and Marotz et al. (2014) define aggression as any behaviour that is intended to hurt someone physically and verbally, and escalates into hostility and explodes into violence. In their research, Ward et al. (2012) refer to violence as antisocial behaviour of children and adolescents, which includes fighting, stealing and assault.

SBV also involves the manipulation and the use of coercion as well as rejection, taking place during or outside school hours, during class times and breaks, at school-related events (sport, cultural and social), as well as while commuting to and from school. The school violence expresses itself through the physical and psychological forms. Physical violence often takes the form of beating, kicking and punching one another, as well as physical assault (Jacob and Furgerson, 2014). The psychological violence is expressed through direct verbal victimisation and intimidation. Girl learners are sexually victimised in schools through sexual name-calling and suggestive storytelling, unwanted sexual comments. Similarly, Mncube and Madiya (2014) argue that the lack of security is often a problem in schools as strangers walk into the school premises uninvited often with violent intentions. The security issue also enabled the learners to sneak out of the school

premises unmonitored. More important to the school security issue, according to this study was the external gang activities which penetrated the schools.

How does SBV impact on teaching and learning?

Ncontsa and Shumba (2013) are of the view that the escalation of violence in South African schools has led researchers to conclude that schools are rapidly and increasingly becoming arenas for violence, not only between pupils but also between teachers and pupils, and thus schools are no longer viewed as safe and secure environments where children can learn, enjoy themselves, and feel protected. The impacts of SBV on learners and teachers are far reaching. It violates human rights to safe learning space, adversely affects quality teaching and learning, has a negative psychological effect on teachers and learners alike. Section12(1) (c) of the Constitution of the RSA, states that:

> *Everyone has a right to be free from all forms of violence from either public or provide sources.*

This means that the prevalence of SBV in schools and communities directed to any one including learners and teachers is a violation of human right. This assertion is echoed by Ferrara et al. (2019), who argue that all forms of violence in schools infringe the fundamental right to education. Johnson, Burke and Gielen (2011) in their research findings found that violence in United States schools affects negatively the educational, psychological, and social development of learners as they display social isolation, depression, frustration, and poorer school attachment. The teachers have also felt the heat of SBV. The Maring and Koblinsky (2013) research found that teachers throughout the nation (USA) feel threatened and unsafe by the violent youth behaviours, particularly in the urban areas.

Learners on the other hand according to Singh and Steyn (2014) and Ferrara et al. (2019), expressed feelings of inferiority, guilt, depression, suicidal tendencies, absenteeism, death, ill-health, fear and anxiety, feelings of humiliation, nervousness and tension, ill-health, anger and bitterness due the prevailing violence in the schools and communities. Violent schools reduce effective quality teaching and learning and learners exposed to violence are less likely to internalise moral values and they are more inclined to display antisocial behaviour (Ferrara et al., 2019). Furthermore, violent prone schools, limits learners to develop social cohesion and often their violent behaviour spill over to their communities (UNESCO, 2016).

Mncube and Steinmann (2014) are of the opinion that school violence is prevalent in most South African schools and manifests itself as gang-related violence. Masitsa (2011) argues that there are a number of laws and policy guidelines aimed at protecting the learners and the teachers in schools; despite these, schools remain unsafe. On the other hand, Segoe and Mokgosi (2007) assert that safe and non-violent schools are linked to safe and non-violent communities. A research conducted by de Assis et al. (2013) in Cape Town, South Africa, revealed that children exposed to a significant amount of community violence in the form of school violence, neighbourhood violence, gang violence, and police violence, are affected in one way or another. The National School Violence Study (2012) found that school violence has a potential to erode the ability of

victims to form healthy, pro-social and trusting relationships with peers and adults. This assertion has far reaching consequences in inculcating fear and mistrust between the learners and the teachers. Fearful and distrusting learners are easily recruited into gangs and form a solid base for intensification of intergroup conflicts in schools and are susceptible to conform to violent group leading to the escalation of SBV.

What are the manifestations of SBV in schools?

According to a School-Based Violence Report commissioned by South African Council of Educators (SACE) (2011), violence in the schools includes physical forms; expressed in physical and sexual, murder, intimidation and stabbings, to a mention a few. These violent manifestations are not only posing danger for learners but also for teachers (Ncontsa & Shumba, 2013; Daniel, 2018). This study focused on bullying, Educator-Learner Violence (ELV) and Learner-Educator violence (LEV).

Bullying

Bullying is the most common SBV manifestation. Minton (2012) defines bullying as long-standing violence, mental or physical, conducted by an individual or a group against an individual or group. Similarly, De Wet (2006) highlights the features of bullying as intentional, repeated hurtful acts, words such as name calling, threatening committed by an individual or individuals against another person. Du Plessis and Conley (2007), assert that bullying is a form of abuse that expresses imbalance of power to its victims. According to Mncube and Harber (2014), school-based violence in the form of bullying may be learned outside the school but perpetuated inside the school because the school ignores it or doesn't deal with it satisfactorily. Marotz, et al, (2014) are of the view that bullying in the presence of others is the result of peer aggression for a number of reasons; among them: bullies hang out with other aggressive peers to assist and reinforce their bullying activities. According to Swartz et al. (2013), bully initiates and members often have to comply with group norms which are both proscriptive and prescriptive. Conformity means modifying one's behaviour in the presence of perceived pressure from others. In terms of the prescriptive norms, these are shared expectations and recommended behaviour of the group to achieve its objectives. Bullying in schools of late is not only experienced by learners alone, teachers have become victims as well. This assertion is concurred by Du Plessis and Conley (2007) empirical study that 38% of educators encountered bullying every day, while 32% of the teachers witnessed bullying at least once every week and 8% in their classes. There is evidence to suggest that victims of bullying live with fear whilst the bullies often suffer from poor mental health, which extends into adulthood and affect personal, family and work relations (UNESCO, 2016).

Educator-Learner Violence (ELV)

South Africa's post-apartheid society is founded on respect for human rights. The country's Bill of Rights states that everyone has a right to be free from all forms of violence, on the part either of the government or other sources; not to be tortured in any way; and not to be treated or punished in a cruel, inhuman or degrading manner (Bullying Reader, 2012). Sadly, teachers who are supposed to be the protectors of learners and the custodians of the constitutional values are often found violating learner rights by meting out corporal punishment on learners. Common in schools is violence perpetrated by

educators on learners. Mncube and Harber (2014) assert that there are two closely interconnected social and psychological explanations of the causes of violent behaviour in relation to socialisation that are relevant to the authoritarian role of schooling in reproducing and perpetrating violence.

> *The first is the idea of role modelling, that is if those adults who young people are expected by society to admire, respect and imitate are consistently authoritarian to them, and they will come to accept this as the normal way of relating to others – giving orders or taking orders.* (Mncube and Harber, 2014:*21*).

According to Ward et al. (2012), the educators in the context of school violence have two roles: prevention and intervention. However, there is sufficient evidence that suggests that teachers are the perpetrators of various forms of violence against learners. Burtons (2008) research study that found that incidents of educator-on-learner verbal abuse and educator-perpetrated physical abuse are common practices in some of the South African schools. The verbal abuse against learners by teachers is in the form of shaming, humiliating or yelling at learners, particularly in group situations. Corporal punishment is used to discipline learners and its application is justified that no other method of discipline and control is effective. The justification of continuous use of corporal punishment by teachers according to Veriava and Power (2017), is that teachers still regard corporal punishment effective means of disciplining learners in the school. This assertion is concurred with Mashau (2015), who argue that in most South African schools, learner discipline is out of control due to the abolition of corporal punishment. A study carried out by Nhambura (2020), in Vryburg, North West Province, South Africa, teacher participants overwhelmingly supported the return to corporal punishment as they are losing managing discipline in their classrooms. However, Burton (2008) found a strong correlation between the levels of corporal punishment used in a school and the levels of learner violence in the same school. This means that the use of corporal punishment is internalised and normalised by the learners in some of the schools.

Learner-Educator violence (LEV)

It is unfortunate that teachers are caught in the cross fire when SBV erupts during school hours as they have to intervene and mediate. A study conducted by Jones (2013) found that teachers face a challenge to continue teaching in a violent environment as they try to ensure the safety of learners in the midst of gun battles within and outside the school. The biggest challenge to the teachers is whether to intervene and be killed or watch learners in their care being killed in their presence. At the end of the day, teachers have families who depend on them for survival. The willingness to respond to the call of duty is overwhelmed by fear of their own safety. Mtyala (2012) found that the teachers, who gave learners lifts in and out of school to protect them from the gangsters, have their cars stoned. Jones (2013) cited an incident of a deputy principal who survived gang shootings because she escorted learners to safe guard them from attacks in Mannenberg – Cape Town. Fear factor of gang attacks for teachers and learners cannot be underestimated and affects effective teaching and learning. This study has also found teachers develop negative attitude towards the gang learners and this undoubtedly negatively affect

teaching. Violence in schools through gang activities is polarised, normalised and perpetuated, thus increasing the formation of counter groups.

Research Methodology

Research methodology is a theoretical and philosophical process which unpacks procedures, the research instruments, techniques and approaches used in conducting empirical research study (Slevitch, 2011). This study engaged the interpretive research paradigm as it was interested in qualitative research approach.

Research Paradigm

Research paradigms are research models that reflect a general agreement on the nature of the world and how it is investigated (Burton & Bartlett, 2009). Denscombe (2010) states that interpretivism is a philosophical position premised firstly on the assumptions that social reality is constructed and interpreted by people. For this study, interpretivist research paradigm was used to gain an understanding into participants' reconstruction experiences on SBV phenomenon.

Research Approach

This study applied the qualitative research. Neuman (2006) maintains that to capture the language of cases and contexts and interpret or create meaning in specific settings, qualitative research is appropriate because it is more concerned about issues of richness, texture, and feeling of raw data (Neuman, 2006). Janesick (2011) argues that qualitative research has characteristics - among others holistic social context under study. The other reason for the choice of the qualitative research approach is that qualitative research approach is a flexible approach which uses social actors' points of view to describe in detail social actors' interactions and process with the aim of developing concepts and theory (Blaikie, 2010). This qualitative research studied the phenomenon of teachers' experiences of SBV in their natural settings - schools, to make sense and interpret phenomena in terms of the meanings people bring to them (Denzin & Lincoln, 2013). Since the research is heavily qualitative, it involves an interpretative naturalistic approach to the world. The best approach to this study is triangulation.

Research Design

Research design refers to the holistic process of doing the research from the beginning to the end, with details on how the investigation was be conducted (Hamilton & Corbett-Whittier, 2013; Yin, 2014). For this study, a case study was preferred to provide rich information on the topic of teacher experiences on SBV under investigation. According to Rule and John (2011), a case study design gives the researcher greater insight into and an understanding of the dynamics of a phenomenon.

Research Sample

Research sample is a representative part or a single item from a larger whole or group (Creswell & Creswell, 2018). This study employed a purposive sampling method to allow the researcher to choose the most knowledgeable participants for the study on the research topic (Maphosa, 2016). Three SOWETO violent-prone schools were selected and 6 teachers participated in the study. According to Gledhill and Schweitzer (2008),

purposive sampling is often used when small samples are studied using intense, focused methods such as in-depth interviews. Furthermore, purposive sampling was preferred because the researcher knew that the participants will be able to provide the best account of the phenomena (Curtis, Murphy and Shields, 2014) and the selected three primary schools in Soweto, were experiencing SBV.

Data Collection method

Semi-structured interviews with open-ended questions were used as the main instrument for the conduct of this study to explore teachers' experiences on SBV (Mueller & Segal, 2014). The semi-structured interview allowed the researcher to collect data from the participants using questions that will allow a natural conversation (Escalada & Heong, 2014). This method enabled the researcher to get close to the social actors' meanings and interactions, and provide greater insights into opinions that are held by the participants (Blaikie (2010).

Data Analysis and Interpretation

The recorded voice data was transcribed verbatim by the researcher and thematic data analysis was employed. Swartz (2013), state that data analysis is a process of systematically searching and gathering the interview transcripts, field notes and other materials that the researcher accumulates during data collection in order to understand the phenomenon and ultimately be able to present what have been dealt.

Findings

The findings of this study are among others; the definition of SBV, the causes of SBV, the relationship between SBV and the intergroup conflict and the effects of SBV.

Definition of SBV

The teacher participants gave a concise definition of SBV, with a common understanding that it emanates within the school and often perpetuated by the formation of counter groups.

Teacher 1 described SBV as;

> *Violence that occurs within the schools, between the teachers and learners themselves.*

Teacher 3 concurred with Teacher 1 that SBV occurs within the school but further stated that continuous bullying of individual learners inevitably leads to the formation of groups or gangsters within the school environment.

> *In most cases it (SBV) is initiated by bullies, who persist in bullying others leading to fights and formation of groups for and against the bullies.*

Teacher 6 asserted that SBV *is related because, what is happening in the schools is what they see outside.*

Manifestations of SBV

Teacher 3 indicated that SBV occurs within the school but further stated that continuous bullying of individual learners inevitably leads to the formation of groups or gangsters within the school environment.

> *In most cases it (SBV) is initiated by bullies, who persist in bullying others leading to fights and formation of groups for and against the bullies.*

Teacher 2 asserts that SBV is violence that is within the school, among learners characterised by bullies who take other learners' lunch packs and money. The persistent bullying is indicative of the fact that the school does not intervene to deal with SBV or alternatively has no systems in place to deal with the violent situation.

Furthermore, Teacher 2 mentioned that teachers who argue in front of learners, become models of violence and declared:

> *... and also when teachers have a squabble, maybe they are not on good terms with each other; it turns up confront each other or there's altercation between the said teachers*

It also interestingly emerged that squabbles between teachers in the presence of the learners according to the teacher participants were regarded as SBV.

According to Teacher 3, some of the teachers contribute to bullying as she related a story of her daughter being called names by the teacher because of her obesity and the teacher set a bad example which other learners followed.

> *My daughter is obese, and her teacher called her 'John Cena'. Some of the teachers are the same as bullies.*

The teachers as the protectors of learners and the custodians of policies safeguarding the learners were reported to be meting out corporal punishment on learners because;

> *Teachers want to be feared by learners and believe that teaching and learning can only take place under strictly controlled conditions (Teacher* 1).

The hardening of attitudes of teachers towards learners according to Teacher 1 is due the manner the teachers were raised:

> *Most teachers were themselves subjected to corporal punishment during their school years and they do not know any alternative discipline except corporal punishment.*

What is impact of SBV on teaching learning?

SBV according to teacher participants, wastes teaching and learning time as more time is spent resolving disputes instead of teaching. Some teachers have resorted to ignoring the bullies in their classes.

Teacher 5 commented that;

> *It (bullying) wastes teaching time as we have to attend cases involving SBV and learning is affected as more time is spent on issues not related to school work and curriculum.*

Learner performance is adversely affected by SBV resulting to school drop-outs as the learners fear to attend school because of the bullies. Teacher 6 commented that in her school;

> *Those who are being bullied their academic performance drops as they are no longer free and focussed on their work. This affects the learner's attendance as the child fears to come to school*. (Teacher 6)

Teacher 2 asserts that the known bullies at school are often overlooked and not given attention by teachers who are often irritated by them because of their disruptive behaviour and lack of respect.

> *You get annoyed, you get irritated so you don't attend to that child fully because you know that it's a bully and then that child also lacks respect for the teacher.*

Teacher 4 alluded to the fact that bullies waste teaching time as they forced to pay more attention to them and in an effort of trying to win them, they (teachers) end up neglecting other learners.

> *They do waste time, because sometimes you spend more time attending to those groups, trying to win them back and you do that other learners get neglected*

Teacher 6 commented that the underperformance of some bullies has a lot to do with being ignored and not cared for by parents.

> *What I observed is that the weaker learners tend to be bullies due to poor performance and wants recognition and attention by intimidating other learners*

Teacher 2 concurred with Teacher 6 that the known bullies at school are often overlooked and not given attention by teachers who are often irritated by them because of their disruptive behaviour and lack of respect.

> *You get annoyed, you get irritated so you don't attend to that child fully because you know that it's a bully and then that child also lacks respect for the teacher.*

Teachers 3 commented on the impact of bullying on the performance of the victims and stated;

Those who are being bullied their academic performance drops as they are no longer free and focussed on their work. This affects the learner's attendance as the child fears to come to school.

Discussion

This study found that teachers' experiences on SBV as imported practice into schools by learners from violent backgrounds, homes and communities. Teacher participants defined SBV as emanating within the schools perpetuated by both learners and teachers. Common perpetrators of bullying are not necessarily exclusively learners, but teachers as well. Bullying was found to the common manifestation of SBV by learners-on-learners and teachers-on-learners. Finally, bullying was found to be the main distraction to effective teaching and learning in the schools under study.

Recommendations

This paper therefore recommends that the Department of Basic Education comes up with the strategy to fast track the implementation of Peace Education in South African schools. It is hoped that Peace Education will provide a platform for engagement, provide skills to identify and deal with conflict amicably by all affected parties. This means that schools should treat SBV as not only the problem of schools but as a societal burden.

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Knowledge and Attitude of Undergraduates to COVID-19 Pandemic in Obafemi Awolowo University, Ile- Ife, Nigeria

Babatunde Adeniyi ADEYEMI
Institute of Education
Faculty of Education
Obafemi Awolowo University, Ile- Ife.
adeyemibabs2003@yahoo.com

Monilola D. Oyetade
Department of Arts and Social Science Education
Faculty of Arts & Education
Lead City University, Ibadan.
monioyetade2013@gmail.com

Abstract

The study ascertained the level of knowledge of undergraduates on COVID-19 pandemic in Obafemi Awolowo University, Ile-Ife and determined their attitude towards COVID-19 pandemic in the study areas; as well as examined the relationship between undergraduates' knowledge and attitude on COVID-19 pandemic in the study areas. The study adopted a descriptive survey research design. The population for the study consisted of undergraduates of Obafemi Awolowo University, Ile-Ife, Osun State. The sample for the study consisted of two hundred (200) undergraduates of Obafemi Awolowo University, Ile-Ife, using simple random sampling technique. An instrument was used to collect data for the study. Data collected were analyzed using frequency counts, simple percentage and Pearson Moment Product Correlation. Findings of the study showed that the level of knowledge of undergraduates on COVID-19 pandemic was high at 56.0% and that there was a significant relationship between the level of undergraduates' knowledge and attitude to COVID-19 pandemic in the study area ($r = 0.657$; $p < 0.05$) among others. The study concluded that undergraduates of Obafemi Awolowo University had high knowledge of COVID-19 pandemic and that there was a significant relationship between the level of knowledge and attitude of the students to COVID-19 pandemic in Ile-Ife.

Keywords: Perception, COVID-19, Knowledge, Attitude, Pandemic, Undergraduates

Introduction

Issue related to COVID-19 pandemic is no longer new. It has been established that it affected the entire nations of the World. It is a virus linked to the same family of viruses' as Severe Acute Respiratory Syndrome (SARS) and some types of common cold. The Syndromes of this disease include fever, cough and shortness of breath (Adeniyi, 2021).

The first case of the infection of the virus was confirmed on February 27th, 2020 through an Italian expatriate in Nigeria (Federal Ministry of Health, 2020). It was equally established by Adeniyi (2021) that on the 23rd of March 2020; the Federal Government of Nigeria directed that all schools across the nation be closed due to COVID-19 and the rapid continuous spread with a high rate of mortality. Since then all learning activities have been altered and about 46 million students throughout the country have been temporarily out of learning (Eke & Nwachukwu, 2021). This had adversely impacted on the educational system of the country. No wonder, UNICEF (2020) reported that about 10.5 million children between ages 5-14 are out of school. While effort at solving the learning gap created by COVID-19 through different media using organized technology-aided instruction to meet the needs of the children has not been fully addressed (Amorigboye, 2020; Foucault & Shmes, 2020). More importantly, outbreak put the entire educational system in unprecedented difficult situations; particularly, undergraduate students who represented a special group at the ages of acquiring autonomy and independence of life but with limited experiences. In another dimension, according to World Economic Forum (WEF 2020), the education system has been positively changed by Covid-19 pandemic forever, with the aids of e-learning medium where teaching and learning are done using ICT means. According to the University of People (UoP, 2020); the outbreak of the Covid-19 pandemic has swiftly drawn attention to a flexible means of learning online.

The impact of COVID-19 on education is bizarre and unprecedented in history because more than 1.5 billion students from across the globe have been affected by school closure (Agbele & Oyelade, 2020). Most students in Nigerian and other African or developing countries are more disadvantaged because most educational institutions in Nigeria still follow the traditional setup of face-to-face lectures in normal classroom settings. There is no doubt that the interference of the coronavirus pandemic has caused so many challenges to the Nigerian education system. According to the United Nation's Educational, Scientific, and Cultural Organization (UNESCO, 2020; ILO, 2020), the pandemic has interrupted the learning of more than one billion students in 129 countries worldwide. Many universities worldwide have moved to emergency remote teaching

(ERT) via online platforms, further inducing anxiety among the students (United Nations, 2020; WHO, 2020). Studies on the effect of COVID-19 and lockdowns on college students in China reported a significant adverse impact on the students' psychological well-being and high anxiety levels. To date, several studies have been conducted on the effects of the COVID-19 pandemic and lockdowns from the public health perspective.

The COVID-19 outbreak has opened up the importance of online education and distance learning; however, just a handful of the world's education is taught online (Dhawan, 2020). The pandemic has resulted in a more severe consequence on schools that do not possess the online learning platform. The COVID-19 pandemic ravaging the world has affected many sectors of the economy, especially in Nigeria. This effect is also evident in the Nigerian educational sector as the Federal Ministry of Education halted the academic session to curtail the spread of this virus in educational institutions. Although this decision came as a shock to many educational institutes as many of these institutions were not prepared for the sudden disruption, others have seen it as a step in the right direction. The challenge then remains how this pandemic will affect students and academic calendars, hence using e-learning as an alternative learning method (Petrie, 2020). With divergent views on the impact of COVID-19 pandemic, there is therefore the need to explore which of the propositions is true. This study therefore attempts to examine the knowledge and attitude of undergraduates to COVID-19 pandemic in Obafemi Awolowo University, Ile- Ife, Nigeria.

Statement of the Problem

The pandemic has kept students of all levels and ages out of school for several months, this is because government of all nations through their health workers believe many school children and students in secondary schools and universities may be at high risk of contracting the virus, due to the free movement that occurs among students on daily basis. Now that schools in the country are back to classes for normal academic activities, there is need to ascertain the level of awareness of students about COVID-19 virus, their knowledge and attitudes towards the practice of social distancing, regular hand washing and wearing of nose mask. For these reasons, this study will be

investigating the knowledge and attitude of undergraduates to COVID-19 pandemic in Obafemi Awolowo University, Ile-Ife, Osun State.

Purpose of the Study

The main purpose of the study is to investigate knowledge and attitude of undergraduates to COVID-19 pandemic in Obafemi Awolowo University, Ile-Ife, Osun State.

The specific objectives of this study were to:

i. ascertain the level of knowledge of undergraduates on COVID-19 pandemic;
ii. determine the attitude of undergraduates towards COVID-19 pandemic in OAU; and
iii. examine the relationship between undergraduates' knowledge and attitude on COVID-19 pandemic in OAU.

Research Questions

To give the study a direction, the following research questions are raised:

i. What is the level of knowledge of undergraduates on COVID-19 pandemic in OAU?
ii. What is the attitude of undergraduates towards COVID-19 pandemic in OAU?

Hypothesis

i. There is no significant relationship between undergraduates' knowledge and attitude on COVID-19 pandemic in OAU.

Methodology

The study adopted descriptive survey research design since the intention was to determine the knowledge and attitude of undergraduate to COVID-19 pandemic in Obafemi Awolowo University, Ile-Ife, Osun State. The design offers a representative sample which permits the researcher to make inferences and generalization to the entire population. The population for the study comprised undergraduates of Obafemi Awolowo University, Ile-Ife, Osun State. The sample for the study consisted of two hundred (200) undergraduates of Obafemi Awolowo University, Ile-Ife, Osun State. Four faculties were

selected using simple random sampling technique. From each of the selected faculties, fifty (50) undergraduates were also selected using simple random technique totaling 200 undergraduates that constituted the sample.

A self-designed instrument tagged "Knowledge and Attitude of Undergraduates to Covid-19 Pandemic Questionnaire" (KAUCPQ) was used to collect data for the study. The KAUCPQ has three sections. Section A consisted of socio-demographic information of the respondents, while Section B and C contained ten items each on the knowledge and attitude of undergraduate to COVID-19 Pandemic based on four-point likert type scale of Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD).

The instrument was given to experts in Tests and Measurement for face and content validity. Their suggestions and corrections were finally incorporated into the instrument. The reliability of the instrument was established by administering it to forty (40) respondents outside the scope of the study. A stronger Alpha value of 0.76 obtained, indicated that the instrument was good enough for the study.

The researchers visited the selected faculties and sought for permission from the university authorities to carry out feasibility study. The researchers approached the respondents, explained the main purpose of the study to them and they participated willingly. Thereafter, the researchers administered the questionnaire to the respondents to elicit information on the students' knowledge and attitude of undergraduates to COVID-19 Pandemic and the questionnaires were later retrieved from the respondents.

Data collected after the administration of the instrument were analyzed using frequency counts, simple percentage and regression analysis.

Results

Table 1: Descriptive analysis of socio-demographic information of the respondents in Obafemi Awolowo University, Ile-Ife

S/N	Variables		Frequency (f)	Percentage (%)
1.	Gender			
		Male	92	46.0
		Female	108	54.0
2.	Age Distribution			
		< 20 years	68	34.0
		20-30 years	111	55.5
		> 30 years	21	10.5
3.	Level			
		100 L	24	12.0
		200 L	36	18.0
		300 L	55	27.5
		400 L	79	39.5
		500 L	6	3.0

N = 200

Data presented in Table 1 showed the descriptive analysis of socio-demographic information of undergraduates of Obafemi Awolowo University, Ile-Ife, Osun State. From the Table, It can be gathered that 46.0% of the respondents are males while 54.0% are females even as 34.0%, 55.5% and 10.5% are in the age range of less than 20 years, 20-30 years and more than 30 years respectively. In the same vein, 12.0%, 18.0%, 27.5%, 39.5% and 3.0% of the students are in 100 Level, 200 Level, 300 Level, 400 Level and 500 Level respectively in the study area.

Research Question 1: What is the level of knowledge of undergraduates on COVID-19 pandemic in Obafemi Awolowo University, Ile-Ife?

In order to answer this research question, data collected on the knowledge of the respondents on COVID-19 pandemic considering the 10 items were scored based on ''Strongly Agree'' (SA) response that was allotted 4 points, ''Agree'' response, 3 points, ''Disagree'' (D) response, 2 points and ''Strongly Disagree'' (SD) response, 1 point. Responses from individual to each item were computed and minimum and maximum scores obtained in this scale were 10 and 40 respectively. Scores of 10-19 = Low Level; 20-27 = Moderate Level; and 28-40 = High Level of knowledge of undergraduates on COVID-19 pandemic in Obafemi Awolowo University. The result is presented in Table 2.

Table 2: Descriptive statistics of the level of knowledge of undergraduates on COVID-19 pandemic in Obafemi Awolowo University, Ile-Ife

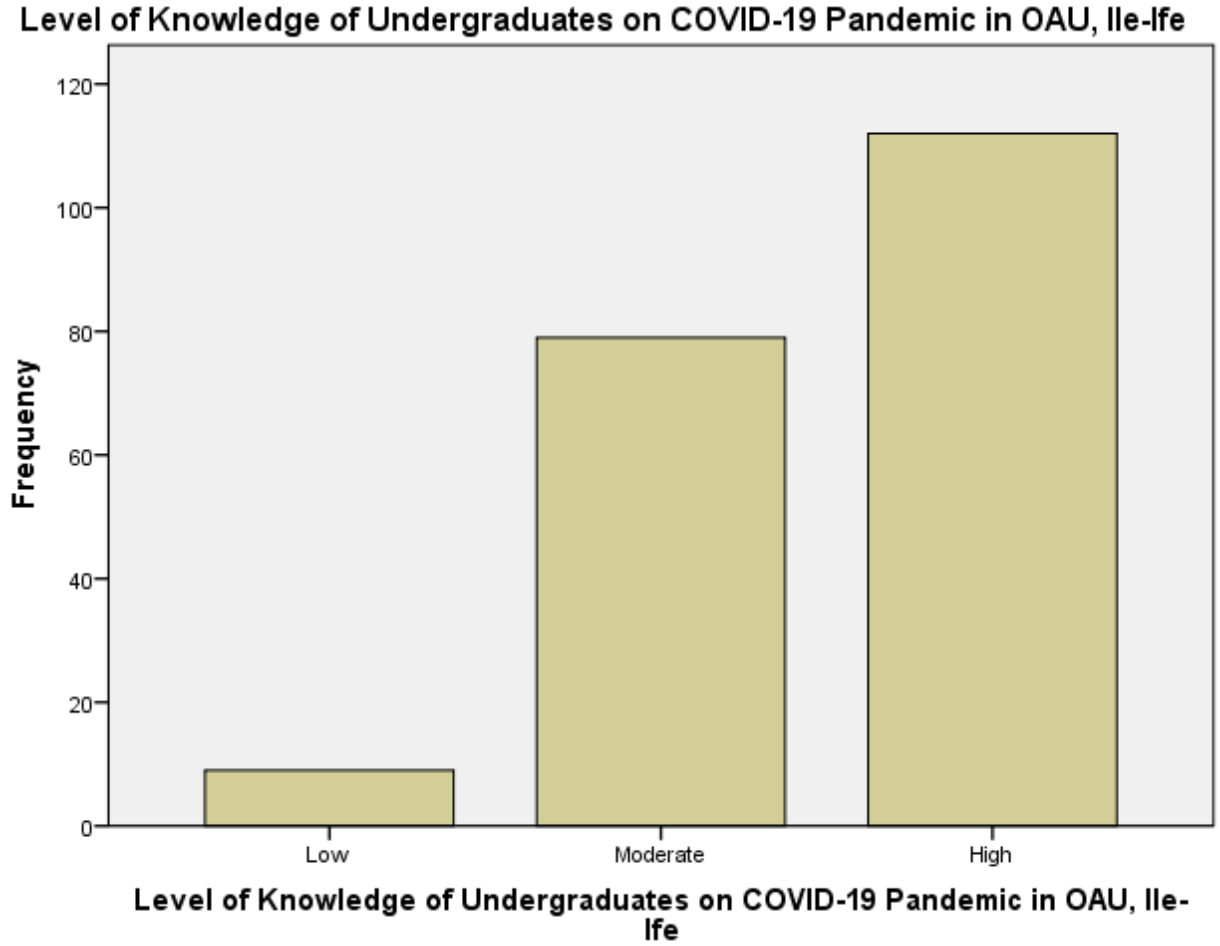
S/N	**Level of Knowledge of COVID-19**	**Frequency (f)**	**Percentage (%)**

1.	Low	9	4.5
2.	Moderate	79	39.5
3.	High	112	56.0
Total		**200**	**100.0**

N = 200

Results in Table 2 showed the descriptive analysis of the level of knowledge of undergraduates on COVID-19 pandemic in Obafemi Awolowo University, Ile-Ife. It can be deduced from the Table that the level of knowledge of undergraduates on COVID-19 pandemic is high at 56.0% in Obafemi Awolowo University, Ile-Ife, Osun State.

Figure 1: Bar chart showing the level of knowledge of undergraduates on COVID-19 pandemic in Obafemi Awolowo University, Ile-Ife



Research Question 2: What is the attitude of undergraduates towards COVID-19 pandemic in the study area?

In order to answer this research question, data collected the attitude of the respondents to COVID-19 pandemic considering the 10 items were scored based on ‘’Strongly Agree’’

(SA) response that was allotted 4 points, ''Agree'' response, 3 points, ''Disagree'' (D) response, 2 points and ''Strongly Disagree'' (SD) response, 1 point. Responses from individual to each item were computed and minimum and maximum scores obtained in this scale were 10 and 40 respectively. Scores of 10-19 = Negative Attitude; 20-27 = Neutral Attitude; and 28-40 = Positive Attitude of undergraduates towards COVID-19 pandemic in Obafemi Awolowo University. The result is presented in Table 3.

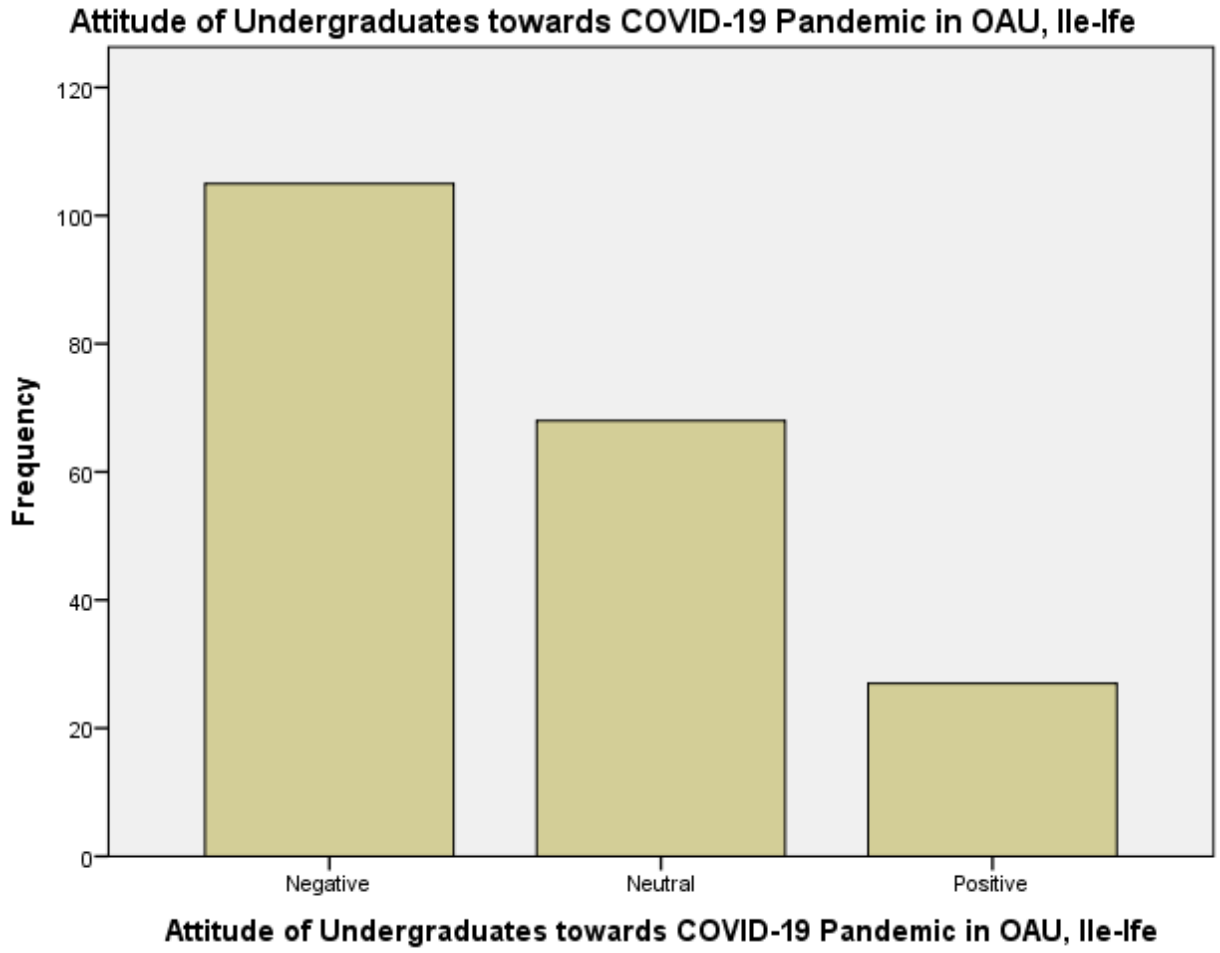
Table 3: Descriptive statistics of the attitude of undergraduates towards COVID-19 pandemic in Obafemi Awolowo University, Ile-Ife

S/N	Attitude towards of COVID-19	Frequency (f)	Percentage (%)
1.	Negative	105	52.5
2.	Neutral	68	34.0
3.	Positive	27	13.5
Total		**200**	**100.0**

N = 200

Results in Table 3 showed the descriptive analysis of the attitude of undergraduates towards COVID-19 pandemic in Obafemi Awolowo University, Ile-Ife. From the Table, it can be gathered that the attitude of the students towards COVID-19 pandemic is negative at 52.5% in the study area.

Figure 2: Bar chart showing the attitude of undergraduates towards COVID-19 pandemic in Obafemi Awolowo University, Ile-Ife



Testing of Hypothesis

Hypothesis: There is no significant relationship between the level of undergraduates' knowledge and attitude to COVID-19 pandemic in the study area.

In order to test this hypothesis, data collected on the level of undergraduates' knowledge and attitude to COVID-19 pandemic were subjected to Pearson Moment Product Correlation and the result is presented in Table 4.

Table 4: Pearson correlation between the level of undergraduates' knowledge and attitude to COVID-19 pandemic in the study area

S/N	Variables	N	Mean	SD	r
1.	Knowledge of COVID-19	200	30.205	5.44622	0.657
2.	Attitude towards COVID-19	200	18.6500	4.52547	

($r = 0.657$; $p < 0.05$)

Results in Table 4 showed that there was significant relationship between the level of undergraduates' knowledge and attitude to COVID-19 pandemic in the study area ($r = 0.657$; $p < 0.05$). Therefore, the null hypothesis that states that there is no significant relationship between the level of undergraduates' knowledge and attitude to COVID-19 pandemic is hereby rejected. The result implies that the level of undergraduates' knowledge can predict their attitude towards COVID-19 pandemic in the study area.

Discussion of Findings

Findings of the study showed that the level of knowledge of undergraduates on COVID-19 pandemic is high in Obafemi Awolowo University, Ile-Ife, Osun State. The result supports the findings of Alali, Alfouzan, Alajmi, Al-Tawalah,& Getnet (2021) in their publication titled: Perception and awareness of COVID-19 among health science students and staff of Kuwait University were of the view that, the coronavirus disease 2019 (COVID-19) was caused by the severe acute respiratory syndrome and it was found out that the level of knowledge of COVID-19 was high across the globe considering the waves created by the pandemic. The global health crisis of COVID-19 has grabbed the attention of the mass media around the world and that most of the public health messages have been focused on the control of transmission risk. Many of these messages are related to social distancing, frequent and proper hand washing, stays at home, and avoidance of crowded places. However, the information on the pandemic has caused a great deal of anxiety, fear, excessive worry, and confusion among people worldwide. Additionally, the rapidly evolving and changing knowledge about the disease have created a cloud of misinformation and miscommunication among people in different communities.

Results of the study further revealed that the attitude of the students towards COVID-19 pandemic was negative in the study area. The result in a way tallied with the findings of Elwazir and Hosny (2020), a study that was carried out on the ‘’Assessment of the Epidemiology, Pathogenesis, Virology, and Treatment of COVID-19. It was revealed that the people exhibited negative attitude towards the pandemic. The study also showed that the attitude of undergraduates towards COVID-19 pandemic is negative and this corroborates the findings of Elwazir and Hosny (2021) in a research work titled: Students' Awareness as an Underlying Factor for Satisfaction and Compliance,

suspension of educational institutions worldwide due to the COVID-19 pandemic, universities have the responsibility to continue delivering education as the lockdown and restrictions may be extended for a longer period. Medical education cannot be suspended; therefore, a long-term plan is needed. This situation drives the accelerated utilization of online modalities as video conferencing, polls, surveys, and WhatsApp messages. Institutions are becoming more interested in engaging their students and delivering quality content. Universities focus on including various learning domains as the cognitive thinking domain using CBL and the psychomotor domain using virtual models and illustrative videos.

Finally, results of the study also indicate that there was significant relationship between the level of undergraduates' knowledge and attitude to COVID-19 pandemic in Obafemi Awolowo University, Ile-Ife, Osun State owing to the fact that the level of undergraduates' knowledge can predict their attitude towards COVID-19 pandemic in the study area. The result is in line with the findings of Topal and Tomozii (2014) approached learning satisfaction as a multifaceted construct that can be measured through six relevant and reliable factors established in accordance with the current available research on the matter. The assumed factors were measured through the SLSQ (Students' Learning Satisfaction Questionnaire), an instrument designed and tested under validity (EFA study) and reliability (Alpha Cronbach coefficient, for each of the six dimensions, and for the whole scale).

Conclusion

The study concluded that undergraduates of Obafemi Awolowo University had high knowledge of COVID-19 pandemic, exhibited negative attitude towards the pandemic and that there was a significant relationship between the level of knowledge and attitude of the students to COVID-19 pandemic in Ile-Ife, Osun State.

Recommendations

Based on the findings of the study, the following recommendations were made.

i. Government should make provision for awareness of the pandemic in the society as a whole.

ii. School authorities should ensure that there are prevention mechanisms put in place in various schools to prevent the spread of the disease.

iii. Students should always take to preventive measures put in place to check the pandemic.

iv. Seminars, workshops and conferences should be organized for students, teachers and lecturers for high publicity and sensitization of the pandemic in the society.

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The Connectedness of Posthumanism as a tool for Sustainable Post-COVID-19 Era

By

Bunmi Isaiah Omodan
bomodan@wsu.ac.za
Faculty of Education, Butterworth Campus
Walter Sisulu university
South Africa

Abstract

The outbreak of COVID-19 has been a wake-up call around the world. The pandemic has exposed the shortcomings of current systems and the fragility of our way of life. In response, some have called for a more holistic approach that takes into account the interconnectedness of all life. This approach is known as posthumanism, which is still a relatively new concept. It has already gained a lot of strength among 21st-century scholars because it projected a new way of seeing the world that considers the interconnectedness of all life. As the world is faced with challenges like climate change, dwindling resources, and educational change, it is clear that we can no longer afford to ignore the interconnectedness of all life to create a sustainable future. This article presents posthumanism as a resonating tool for sustaining the post-COVID-19 era where everything has become virtual and demands sophisticated usage of the internet of things. This study is lensed within an interpretive paradigm to enable the researcher to engage with the concept of posthumanism toward meaning-making. In doing that, conceptual analysis was employed to make sense of the argument. The idea of posthumanism was presented alongside its assumptions, as argued from the conceptual presentation. The assumptions were also discussed with correlative evidence of managing the post-COVID-19 era across the board. The study concludes that the era of posthuman is now with recommendations that people's way of life be restructured and made to adapt and challenge the dominance of humans, continually adapt to the dynamics of technology and interconnectedness and the fact that humans are constantly evolving.

Keywords: Posthumanism, Post-COVID-19 Era, Sustainable future, conceptual analysis.

Introduction

The outbreak of COVID-19, which began in China in late 2019, has quickly become a global pandemic. As of March 2020, the virus has spread to more than 114 countries, resulting in over 118,000 confirmed cases and nearly and 4,291 deaths (WHO. 2020b). The World Health Organization declared the outbreak a Public Health Emergency of International Concern on January 30, 2020, and classified it as a pandemic on March 11, 2020 (WHO, 2020a; WHO, 2020b). The rapid spread of the virus has resulted in widespread panic and disruption, with many countries implementing strict travel restrictions and shutting down public spaces in an attempt to contain the virus (WHO, 2020c). The economic impact of the outbreak has been significant, with businesses across the globe shutting down and global supply chains disrupted. The full extent of the

pandemic's impact remains to be seen, but it will have far-reaching consequences for both individual citizens and governments around the world.

The outbreak of COVID-19 has been a wake-up call around the world. The pandemic has exposed the shortcomings of current systems and the fragility of our way of life. The question now is how we can learn from this experience and build a more resilient future. There are many lessons to be learned from the COVID-19 pandemic. One is the importance of preparedness. The pandemic has caught many countries off guard, highlighting the need for better planning and coordination in the event of a global health crisis (Adefisoye & Aladegbola, 2022). Another lesson is the need for greater cooperation and international cooperation, which shows that no country is an island and that we are all interconnected. The pandemic has also highlighted the importance of building resilient communities (Kim & Cho, 2021). Strong social ties and a sense of community be crucial in weathering crises like this (Charoenwong, Kwan & Pursiainen, 2020). While everyone has felt the impacts of the pandemic, some communities have been hit harder than others. This is particularly true for marginalised groups who were already facing challenges before the pandemic struck. For example, Indigenous peoples, people with disabilities, and low-income earners have all been disproportionately affected by COVID-19 (Ali & Ali, 2022; Palamim et al., 2020; Turk & McDermott, 2020). The pandemic has laid bare the inequalities that exist in our societies and show that our current way of life is not sustainable. If we are to protect our planet and its people, we must change how we live and work. By learning these lessons, one can argue that there is an urgent need to build a more resilient future that is better prepared for global emergencies such as pandemics. In my view, the need for posthuman thinking is now to prepare people and things for coping with the post COVID-19 era and the aura of social interconnections of people and things.

The argument here is that a sustainable Post COVID-19 Era is possible via the implementation of posthumanism, which is a theoretical framework that challenges the idea of the human as the central figure in politics, ethics, and knowledge (Cudworth & Hobden, 2017), among others. In essence, posthumanism decenters the human and privileges other forms of life and matter (Fay, 2008). This argument has three main points. First, the current pandemic has made it clear that humans are not in control and that we must learn to live with uncertainty. Second, the pandemic has also shown us the importance of global cooperation and solidarity. Third, we need to rethink our relationship to nature and the environment. Therefore, the implementation of posthumanism would allow us to move beyond the anthropocentric view of the world and create a more sustainable future.

Research Question

Based on the above argument, the following research question was raised to guide the argument in this study.

- How can posthumanism be substantiated as a sustainable tool for post COVID-19 era?

Methodology

In this study, the researcher adopts an interpretive paradigm to engage with the concept of posthumanism and make meaning out of it. In the interpretive paradigm, reality is socially constructed, and knowledge is interpretive (Wilson, 2017). This means that there is no single correct interpretation of reality, but rather that reality is created through our interactions and relationships with others (Alharahsheh & Pius, 2020). Knowledge is also interpretive, meaning that it is not objective or true in an absolute sense. Instead, understanding of reality is shaped by individual perspectives and experiences to provide a new lens for understanding the world around us (Alvermann & Mallozzi, 2010). Within an interpretive paradigm, the researcher strives to understand the world from the perspective of those who live in it. This approach is well-suited for exploring the complexities of posthumanism and its implications for how we think about ourselves and our place in the world and how to cope and sustain the future of the pandemic in the world.

Moreover, employing conceptual analysis helped in making sense of the argument. Specifically, it allowed for a close examination of the key concepts at play in the text (Kendler & Neale, 2010). This, in turn, helped to reveal the hidden assumptions and implications of the argument. By carefully unpacking the meaning of key terms, the conceptual analysis provided a powerful tool for understanding the full import of the argument (Laurence & Margolis, 2003). Furthermore, clarifying the concepts involved helped clarify what was at stake in the debate. In sum, conceptual analysis played an important role in making sense of the complex argument at hand. In doing this, the principle of thematic analysis was borrowed because the argument was presented in theme to provide rich insights into the hidden meanings (Joffe, 2012). I presented the concept of posthumanism and the underpinning viewpoint for the study, the assumptions of the concept and how the assumptions intertwined with the post COVID-19 sustainability were also presented below.

Posthumanism as a Theoretical Concept

The strength of this study is in the purview of posthuman ideas. Posthumanism is a theoretical concept that has been adopted by many scholars in recent years. The term "posthuman" refers to a state of being beyond the human or beyond the traditional boundaries of what it means to be human (Cohn & Lynch, 2017; Ferrando, 2020; Weinstein & Colebrook, 2017). Posthumanism is often used as a lens through which to study the postmodern world (Machinal, 2011; Waters, 2016; Welsch, 2017) where the traditional concepts of human nature and the human experience are no longer relevant or meaningful in a posthuman world. Instead, posthuman subjects are seen as fluid and multi-faceted beings who cannot be reduced to any one fixed identity. This understanding of subjectivity has important implications for how we think about social and political issues and our understanding of ourselves. As we move further in the 21st century, the posthuman perspective continues to gain significance and relevance.

As the world becomes increasingly digitised and connected, there is a presence of rapid transformation in the way we live, interact, and understand ourselves. This shift informs my argument that we are no longer simply human beings but rather posthuman beings. That is, the traditional humanist perspective is no longer adequate to explain the complexities of the contemporary world. Instead, posthumanism provides a framework for understanding how technology and globalisation are radically reshaping the way of life (Flanagan, 2014). While the term posthumanism is still relatively new, it has already had a significant impact on the academic study of the human condition. In the years to come, it is likely to continue to play an important role in shaping our understanding of who we are and what it means to be human.

The concept is central to understanding the changing world. As technology advances, people are increasingly interconnected with devices and machines (Muench, 2021). This trend is only likely to continue as people keep developing ever more sophisticated ways to connect with their surroundings. One can then argue that the posthuman worldview recognises this trend and seeks to emphasize the connection with the world around us. In a posthuman world, people would no longer be separate from the machines and devices; instead, would be an integral part of a larger system. This way of thinking has the potential to change the way we interact with the world, and it could have a profound impact on our relationships with each other. This is evident in the COVID-19 era, where the pandemic redefined people and their way of life and left the world reeling and searching for answers. Many are turning to posthumanism as a way to make sense of our new reality. This shift in perspective is crucial for understanding the place of the human in the world and how people can create a sustainable future. The pandemic has demonstrated the enormous toll that humans can take on the planet. We have seen firsthand the destruction that our way of life can cause. To avert further catastrophe, we need to change our relationship with the natural world by expanding the sense of self beyond the individual human but as part of a larger whole towards building a more sustainable future for all.

Assumptions of Posthuman theoretical concept

Based on the above theoretical concept, one can argue that posthumanism assumes that it challenges the dominance of human value, recognises the importance of technology and interconnectedness of life and that humans are constantly evolving.

- **The dominance of human value:** Based on the above analysis, one can argue that one of the key ideas of posthumanism is that humans are not the only beings with agency or value. This means that non-human entities, such as animals and artificial intelligence, may also be considered agents in their own right (Gu, 2020; Snaza et al., 2014). This is a challenge to the traditional view that humans are the only beings worthy of moral consideration. Instead, posthumanists argue that all sentient beings should be treated with respect. This view has important implications for the future of humanity. As artificial intelligence becomes more advanced, there is a need to reassess our relationship with these objects and

machines. Instead of treating them as tools to be used for our benefit, we will need to consider them as fellow sentient beings. This shift in thinking could profoundly impact how we live and work in the future.

- **Technology and interconnectedness of life:** Posthumanism is a philosophical movement that emphasises the important role of technology and the interconnectedness of things which play an important role in shaping the understanding of what it means to be human (Baumlin, 2020; Oppermann, 2016). For posthumanists, technology is not simply a tool; it is something that fundamentally transforms nature. This transformation can be seen in the way that technology is being used to extend senses and abilities and the way that people increasingly rely on technology to mediate interactions with the world. As people become more and more technologically mediated, posthumanists believe, it opens the eye to see the fundamental differences in the non-mediated predecessors and the current dynamic of technological advancement. This shift in perspective has important implications about who is more superior between human and other non-human objects, which further solidify the argument that both human and other things are equal in humanity.
- **Humans are constantly evolving:** One of the key assumptions of posthumanism, based on the above analysis, is that humans are not static beings but rather are in a constant state of evolution. This belief challenges the traditional view of human nature, which sees humans as unchanging and limited by their biology. Instead, posthumanists believe that humans can transcend their current form and evolve into something else entirely (King, 2017). This may seem like a radical idea, but it is based on the premise that humans are not limited by their physiognomic appearance. Rather, the minds and the potential are what truly define people. As technological advancement evolves, people will increasingly become capable of altering their biology and even transcending physical form altogether through interaction with things that matter. In doing so, it will become something more than human – become posthuman.

Nexus between Posthuman Assumptions and Sustainable Post COVID-19 Era

This section discusses the relationship between posthumanism and the post-COVID-19 way of life. That is, each assumption is discussed, showing how it could help to sustain the current state of things brought by the COVID-19 changes. This section was discussed as follows; the dominance of human value and sustainable Post COVID-19 era, technology and interconnectedness of life and sustainable Post COVID-19 era, Human evolution and sustainable Post COVID-19 era:

- **Dominance of human value and sustainable Post COVID-19 era:** In the posthuman era, there is an understanding that all entities are important, whether they are living or non-living. This is a shift from the traditional perspective where human beings were seen as the most important entity and the sole power that could make things happen. The posthuman era is, therefore, more sustainable as it

considers all entities' needs. The COVID-19 pandemic has highlighted the importance of non-human entities such as animals and artificial intelligence. Animals have been used in research to develop vaccines and treatments for COVID-19 and have been used to track the spread of the virus and identify potential hot spots. The posthuman era is therefore crucial for the sustainable development of our world. Sustainability in the post-COVID-19 era will only be possible if we continue to consider non-human entities as important. The current emergency has brought about many changes, and it is only by understanding and thinking about the importance of all things that we will be able to sustain these changes in the long term.

- **Technology and interconnectedness of life and sustainable Post COVID-19 era:** With the outbreak of the COVID-19 pandemic, many have been forced to confront the role that technology plays in their lives. For some, this has meant reevaluating their reliance on devices like smartphones and laptops. For others, it has meant trying to find new ways to stay connected with loved ones who are miles away. But as the conversation to think about rebuilding lives in a post-pandemic world begins, it's important to consider how technology can help us create a more sustainable future. One way that technology can help us create a more sustainable future is by helping us to reduce our reliance on fossil fuels. It's not just about reducing our reliance on fossil fuels; technology can also help to create a more sustainable future by creating more interconnected lives. We can stay connected with loved ones by using video conferencing and other digital tools even when we can't be physically together. And by using social media and other online platforms, we can raise awareness about important issues and campaigns. In short, the nexus between the posthuman assumption that technology and interconnectedness in life is a tool for a sustainable Post COVID-19 era. That is, by leveraging technology, we can create a more sustainable future for the current and generations to come.
- **Human evolution and sustainable Post COVID-19 era:** As the world looks to rebuild in the aftermath of the COVID-19 pandemic, many are calling for a more sustainable model of development. But what does that mean exactly? For some, it means moving towards a more circular economy that minimises waste and resource efficiency. For others, it means transitioning to renewable energy sources and investing in green infrastructure. Whatever the approach, one thing is certain: the need for change is becoming increasingly urgent.

  In the face of this reality, some have suggested that humans will need to evolve to meet sustainability challenges. This may sound like a radical idea, but it's rooted in science. According to Darwinian theory, species that are able to adapt to their environment are more likely to survive and thrive over time (Ao, 2005; Pross, 2011; Romanes, 1897). This principle has been repeated throughout history, and there's no reason to think that humans will be any different. Indeed, we are already seeing hints of this evolution taking place. For example, more and more

people are choosing to live in cities where they can take advantage of public transportation and other amenities that reduce their reliance on cars. We are also seeing a growing interest in plant-based diets as people become aware of the environmental impact of meat production. Of course, evolution is a slow process, and it will take time for these changes to take hold on a global scale. In the meantime, we must do everything we can to accelerate the transition to sustainability.

Conclusion and Recommendations

In conclusion, one can argue that this is a posthuman era where people must live for the future through the innovation and struggles of today is imminent. Then the dimension of sustainability post COVID-19 lies in the ability to challenge the dominance of humans by recognising other elements in the process of life and living, recognising the importance of technology and interconnectedness and the need for human evolution. The COVID-19 pandemic has been a wake-up call for humanity. It has shown us that we are not invincible and that our actions have consequences for us and the whole planet. To build a sustainable future, we must think beyond our individual needs and start working together towards a common goal. We need to recognise that we are part of a larger ecosystem and are responsible for taking care of it. We need to use technology not just to make our lives easier but also to help protect the environment. And finally, we need to evolve as a species – to become more compassionate, empathetic, and creatures. If we can do all these things, then perhaps we can create a sustainable world for us and for generations to come. Post COVID-19 is a time of great change for humans to decide what kind of world to live in. Based on this, it is recommended that people's way of life be restructured and made to adapt to always challenge the dominance of humans, always adapt to the dynamics of technology and interconnectedness and the fact that humans are constantly evolving. We need to make our way of life match these three realities so that we can continue to thrive as a species.

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HUMANITIES AND LANGUAGE

CONTENT-BASED INSTRUCTION FOR VOCABULARY LEARNING BY ENGLISH FIRST ADDITIONAL LANGUAGE LEARNERS IN THE RURAL PRIMARY SCHOOL

[1]Pretty Thandiswa Mpiti, [2]Bulelwa Makena & [3]Motsi

[1,2&3]Walter Sisulu University, South Africa

Abstract

This study aims to investigate the use of CBI in improving vocabulary by drawing topics, texts, and tasks that focus on the reasoning and academic language skills needed to participate effectively in content instruction. It focuses on Content-based instruction (CBI) for vocabulary learning by English First Additional Language (EFAL) learners. Two Grade 6 EFAL teachers and eight Grade 6 learners in a rural primary school in the Eastern Cape Province were involved in the study. A qualitative approach, through interviews, classroom observation and document analysis were adopted to gather the data. The findings revealed significant improvements in the learners' vocabulary proficiency. A positive and moderate relationship occurred between teachers and learners that increased the creative learning and innovative teaching for implementing CBI. Also, the study found learners' rating of their increased confidence when using EFAL. Some perceived difficulties among learners such as the inability to fully comprehend the input or to produce effective output were reported and pedagogical solutions were suggested. Future research can investigate how CBI can affect learners' vocabulary learning by infusing technology learning.

Keywords: Content-Based Instruction; vocabulary learning, English First Additional Language learners, rural primary school

Introduction

Learning vocabulary is essential to making language learning success in the four language abilities (that is, speaking, listening, reading, and writing). The importance of learning vocabulary is connected to the fact that it lays a strong foundation for how well speakers, listeners, readers, and writers will be able to communicate. Understanding the meaning of a word is part of learning vocabulary, which goes beyond simply memorizing the word itself. To ensure the successful development of the four language skills, learners basically need to have a sufficient amount of vocabulary (Khalidiyah, 2017; Noviyanti, Bahri, & Nasir, 2019). Additionally, English as a First Additional Language (FAL) vocabulary is crucial because the level of English proficiency of learners depends on how many words they are able to use at once. However, having a limited vocabulary and failing to use the right words might lead to misunderstandings. In order to assist learners effectively converse and write in English as a First Additional Language (EFAL), the English vocabulary teaching technique aims to teach learners the meaning of various words. However, without being taught the skills first, not all learners can learn the meanings of new words, retain them in their memory, use them in appropriate contexts, or enlarge their vocabulary. Numerous studies have shown that language learners who

have a large enough vocabulary are more likely to succeed overall and be able to communicate their ideas both orally and in writing (Corrales & Maloof, 2009; Alqahtani, 2015; Rabu & Talib, 2017; Stavy, Subon, & Unin, 2019).

Prior to acquisition, certain vocabulary learning should be specifically planned, varied, and repeated to incorporate vocabulary areas that are required in written communication in order to help learners convert their thoughts into high-quality texts (Alqahtani, 2015). As a result, giving learners specific and in-depth instructions on vocabulary might help them acquire it faster. In terms of the quantity of sessions held and the amount of focus each meeting receives, this method is one of the explicit and in-depth vocabulary learning strategies (Susanto, 2017; Alqahtani, 2015). By using the right vocabulary learning techniques, learners can increase the amount of their vocabulary bank, improve their reading, writing, listening, and speaking abilities, and improve their overall English competence.

In light of this, Content-Based Instruction (CBI) is seen as an appropriate method for teaching vocabulary. It does this by integrating language learning with the acquisition of subject-specific knowledge, content, or information. In CBI, learners study and complete subject-matter tasks to improve their command of the target language (Shibata, 2019). Additionally, CBI emphasizes what is being taught through the language rather than the language itself; as a result, the language serves as a vehicle for learning something new (Al Amrani, 2019). In the CBI, the learner acquires the target language by using it to study new material. Implementing CBI can improve learners' proficiency in their target language by exposing them to authentic language input and meaningful contexts and involving them in activities of authentic language use, as vocabulary acquisition has been acknowledged as a significant component of producing spoken and written texts (Susanto, 2017). (Al Amrani, 2019). CBI combines language instruction with some topic learning rather than being a program that focuses solely on teaching languages. They have, however, hardly been carried out in rural primary settings; there is rarely any research on how CBI affects vocabulary learning in rural primary school learners. The current researchers conducted a study concentrating on vocabulary learning by EFAL learners in order to enhance the scope of the vocabulary bank, better performance in the four language skills, and EFAL proficiency as a whole. This study was designed to investigate the impact of CBI on vocabulary learning.

Purpose of the Paper

Throughout the study, the researchers aim to study:

- learners' achievement in vocabulary learning taught through the CBI approach; and
- learners' and teachers' attitudes toward using the CBI approach to develop learners' vocabulary words.

Review of Literature

Mid- to late-1980s saw the emergence of CBI influenced by bilingual education initiatives for immigrant communities in the United States and Canadian French immersion programs. When strategies were required to support concurrent content and

language learning for an increasing number of English language learners in the classrooms, this approach started to gain popularity in the 1980s in the United States. On Krashen's (1981) concept of understandable input and constructivist learning theory, CBI significantly drew. According to Krashen (1982), teaching is centered on providing learners with authentic and meaningful input rather than on correct grammar.

The fundamental tenet of CBI is that academic subjects should be taught in tandem with language instruction. The teachers should be extremely informed and skilled in both the language and the subject topic. Additionally, the teacher must to have a crystal-clear presentation and good planning. CBI has been a popular method for creating curricula that integrates four language skills in EFAL settings and with EFAL learners. The teachers must be creative in blending language teaching objectives with subject matter education in the classroom while using this technique to teach EFAL. Many academics believe that this form of instruction is efficient and realistic for fusing language and subject matter learning (Susanto, 2017; Al Amrani, 2019; Alimjanova, & Nosirova, 2022).

Conceptualisation of CBI

Susanto (2017) defines CBI as the teaching of content or information in the language being studied with little to no direct or explicit effort to teach the language itself independently from the subject being taught. CBI was first described as a teaching philosophy by Stryker and Leaver in 1997 with the goal of facilitating learners' growth to become autonomous learners outside of the classroom. Contrary to some other teaching strategies that place a greater emphasis on the structural than the content aspects, CBI essentially refers to a way of teaching language where language is seen as a vehicle for carrying meaning (Al Amrani, 2019). It gives learners access to genuine, significant academic situations that work to improve their language proficiency and subject-matter understanding (Alimjanova & Nosirova, 2022). As it gives learners the chance to discuss the material, CBI encourages meaning to be negotiated. Additionally, it enables the explicit attention on language structures that are appropriate for the situation, supporting both their forms and their meanings (Susanto, 2017). CBI therefore involves studying specific course material through the use of a language other than the learner's native tongue with the intention of acquiring the second language (Al Amrani, 2019). In the context of this study, including CBI into vocabulary instruction involves learners in tasks that promote the growth of critical thinking abilities.

In addition, CBI is known to come in a wide range of sizes and shapes. Learners must read real reading materials for CBI, analyze and evaluate the information they contain, and collaborate to produce responses that can be written or spoken. Such a strategy involves having learners enroll in connected language and discipline-specific content courses at the same time, integrating language education into specialized academic environments (Al Amrani, 2019). With the dual goals of attaining content learning and additional language learning, one unifying premise underpinning these strategies is the use of learners' second language to teach content. CBI is typically used in programs for all grade levels, including English, bilingual, foreign, heritage, and other language programs (Alimjanova & Nosirova, 2022). Making links to everyday experiences is a key component of CBI, in addition to using meaningful context to ensure that the information

being expounded is understood (Khruawan & Dennis, 2017). As a result, language and content acquisition are increased, and learners have opportunities to use existing knowledge. Additionally, carefully thought-out content-based activities can produce the best outcomes that are intellectually stimulating and genuinely interesting.

Content-Based Instruction

The needs of the learners in their class should be taken into consideration by the teachers (Brown & Bradford, 2014), who should then provide and compile understandable, pertinent and engaging source material. As a result, the learners can re-evaluate and reconstruct the knowledge they have learned to improve their thinking abilities. "CBI is an approach to language education in which information, texts, activities and tasks are drawn from subject-matter; themes are used to give learners with genuine language input and engage learners in authentic language use (Brown and Bradford, 2014). More specifically, CBI is a method of teaching second and foreign languages in which teachers combine language instruction with other classroom activities, according to Brinton and Snow (2017). However, as Brown and Bradford (2014) highlighted, the primary goal of CBI is to support learners in the development of target language abilities, and content is a tool to do this. It is predicated on the idea that language is acquired through the use of meaningful conversation, and learners are expected to acquire both academic subject and language at the same time.

The three main forms of CBI, according to Brinton and Snow (2017), are theme-based instruction (TBI), sheltered instruction (SI), and adjunct instruction (AI). TBI is described as "instruction that focuses on specific themes of interest and relevance to the learners" (p. 5). SI is described as instruction where learners who are working on their target language are separated from L1 speakers and take content instruction delivered in the target language. AI is described as instruction where a content course instructor and a language course instructor work together to achieve both teaching aims.

In the same way that CBI can give learners numerous opportunities to combine the four language skills of listening, speaking, reading, and writing while engaging in cooperative activities, it can also give students numerous chances to improve their vocabulary (Brinton & Snow, 2017). Cammarata (2016), for instance, compared CBI to traditional teaching methods and found that learners in the CBI group outperformed students in the grammar-translation method group on all types of tests, including language function, text type suitability, linguistic impact, vocabulary complexity, comprehensibility and grammatical complexity. Dupuy (2000) also noted that the CBI gives learners plenty of opportunities to interact. As a result, CBI appears to be able to play a crucial role in helping learners in EFAL primary school instructional contexts strengthen their vocabulary skills. The impact of CBI on learners' language learning needs to be studied in rural primary school contexts, since this method of instruction has rarely been used or studied in such environments.

Effectiveness of CBI

CBI is an effective method for teaching EFAL because it allows learners to improve their language proficiency while also learning new ideas through relevant content. In addition to enhancing language and topic learning, CBI also enables curricular flexibility because teachers can create the classes depending on the interests and requirements of both

teachers and learners (Wuthisawangwong, 2016). CBI is a method of education that emphasizes the importance of focusing on more than just one subject or language in the classroom by teaching and studying both content and language using a second language (Alimjanova & Nosivora, 2022). In the context of this study, vocabulary knowledge is frequently seen as a crucial tool for second language learners since effective communication is hampered by a limited second language vocabulary. CBI It is made to give teaching in both language and topic to anyone learning a second language. In other words, the teacher imparts knowledge that helps students acquire English, in this example, vocabulary.

As a result, learners can successfully expand their knowledge by combining the new information with the old knowledge. CBI privileges the learners in a way that allows them to grow in self-esteem and critical thinking skills by presenting them with cognitively demanding topic materials and assignments (Alimjanova & Nosirova, 2022). Because content is the primary focus for students and language proficiency is the secondary goal, CBI is an example of integrated learning. Krashen (1982) asserts that CBI allows learners to improve their language abilities while still learning the subject's topic through understandable information. Due to its reliance solely on learners' proficiency with the language, this strategy is particularly learner-centered. This principle enables second language learners to succeed in their mainstream, making the requirement for rapid subject acquisition and teaching—and the method by which such learning and teaching are realized—an key goal (Alimjanova & Nosirova, 2022; Vanichvasin, 2019).

As a result, in CBI, students develop their independence while learning about and understanding independent allies. The learners participate actively and pick up knowledge in a variety of ways. They might even be the authors of the material and take part in various discussions and activities. While learners are acquiring English language skills, in this example vocabulary learning, teachers can increase learners' understanding of grade-level concepts in subject areas.

Vocabulary Teaching

Learning and recalling vocabulary is typically difficult for students in primary school (Yunus, 2020). Despite spending years studying the language during their early education, the majority of primary school learners have inadequate vocabulary acquisition. Several factors have been identified through numerous prior studies conducted by many researchers, including the traditional teaching approach, family background, socioeconomic background, limited exposure to the English language environment, lack of engaging and conducive media (learning materials and tools), low motivation and interest, as well as learners' perceptions and attitudes toward the learning process (Kusuma, Adnyani & Taharyanti, 2017; Mashhadia & Jamalifar, 2015). In the context of this study, EFAL learners in rural primary schools require training that boosts vocabulary competency while also preparing them to adapt to and thrive in a far more complex academic and social environment. Therefore, teachers must assist learners in learning vocabulary to achieve learning goals, such as understanding a certain area of the subject, mastering the language to have a basic conversation, or determining the main concept of a passage of text. Teachers should come up with a way to help the students get past the obstacle by creating new schema and connecting them.

However, according to the research (Rabu & Talib, 2017; Stavy, et al., 2019; Susanto, 2017; Yunus, 2020) it may be difficult to teach vocabulary since many teachers lack confidence in their knowledge of the best practices for doing so and frequently have no idea how to put an emphasis on word learning in their lessons. Kusuma et al. (2017) regrettably noted that because most teachers rely solely on textbooks for their lesson plans, they have very few teaching options at their disposal. As a result, when using the passive learning technique, students get bored and unmotivated. This indicates that if EFAL teachers want their learners to recall new language, it must be studied, practiced, and reviewed to avoid memory loss (Susanto, 2017). The techniques used by teachers are influenced by a number of variables, including the material, time constraints, and the value for the students (Taka, 2008). This gives teachers justification for using specific vocabulary-presentation methods (Susanto, 2017). Thus, in order to help EFAL learners become more fluent in their chosen language, the study looked into the impact of CBI on vocabulary development.

Vocabulary Learning

Numerous studies (Alqahtani, 2015; Rabu & Talib, 2017, Stavy, et al., 2019; Susanto, 2017; Yunus, 2020) contend that one of the most crucial—if not the most crucial—aspects of learning a foreign language is vocabulary and that a foreign language curriculum must take this into account. According to Alqahtani (2015), producing grammatical sentences has little value if a person lacks the vocabulary necessary to communicate their ideas. Without vocabulary, nothing can be said, whereas very little can be said without grammar unlike syntax and phonology, vocabulary does not contain standards that language learners can adhere to in order to acquire and expand their knowledge (Susanto, 2017). Mastery of a language's vocabulary is defined as having a high level of word processing ability (Susanto & Fazlinda, 2016). It is a feat and possession unique to each individual (Alqahtani, 2015). Because of this, each person has the most responsibility for advancing their knowledge. For someone to be successful in expanding their vocabulary, they must be motivated and interested in the language's words (Susanto, 2017). The aforementioned reasoning leads to the conclusion that EFAL teachers should appreciate the value of vocabulary learning and look at strategies for more successfully promoting it.

Learners' and Teachers' Attitudes toward Using the CBI Approach to Develop Learners' Vocabulary words

To examine learners' viewpoints on the authenticity of CBI, Pinner (2013) studied a group of Japanese university students and found that they considered that content and language were equally important, although the content was considered the defining factor for the authenticity of language exposure and production. Ikeda (2013) used a questionnaire and an essay writing test to evaluate the teaching experience of 80 upper secondary school learners in Japan aged between 16 and 18 years with a lower intermediate level of English. It was found that the students were able to identify the difference between content-based courses and other types of English classes and thought highly of CBI which they felt provided them with constructive learning, cognitive tasks, richer content knowledge and better communicative competence. In Ikeda's study, the learners showed improvements in listening, reading, and discussion in English at a

modest level as well as in their writing, in which the students enhanced their ability, especially in cohesion and complexity although not in accuracy.

Yang and Gosling (2013) investigated different stakeholders' perspectives and attitudes towards CBI in the context of Taiwanese higher education. Their study found that the different attitudes of teachers towards CBI somehow influenced learners' motivation especially when the learners were confronted with challenges in understanding the content and the teaching.

Theoretical Framework

Cummins's two-tiered skill model and cognitive learning theory were utilized to assist make sense of the challenges addressed in this study, because they are promoted by CBI. Cummins's main idea was that it would be impossible for EFAL learners to acquire academic language skills from general EFAL classes and everyday conversation; to develop these skills, which the learners need in the next step of academic courses and regular classes, they need "complex interdisciplinary content" (Cummin, 1981, p. 5). Therefore, CBI in EFAL class needs to include both the common features those other methods have in EFAL teaching and an integral part in language learning. Moreover, the two-tiered skill model theory is premised on the fact that learners cannot acquire cognitive academic language skills from the everyday conversation but through interaction with contexts, tasks, and texts (Cummin, 1981). Cummins proposes that basic interpersonal communication skills and cognitive academic language proficiency should be taught through CBI and that learners need "complex interdisciplinary content' to develop academic language skills that cannot be learnt from general EFAL classes. Cummins (1981) further argues that cognitive learning theory using materials drawn from major content areas helps learners to develop academic language skills. The cognitive learning theory maintains the idea that learners progress in their learning through the stages listed above and that learners require "extensive practice and feedback, as well as instruction in the use of various strategies" (Kasper, 2000, p. 5). From this perspective, CBI is an effective teaching approach in terms of vocabulary learning by EFAL learners.

Methods

The study at hand used a qualitative methodology and was inspired by the desire to comprehend CBI in vocabulary learning using EFAL more thoroughly. A qualitative method was employed to establish a clear understanding of the issue that had been raised in order to identify associated problems with vocabulary learning (Saunders, Lewis, & Thornhill, 2009). The two Grade 6 rural primary school classrooms at the center of the case study were where the researchers and classroom teachers worked together to develop, deliver, and evaluate the curriculum.

The participants were typical rural primary school learners in Grade 6 and Grade 6 EFAL teachers. The researchers selected volunteers who could provide the greatest information regarding the subject of the study, assuming that the study has a qualitative nature (Leedy & Ormrod, 2019).

To ensure that all participants were drawn from two sixth-grade classes, a purposeful sampling process was used (Creswell & Clark, 2017). Eight students (ages 12 to 13) and

a sample of two EFAL isiXhosa-speaking Grade 6 teachers (aged 27 to 52) with a range of teaching experience participated. The participants were informed about their participation in the study and the process before it began, and they gave their agreement. Each teacher was a Grade 6 teacher at the time of the study. The labels Ta and Tb were used for teachers, whereas La and Lh were used for learners.

Semi-structured interviews and documents relating to classroom observations were included in the data collection. The researchers were able to comprehend the breadth and complexity of the teachers' and learners' CBI experiences through the use of semi-structured interviews. A thorough observation was done to see how the learner and teacher used CBI during the teaching and learning process.

The pre-test, post-test, interviews and CBI lesson plans made up the instruments used in this study. For ten periods, the lesson plans were based on the CBI, and the participants persisted throughout the two-month study period. Every day, there was one hour-long lesson in the material. In order to learn the material for the study, the researchers first studied from the curriculum. The theme, the topics, and the subtopics that were relevant and related to the curriculum were chosen by the researchers and teachers. The majority of the topics came from the internet and textbooks. Each lesson plan's activities were created with information that would encourage participation and promote learning from many sources. The participants were urged to actively participate in each session throughout the CBI integration into the vocabulary learning process so they could make any necessary adjustments to the lesson plans. Students were urged to actively participate in both studying the subject matter and picking up the language. First, an analysis and coding of the data gathered from the vocabulary acquisition on CBI was done.

Pre-test and Post-test

In the initial phase of the study, the sample served as the control group and was provided training based on conventional teaching through the teacher's explanations for three weeks before taking the pre-test. For traditional instruction, a story from the Grade 6 textbook's unit 5 was selected, along with storytelling, Carousel Brainstorming, and invitation letter writing. Due to the learners' limited vocabulary, they were taught how to search up new words in dictionaries, define them, and use them in sentences.

In the second stage, the same sample served as the control group and was given treatment for three weeks utilizing the CBI technique. The three CBI lessons of storytelling, carousel brainstorming, and invitation letter drafting were selected for this study. By participating in a variety of educational activities, including conversations, presentations, and scenario-based games, the same sample group was encouraged to actively participate and practice EFAL vocabulary frequently. They were given the post-test right away after receiving CBI to evaluate their vocabulary learning. For the learners in the control group, eight new words from unit 7 of the same textbook were introduced. The post-test was administered to the learners following three weeks of CBI-based instruction.

The primary instrument utilized to gather the data were assessments of word retention (VRTs). The VRTs were created using the testing methodology for students in Grade 6. For both the pre-test and the post-test, there are four sections in each set of tests. First was a speaking examination (storytelling). The speaking test "aims to obtain an out assessment of the speaker's use of fluency, grammar, vocabulary, pronunciation, and

comprehension." (Brown, 2003, p. 330) The brainstorming carousel was covered in the second section. Finally, the replies wrote an invitation letter for part three. It was necessary to precisely assess the learners' abilities, which is why the identical test sets were used each time. After the pre-test and post-test, the data were used to determine any variations in their performance. Even while learners still made grammatical mistakes, the post-test results showed that learners improved, notably in dealing with content. Between the pre-test and the post-test, there was a statistically significant difference. The subjects who used the CBI strategy to study had higher post-test scores than they had before studying, as shown by the comparison of the pre-test and post-test.

Results

Despite the many advantages, the implementation of CBI is a complex and demanding task and, accordingly, poses thorough planning and a lot of work according to the teachers. With the restricted time duration of a semester, it is very challenging for the Grade 6 EFAL teachers to concentrate on language acquisition through the text to teach learners to focus on vocabulary learning only and learning the content at the same time. T1 said *…it will take too much teaching time and we must teach other areas as well.* T2 stated, *"I think we can try it though I am adamant we shall see.*" Both teachers expressed concern about on time and lack of understanding of adopting the CBI into teaching vocabulary learning in EFAL. A numerous time was devoted to discussing it with the researchers. After deliberation and several visits by the researchers, there was a clear understanding of CBI.

It can be said that the findings were in accordance with the research question of whether this CBI approach to learning vocabulary can facilitate the improvement in EFAL vocabulary size. The teachers agree that there has been an improvement in learners' vocabulary acquisition from the first activity to the last one. After completing the project teachers reported their appreciation of being part of the task and applying this model, they said:

> Ta: "I think focusing on content and meaning when teaching was very helpful to developing learners' language skills, including their writing abilities, and a better understanding of the subject matter because I noticed that they did not pay too much attention to grammatical accuracy but to many opportunities to reflect on their experiences related to the topic".
>
> Tb: "Learning using the CBI was very helpful for the learners rather than the approaches we used before. I noticed that their interaction with the English vocabulary improved their effectiveness in learning activities. What I like the most are the better results they have achieved compared to when we started.
>
> Ta: "They seemed focused on learning the language and willing to participate in all the activities regardless of their proficiency levels".
>
> Tb: "They learned actively and remembered the words better as the supportive atmosphere in the classroom motivated them while

enhancing their enthusiasm to be better". Undoubtedly, CBI acted as a scaffolding element in the teaching and learning process".

From both teachers, the data shows that there has been consequential progress made by the learners after the CBI. Both teachers further showed their willingness to apply CBI in other subjects they teach.

The use of the CBI in their vocabulary study was well received by all eight students. The aim was to evaluate the learners' capacity for comprehension, memory, and appropriate wordfinding. This was demonstrated by the fact that their vocabulary expanded following the implementation of the CBI in comparison to when they had been taught using the conventional method, which involved searching up terms in dictionaries, writing down meanings, and utilizing the words in sentences. Because they were enjoying themselves while studying, the learners were more committed to learning vocabulary through CBI. Compared to traditional vocabulary learning, where learners merely listened to their teacher's explanations and teaching without participating in any classroom activities, the excitement that they had during the classes has resulted in enhanced vocabulary retention. The successful outcomes demonstrate the beneficial effects of CBI on vocabulary learning. For example, when they were asked what they have learned from the CBI approach, the learners said:

Lb: "I feel comfortable taking vocabulary learning tests in English*"*.

Lc: "Mind mapping helps me understand the contents more".

Ld: "Ndi confident ukuthetha because ndifunde more vocabulary nokubhala" (*I feel confident to express myself because I have learned more vocabulary and how to make sentences).*

Le: "*Earlier I used to be afraid to answer the question asked in the classroom because I thought I was wrong, but now I am happy to learn and speak in the classroom".*

Lg: "For me the brainstorming…um ibimnandi shame wonke umtu uyathetha and sifunda namagama amatsha. Siyakwazi nokubhala sifunda nokufunda nge confidence". *For me the vocabulary…um was a very exciting activity, all of us contributed and we learned new words. We can write better and learn to read with confidence).*

Lh: "Kuqala bendingakwazi to connect a word to another to make a long sentence. Kodwa ngoku ndiyakwazi ukubhala long sentences and I know more vocabulary words. *(Before I did not know how to connect one word to another to make the sentences become longer. However, now I can write long sentences and know more vocabulary words).*

The learners' reading skills were noticeably better than before, and their opinions of the final two EFAL exercises were at a decent level, which can be inferred directly from that verbatim. This indicated that the CBI method could aid the students in reading and comprehending the reading text. Through the use of the CBI technique and helpful classroom interaction, learners can gain a solid command of the vocabulary while also making some progress in all four language skills. This research's goal was thus successfully achieved. Contrarily, while employing the outdated traditional way of

instruction, it is evident that the students simply observe and listen passively, expressing their honest dissatisfaction with the monotonous nature of the instruction and that it is boring and uninteresting.

Thus, the results of the document analysis are correlated with the information gleaned during the interview. The composition for the brochure featured more information and employed persuasive terminology to draw readers' attention to the offered product, according to learners' document analyses. While several grammar mistakes were found in the writing, such as the use of capital and small characters, punctuation, and the missing markers for single and plural for both "noun" and "verb" in the sentences, they were minor given the clarity of the ideas being communicated.

Data obtained from learners through the CBI approach after the post-test intervention showed that teaching vocabulary learning increased the amount of learners' vocabulary bank and improved their reading, writing, listening, and speaking abilities, as well as their overall English competence. Hereunder is the evidence of learners' composing invitation letters. The figures below indicate the learners' skill development before and after the intervention. The data indicated a huge improvement in learners from the two different classes.

Drawings of learners

Figure 1 – pre-test

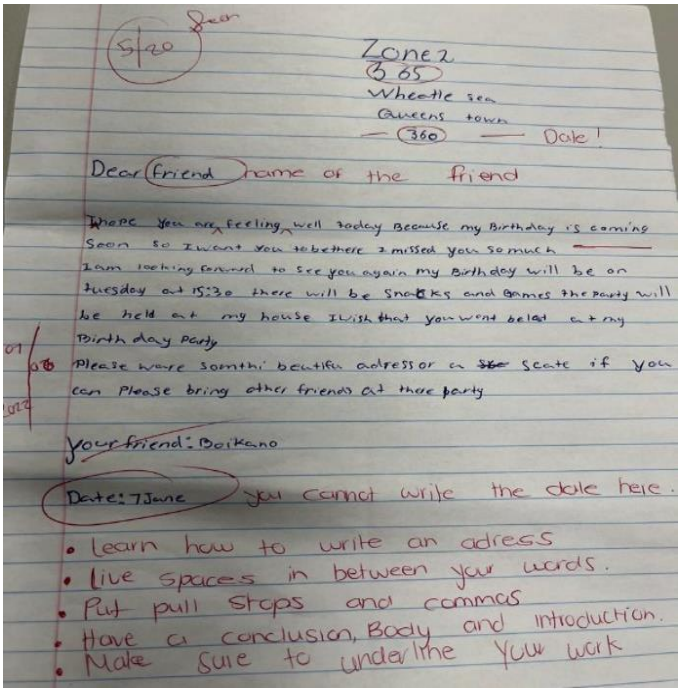
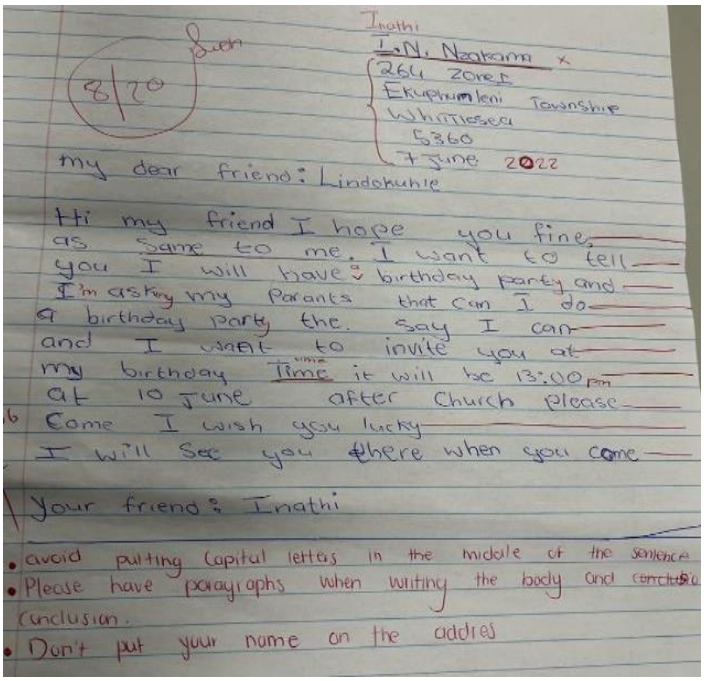


Figure 2



Inathi
1. N. Ntakana
264 Zone 1
Ekuphumleni Township
Whittlesea
5360
7 June 2022

8/20

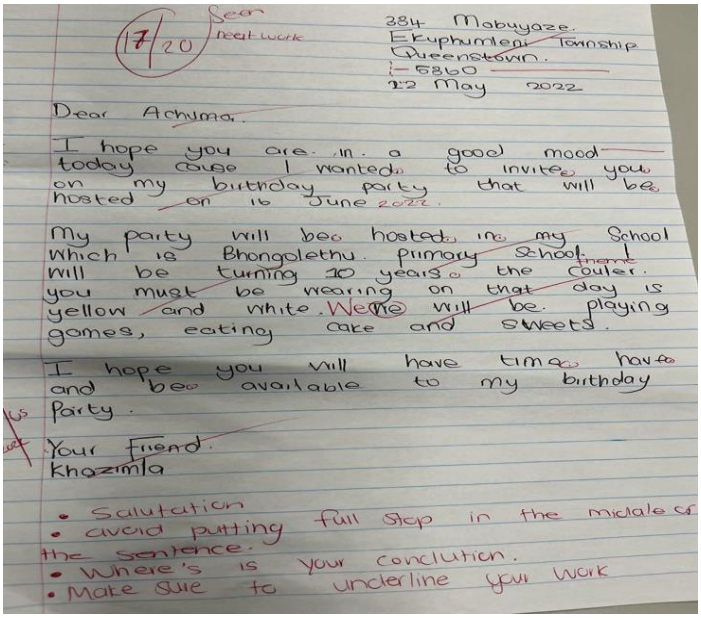
my dear friend: Lindokuhle

Hi my friend I hope you fine, as same to me. I want to tell you I will have birthday party and I'm asking my Parents that can I do a birthday party the. say I can and I want to invite you at my birthday time it will be 13:00 pm at 10 June after Church please come I wish you lucky I will see you there when you come

Your friend: Inathi

- avoid putting capital letters in the midale of the sentence
- Please have paragraphs when writing the body and conclusion conclusian.
- Don't put your name on the addres

Figure 3 post test



17/20 Neat work

384 Mabuyaze.
Ekuphumleni Township
Queenstown.
5360
12 May 2022

Dear Achuma.

I hope you are in a good mood today cause I wanted to invite you on my birthday party that will be hosted on 16 June 2022.

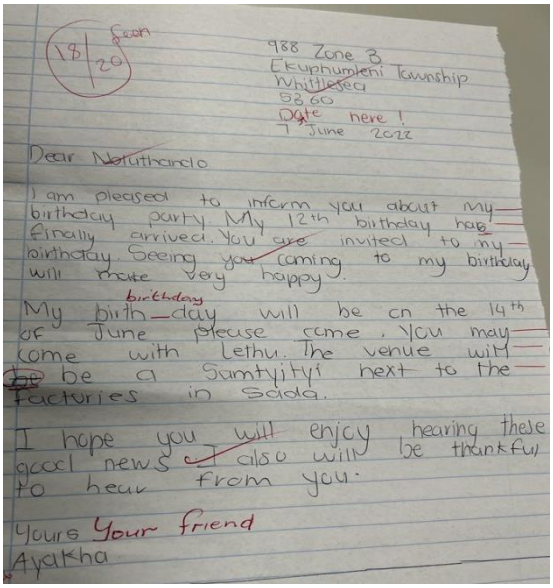
My party will bee hosted in my School which is Bhongolethu primary School I will be turning 10 years o the couler. you must be wearing on that day is yellow and white. We will be playing games, eating cake and sweets.

I hope you will have time to have and bee available to my birthday party.

Your Friend.
Khazimla

- Salutation
- avoid putting full stop in the midale of the sentence.
- Where's is your conclution.
- Make sue to underline your work

Figure 4


18/20 Soon

988 Zone 3
Ekuphumleni Township
Whittlesea
5360

Date here !
7 June 2022

Dear Nolutharclo

I am pleased to inform you about my birthday party. My 12th birthday has finally arrived. You are invited to my birthday. Seeing your coming to my birthday will make very happy.

My birthday will be on the 14th of June please come. You may come with lethu. The venue will be a Samtyityi next to the factories in Sada.

I hope you will enjoy hearing these good news I also will be thankful to hear from you.

Yours Your friend
Ayakha

Discussion of Findings

All findings indicated that the CBI had an impact on learners' vocabulary development since students were given numerous opportunities to apply as much EFAL as possible. Since the CBI established a learning environment where EFAL was employed as a medium of teaching to deliver valuable content and produced numerous possibilities, learners unquestionably improved. When the CBI was adopted to establish a learning environment ideal for language and content development to construct content-based learning experiences for learners to perform and practice vocabulary terms meaningfully and regularly, their vocabulary learning was greatly improved.

The key finding indicated that, in the opinion of teachers and students, CBI was an effective strategy since it improved student performance. Therefore, increased acquisition was facilitated by CBI when teaching vocabulary. The results were consistent with those of Adawiyah (2018), Corrales and Maloof (2009), who claimed that the CBI was successful in fostering language development and resulted in a notable increase in language proficiency, and Dupuy (2000), who claimed that the CBI gives students plenty of opportunities to interact. This study also supported a number of other studies' conclusions, which also showed that CBI increases English competence (Wuthisawangwong, 2016; Vanichvasin, 2019; Khruawan & Dennis, 2017). As a result, the current study can help people comprehend CBI as a method for using it to create EFAL vocabulary learning experiences in a way that helps students' listening, speaking, reading, and writing skills grow, which is essential for successful language acquisition.

Additionally, CBI encourages learnings to be innovative and motivated in order to enhance their ability to learn new words in terms of vocabulary complexity, comprehensibility, and grammatical complexity (Shibata, 2019). As a result, it appears that teachers did a good job during the CBI of observing and assisting with the learning process so that the student could understand the texts (Jaelani, 2017). With the implementation of the CBI technique, there is an evident shift in students' attitudes toward studying EFAL, which is consistent with the findings of Amiri and Fatemi (2014),

who conducted research to determine that the CBI group outperformed the Grammar-Translation Method (GTM). Because of this, it is even more important to foster in learners an interest in learning, encourage motivation to advance their language skills, and, most importantly, alter their perspective on classroom instruction. According to some, the improvement in students' comprehension of the assignment and the wise word selections broadened their vocabulary and improved learning (Sariani, Yaningsih, & Rozi, 2022). There is evidence that the CBI-facilitated exercises helped learners broaden their views and improve their word-choice originality.

Conclusion

Implementing CBI in vocabulary learning is a great way to assist students boost their vocabulary acquisition. Because they have a good understanding of their subject, the students find it simpler to write their invitation letters. The CBI technique dramatically enhanced their writing's content, structure, and vocabulary usage. Along with CBI implementation, the students gained vocabulary as well as equivalent information about the text's topic. As can be seen from the outcome of the learners' post-test, the learners' writing abilities have generally improved. It indicates that the CBI approach was successfully implemented and that the learners much appreciated it.

It can be said that the adoption of CBI helped students in rural primary schools score better in EFAL and vocabulary. Therefore, if relevant themes and regular practice were added, CBI might be deemed a useful teaching strategy and a crucial aid in creating various opportunities to employ EFAL. More specifically, as demonstrated by the study, teachers must play a critical role in taking into account key CBI components, providing meaningful topics, developing a suitable learning environment, engaging students in a variety of learning activities, and providing multiple opportunities for participation.

Recommendations

The current research was on a small scale so it is suggested future studies should be carried out with other learners at other levels. In addition, it is recommended that other subjects can be used based on a larger scale and using a control group of samples may give a clearer result to ensure that CBI can truly create a supportive and positive vocabulary learning environment, which leads to increased EFAL performance at the end.

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THE EFFECTIVENESS OF SCAFFOLDING INSTRUCTIONAL STRATEGY IN TEACHING OF READING COMPREHENSION PASSAGES: SECONDARY SCHOOL TEACHERS' PERCEPTION

[1]Osikomaiya Olufunke & [2]Fatimayin Foluke
[1&2]Department of Arts and Social Sciences Education
Faculty of Education
National Open University of Nigeria, Abuja

Abstract

This study examined teachers' perception of the effectiveness of scaffolding instructional strategy in the teaching of reading comprehension passages: secondary school teachers' perception. The research adopted a descriptive cross-sectional survey design. English language teachers in secondary schools in Ogun and Lagos States constituted the population of the study and one hundred and fifty (150) English language teachers formed the sample used in the study. One hypothesis was tested and four research questions were generated for the study. A questionnaire on teachers' perception of the effectiveness of using scaffolding instructional strategy in the teaching of reading comprehension passages was used to gather data. The instrument was validated and the Ordinal Alpha method was used to determine the reliability of the instrument which was at 0.89. The findings indicated amongst others that not all teachers are aware of the scaffolding strategy and those that are, hardly use it. Based on the findings of the study, conclusions were drawn and appropriate recommendations were made.

Keywords: Perception, Effectiveness, Scaffolding instructional Strategy, Reading Comprehension Passages

Introduction

Reading is an essential skill needed by all for success in academics and life. However, one needs to read and comprehend what is read to be able to make meaning of it. Reading functions as a vital tool for information and knowledge processing. It is a pivot for all other school subjects that are content-oriented and it is a basic foundation for teaching and learning process. It is therefore important that learners are well-grounded in reading and comprehending what is read. It is an active process that requires full concentration and the attention of the reader. Reading comprehension is synonymous with intelligence and the ability to make a thorough logical analysis of conceptual or cognitive relationships.

Reading requires more than a knowledge of vocabulary and syntax. Students, therefore, have to understand explicit facts to be able to read between and beyond the lines, detect moods, tones and separate facts from fiction. Reading comprehension is broken into sub-skills such as sequencing the events in a story, being able to paraphrase, knowing the vocabulary, predicting outcomes of a story, making inferences, finding the main idea,

summarising, and applying the information given and so forth. Chastain (1988) referred to reading comprehension as a cognitively demanding skill involving careful attention, memory, perceptual processes and comprehension processes.

Reading comprehension is a complex process; it involves the co-ordination of multiple factors such as text features, task demands and personal characteristics. Comprehension involves understanding at three levels: literal, interpretative (inferential) and critical (evaluative) comprehension. (Mabekoje, 2012, Osikomaiya, 2013 and Akubo (2019). Reading proficiency which includes reading comprehension is essential for success in school and in life. No effective learning can take place without students' competence in reading. The incompetence of students in reading may lead to their dropping out of school. However, there are challenges facing effective teaching and learning pf reading skills, one of which is comprehension. Abu-Ubaida et al. (2017) identified the following as challenges faced by teachers in teaching reading skills. They are: - poor background and preliminary knowledge of the English language, lack of motivation among students…in reading skills, over-populated classes, poor student's attendance and skipping of lectures, lack of adult readers as models, poor libraries and shortage of teaching and learning materials, inadequate or absence of language laboratories. As a way of getting around these challenges, Wallance in Nurdianingsih (2021) said that reading strategy is a unitary process which cannot be subdivided into part skills, that is, as a process, a reading strategy involves ways of processing text which will vary with the nature of the text, the reader's purposes, and the context of situation.

There are many methods and strategies which can be used to effectively teach students reading and comprehending skills. We have the pre-reading, during and after-reading method, the take your book and read method, the question-and-answer strategy, the scaffolding instructional strategy and many others. Effiom, Essien and Okon (2018) argued that the overdependence on the traditional method of teaching reading where students are made to sit in rows and listen to the teacher read aloud, and explain difficult words, with students reading in turns can only breed failure. Also, there are instructional strategies such as meta cognition, graphic and semantic organiser, reciprocal teaching, tea party, cooperative learning strategy, say something, think-aloud, SQ3R, questions-answer relationship (QARs), and scaffolding (Osikomaiya 2013; Effiom et al., 2018; Nurdianingsih, 2021). These are some scaffolding strategies which promote effective teaching and learning of reading. Based on this, the following questions were raised: do English language teachers use scaffolding to teach reading comprehension? Are English language teachers aware of the strategy? What is the perception of English language teachers on the use of instructional scaffolding teaching strategy?

Instructional scaffolding teaching strategy enhance reading comprehension skills (Palinscar, 2003). That is, scaffolding provides opportunities for students to learn how to solve problems, do certain tasks and transform information rather than just memorise them. Instructional scaffolds are therefore very important in reading comprehension (Huggins & Edwards, 2011). According to the Glossary of Education Reform (2014), "Scaffolding refers to a variety of instructional techniques used to move students progressively toward stronger understanding and ultimately, greater independence in the

learning process." When teachers use instructional scaffolding teaching strategy, they provide successive levels of support that help students to reach higher levels of comprehension that they would not have been able to achieve without help. The supportive strategies are gradually removed when they are no longer needed and the teacher shifts more responsibility over to the student. Scaffolding can be provided by the teacher, parents or more experienced persons around the learners. Well-constructed scaffolds optimize students' learning by providing a supportive environment as well as facilitating their independence. Scaffolding strategy refers to supporting students to a certain extent until new skills have been acquired and it stops once the learners are able to do the tasks (Larkin, 2002).

The literature revealed that not all language teachers are aware of scaffolding strategies and not all apply them in teaching. Koda (2005) submitted that non-native English language teachers sometimes use scaffolding strategies unconsciously without being aware of its nature. However, the pre-planned instructional scaffolding process helps students to be responsive and involved in the classroom activities (Many, 2002).

In investigating the effectiveness of scaffolding instructional strategy in adolescents' comprehension of story-books, Fournier and Graves (2003) observed that two scaffolding reading experience frameworks had significant positive effect on students' comprehension of the story in the two experimental groups than the control group. Ediger (2002) discovered that scaffolding may be accomplished through learning style theory which focuses on classroom situations, such as conformity, sociological factors, scientific intelligence and artistic intelligence. He stated further that when constructivism in reading instruction is used, the students are heavily involved in making a curricular decision. Wollman-Bonilla, Julie, Werchadlo and Barbara (2004) found out that with teacher scaffolding (modelling, explicit instruction, feedback, and the creation of contexts for sharing), first graders can write thoughtful, personal and extended responses to books in their literature-response journals. Maduabuchi (2006) also discovered that students' cognitive achievement in the comprehension of text improved significantly when exposed to elements of instructional scaffolding teaching strategy.

Though several other research works are being carried out, the results in the use of instructional scaffolding teaching strategy is rather inconclusive but the findings recorded in various content areas are pointers to the benefits students stand to gain when taught to read using scaffolding. Osikomaiya (2020) discovered that that the scaffolding strategy is more effective for teaching reading comprehension than the conventional method. This study also discovered that the use of instructional scaffolds strategy is more effective in fostering students' attitudes towards in English reading comprehension than modes of instruction. The idea of conventional scaffolding rests on the fact that the learning process is not an isolated concept, it can be best done through social interaction (Khare, 2018).

Popoola et al. (2018); and Osikomaiya (2020) discovered in their various studies that students' difficulties in reading is due to inappropriate and ineffective pedagogical approaches used by teachers in the classroom. Based on this, teachers should teach reading using students-based activity-oriented methods like scaffolding instructional

strategy. Therefore, the study sought to investigate teachers' perception of the effectiveness of using scaffolding instructional strategy in the teaching of reading comprehension passages in secondary schools. The study is carried out using the conceptualised framework shown below.

Scaffolding Strategies

Image source: www.mshouser.com

The instructional scaffolding teaching strategy Scaffolding is breaking up the learning into chunks, then providing a tool, or structure to use with each chunk. When scaffolding is used for reading, you could preview the text and discuss key vocabulary, or chunk the text and read and discuss as you go (Alber, 2014). Scaffolding strategy in the teaching of reading is achieved through the use of the first language, reading aloud, spelling, modeling /gestures after the teacher, breaking inti group, comprehending sentence structures, connecting the passage to learners' background knowledge, use of graphic organizer visual and realia. Teacher demonstration or modelling is an example of scaffolding in a group setting. Scaffolding may also take the form of thinking aloud, providing guides or checklists, coaching, asking questions, and other forms. Instructional scaffolding teaching strategy is observed in classrooms and tutorial programs that use an interactive teaching method. Scaffolds allow the teacher to lift the students beyond the current level to new learning. A scaffold can include recruitment, simplification of tasks, encouragement and support, assisted performance, share effort and demonstration. Scaffolds also support the intentional fostering of independence.

Statement of the Problem

Teaching English as a second language, especially reading comprehension is bedeviled by challenges such as teachers' lack of pedagogical knowledge, faulty content delivery methods, overpopulated classrooms, lack of materials and infrastructure. Students across all the educational levels in Nigeria struggle with the problem of low language skill and perform poorly in tasks requiring reading comprehension. Some of these challenges

especially those pertaining to teaching methodologies, result in difficulties students have in reading and reading comprehension. To surmount these, students' interests, experiential background and learning styles should be factored into the methods and strategies of teaching reading comprehension. This will reduce students' reading difficulties which Popoola et al (2018) and Osikomaiya (2020), submit are due to teachers' inappropriate and ineffective pedagogical approaches used in teaching reading comprehension. This further buttresses the claim by Many (2002) and Koda (2005) that English language teachers are not using or are unaware of strategies such as scaffolding instructional strategy for effective teaching of reading comprehension. It is based on the above that this study examined the effectiveness of scaffolding instructional strategy in teaching of reading comprehension passages.

Research Questions

The following research questions were raised:

1. What are the methods used by teachers to teach reading comprehension in secondary schools?
2. To what extent do secondary school English teachers use scaffolding strategies to enhance
   reading comprehension?
3. In the perception of teacher, is scaffolding instructional strategy more effective than other
   teaching method?

Hypothesis

For the study, the following research hypothesis was generated:

1. There will be no significant difference in the perception of male and female English language teachers about the effectiveness of scaffolding instructional strategy for teaching reading comprehension

Methodology

This study adopted a descriptive cross-sectional survey with two hundred (180) participants, randomly selected from public and private secondary schools in Ogun and Lagos State. Three (3) research questions were raised and one hypothesis were generated and tested. The instrument for data collection was a multiple-response questionnaire that was developed by the researchers and was validated. Section A contained demographic information while Section B contained items divided into sub-section response options using Likert modified response type. The reliability index of the questionnaire was established using Pearson Product Moment Correlation, and a coefficient score of 0.79 was obtained. To determine if an item on the questionnaire was accepted or rejected, a criterion mean of 2.00 was obtained and utilized, that is, an item with a mean greater than 2.00 was accepted, while an item with a mean less than 2.00 was rejected. Data collected was centered on the perception of teachers. The data were structured and validated questionnaires analysed using descriptive statistics (simple percentages, means and standard deviation) as well as quantitative analysis (t-test) at a 0.05 level, that is, 95% confidence limit.

Data Analysis and Interpretation

Table 1: Demographic Characteristics of Respondents (N= 150)

Demographic Details	**Frequency (f)**	**Percentages (%)**
Gender		
Female	103	68.7
Male	47	31.3
Class Taught		
JSS Class	45	30.0
SSS Class	97	64.7
JSS & SSS Classes	8	5.3

Table 1 gathered that 47(31.3%) of the respondents were male gender while 103(68.7%) were female gender. Similarly, 72.7% of the respondents work in public secondary schools while only 27.3% were from private secondary schools. Findings also indicated that the majority of the sampled secondary school teachers taught at the SSS class (64.7.0%), (30.0%) taught JSS class while only (5.3%) taught at both JSSS and SSS classes.

Research Question One: What are the methods used by teachers to teach reading comprehension in secondary schools?

Table 2: Descriptive statistics showing method teachers use in teaching reading comprehension (N = 150)

S/N	Teaching Method	Yes		No		Ranking by Usage
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)	
1	Pre, during and post-reading	29	19.3	121	80.7	7th
2	Question and answer method	51	34.0	99	66.0	5th
3	Take-your-book-and-read method	58	38.7	92	61.3	4th
4	Read after me method /modelling	36	24.0	114	76.0	6th
5	Silent and loud reading in turns method	76	50.7	74	49.3	1st
6	Multiple strategies for teaching reading	62	41.3	88	58.7	2nd
7	Scaffolding strategies like pre-teach vocabulary	62	41.3	88	58.7	2nd

Table 2 present the result of descriptive statistics showing the methods used by teachers to teach reading comprehension in secondary schools. The results indicated that the most used method according to the ranking was silent reading and loud reading in turns. (Yes = 50.7%; No = 49.3%). This was followed by multiple strategies for teaching reading (Yes = 41.3%; No = 58.7%) and scaffolding method which were ranked 2nd (Yes = 41.3%; No = 58.7%), then by take-your-book-and-read method (Yes = 38.7%; No = 61.3%). The least used method was pre, during and post-reading which was ranked 7th. It can therefore be inferred that secondary school teachers in public and private schools in the

study area make use of silent and loud reading in turns method to teach reading comprehension in secondary schools.

Research Question Two: To what extent do secondary school English teachers use scaffolding strategies to enhance reading comprehension?

Table 5: Descriptive statistics showing the extent of use of scaffolding instructional strategy

Parameter	Frequency	Percentage
No Extent	38	25.3
Little Extent	54	36.0
Moderate Extent	34	22.7
Large Extent	11	7.3
Very large Extent	13	8.7
Total	150	100.0

Table 5 present the descriptive statistics showing the extent of use of scaffolding instructional strategy among secondary school English teachers in the study area. 38(25.3%) indicated no extent, 54(36.0%) indicated little extent, 34(22.7%) indicated moderate extent and 11(7.3%) indicate large extent while 13(8.7%) indicated very large extent. Finding thus inferred that secondary school English teachers in the study make use of scaffolding instructional strategy to a little extent.

Research Question Three: Is scaffolding instructional strategy more effective for teaching reading comprehension than other reading methods?

Table 3: Descriptive statistics showing the effectiveness of scaffolding instructional strategy over other teaching method

S/N	Strategies	Mean	SD	Strategy Effectiveness
1	Scaffolding strategy	3.13	0.79	Effective
2	Multiple strategy	3.39	0.63	Effective
3	Silent and loud reading	2.92	0.77	Effective
4	Read after me method	2.37	0.94	Fairly Effective
5	Take-your-book-and-read	2.49	0.80	Fairly Effective
6	Question and answer	3.25	0.63	Effective
7	Pre, during and post reading	3.20	0.69	Effective
	Criteria Mean = 2.00		**Average Mean of other method = 2.92**	

Table 3 present the result of the descriptive statistics showing the effectiveness of scaffolding instructional strategy over other teaching methods. Results revealed that multiple strategy was effective than question and answer method as well as pre, during and post-reading method but scaffolding instructional strategy was more effective than silent and loud reading as well as take-your-book and read and read after me. The results however indicate that multiple strategy is more effective than the read after me method and take-your-book-and-read methods. Comparing the average mean of 2.92, scaffolding instructional strategy of 3.13, it can thus the inferred statistically that scaffolding instructional strategy is effective for teaching reading comprehension than other reading methods (Silent and loud reading, Take-your-book-and-read, Read after me method).

Table 7. Gender differences in the perception of English language teachers about the effectiveness of scaffolding instructional strategy for teaching reading comprehension

Gender	N	Mean	Std. Deviation	Std. Error Mean	T-Cal	Remarks
Male	103	9.14	2.92	.29	1.429	Not Significant
Female	47	9.85	2.66	.39		

Table 5 above present an independents sample t-test showing significant difference in the perception of male and female English language teachers about the effectiveness of scaffolding instructional strategy for teaching reading comprehension. The result of the descriptive analysis presented above showed that the mean score of 9.14 recorded by the male teachers about the effectiveness of scaffolding instructional strategy for teaching reading comprehension is merely lower than the mean perception score of 9.84 recorded by the female teachers with standard deviation of 2.92 and 2.66, respectively. The mean differences were statistically insignificant. Thus, there is therefore no significant difference in the perception of male and female English language teachers about the effectiveness of scaffolding instructional strategy for teaching reading comprehension

Discussion of Findings

Findings of this study indicate that the most used reading strategy by English language teachers is the silent and loud reading in turns. This corroborates Effiom, Essien and Okon's (2018) argument that the overdependence on the traditional method of teaching reading where students are made to sit in rows and listen to teacher read aloud, explains difficult words, with students reading in turns can only breed failure. Findings also revealed that generally, the scaffolding instructional strategy is not more effective than the other methods. This is in disagreement with the findings of Wollman-Bonilla, Julie, Werchadlo and Barbara (2004) who found out that with teacher scaffolding, first graders wrote thoughtful, personal and extended responses to books in their literature-response journals and Maduabuchi (2006) that students' cognitive achievement in the comprehension of text improved significantly when exposed to elements of scaffolding. Osikomaiya, (2020) also submits that scaffolding strategy is more effective for teaching reading comprehension than the conventional method as it is more effective in fostering students' attitude in English reading comprehension than conventional modes of instruction.

Findings of the study revealed that teachers are only aware of the scaffolding strategies to some extent only. This is in agreement with some research findings however, point to the fact that English language teachers are not using or are unaware of some strategies like the scaffolding instructional strategy. It also corroborates Koda's (2005) submission that non-native English language teachers sometimes use scaffolding strategies unconsciously without being aware of its nature. Again, findings showed that teachers do not use scaffolding strategy to teach reading comprehension. This agrees with Koda's (2005) submission that non-native English language teachers sometimes use scaffolding strategies unconsciously without being aware of its nature.

Conclusion

From the study, it was discovered that the extent in which teachers use scaffolding is very minimal. Despite the great effect of scaffolding on reading comprehension of secondary school students, a lot of English teachers do not use it in their comprehension classes while those that are using it are not conscious of its nature and usage.

Recommendations

1. English Teachers should multiple strategies in the teaching of English language reading comprehension in secondary schools because its great effect on students' reading.
2. Workshop, seminar and training should be done to let teacher familiarized with different instructional strategy that can be used to teach reading comprehension effectively.
3. Teacher education should focus on preparing teachers on innovative approach of teaching of reading in secondary schools.

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TEACHERS' PERSPECTIVES AND CHALLENGES OF TEACHING ENGLISH READING LESSONS TO GRADE 5 FIRST ADDITIONAL LANGUAGE LEARNERS

[1]Linake Manthekeleng & [2]Fesi Liziwe
[1&2]University of Fort Hare

Abstract
The language barrier in English as First Additional Language prompted this study which examines the viewpoints and challenges of teachers during reading lessons in Somerset East and Cookhouse 5th grade classrooms in South Africa. Constructivism as an education framework was employed to guide the study, which adopted a qualitative research approach. A case study research design was applied with two schools in the Blue Crane Municipality. Interviews with two teachers and two school principals from the Graff Reinet educational district were part of the data collection strategy. The data was analysed with the help of thematic coding. According to the findings, schools clearly lack the resources necessary to support successful teaching and learning. The study also found that schools in rural areas have the most challenges, which has an impact on learners' performance. Researchers came up with recommendations to address the problem based on the data gathered and literature examined in order to improve English first additional language acquisition, learning, and teaching with a focus on reading sessions for 5th grade leraners.

Keywords: English First Additional Language; Reading Culture, Reading comprehension

Introduction
The reading ability of learners in South African schools is a cause for concern, particularly in Somerset East and Cookhouse in the Blue Crane Municipality, where this research was carried out. McIntyre et al. (2017) argue that reading difficulties impact learners as individuals, as well as nations and societies. Consequently, low reading levels lead to poor performance, high school dropout rates, unemployment and crime (Ghimire & Topple, 2020). Research conducted by the National Education Evaluation and Development Unit (NEEDU) (2013) confirms that of 1,772 rural 5th grade students, 41% read so slowly as to be considered non-readers in English, while 11% read none able English word from the passage used to assess their reading fluency. The above claims show that reading English is a problem internationally and locally. Demirci (2019) argues that reading problems can be rooted in both intrinsic and extrinsic factors, the former lying with the learner, such as: attitude, auditory and visual perceptual problems and language development; and the latter in the home and school environment. Consequently, ANA (2014) shows that nationally, the progress of 5th grade EFAL language learners is still unsatisfactory, both in literacy and numeracy (Department of Basic Education (DBE), 2014). The poor results are attributed to learners' inability to read clearly (DBE, 2014). Janse van Rensburg (2016) from Stellenbosch University agrees that reading difficulties are still widespread: ANA results in Limpopo show that 83% of Foundation Phase learners struggle with reading, 44% of Foundation Phase learners struggle with

reading in Gauteng Province and 33% of learners from the Western Cape read without comprehension. These factors hinder learners' reading skills and culture.

This paper focused on 5th grade as an appropriate population, as 4th grade represents the transition phase from Foundation phase to Intersen phase, where learners are still struggling to understand the many learning areas in relation to the four learning areas of 3rd grade. To cope with 6th grade which is the final grade for intermediate phase 5th grade learners are expected to be able to read and write at a satisfactory level. The South African Educational Quality Monitoring Consortium (SACMEQ) compared the literacy and numeracy skills of sixth grade students in 14 African countries between 2000 and 2002. Out of the 14 countries, South Africa ranked 8th, with only 86.7% of our learners achieving minimum levels of reading proficiency in the 6th grade (Mothibeli, 2005, cited in Fesi, 2018).

Statement of the Problem

Reading is used worldwide as an index of how well an education system is doing its job. It has been said that formally attaining literacy is not easy for many learners in Africa. Learners at this age are unable to read and understand due to some of the challenges they face. Some are intrinsic and extrinsic challenges. In developing countries, including South Africa, research on professional learning by teachers supporting middle school classes is limited. Many research studies have been conducted in South Africa on how comprehension skills are taught (Taylor, 2014; Pretorius & Spaull 2019; Statistics SA 2019), but there has been a paucity of research that have been conducted on the challenges that 5th grade teachers face when teaching English to read as a first foreign language. As a result, we are attempting to unravel why it is critical to investigate the issues that English language teachers encounter in elementary schools. The current study aims to close this gap by looking into the issues that teachers have when teaching English reading lessons in the Intermediate Phase in Somerset East and Cookhouse in the Blue Crane Municipality.

Objectives of the study

The study focused on teachers' perspectives and challenges during reading lessons among 5th grade EFAL in the Cookhouse and Somerset East area in the Blue Crane Municipality. It was necessary for several problem-related questions to be asked in order for the research to provide a comprehensive response to the problem.

Research Questions

1. What challenges do teachers face in the classroom when English is involved as the
   first additional language?
2. How are teachers trained to meet language barriers of learners with literary language development?

Theoretical Framework: Constructivism

Therefore, constructivism is a theory about how people learn. Based on the work of developmental psychologists, constructivism asserts that people construct meaning through their interactions and experiences in their social environment (Boiger & Mesquita (2012)). It assumes that previous knowledge and experience play an important role in learning and form the basis for later activities. According to Fesi and Mncube (2021) learners enter school with a sense of self-efficacy for learning based on past experiences and personal qualities. In addition, Vygotsky (1978, cited in Dang, 2018) claims that constructivism as an educational theory has implications for teaching reading in terms of speeding up learning; teachers must examine the learners' cultural background as it affects their thinking and actions. The study assumes that a learner is a social creature who can only learn to read and understand when guided by a more knowledgeable adult. Problem-solving tasks with instructions for reading English lessons might be presented to students. Following that, the student should work independently, guided by the teacher, using his or her prior knowledge and skills. The teacher's role should be to advise and interpret the instructions for the students.

Literature Review

Reading Related Challenges

An International Context

Recent researchers like Castles, Rastle and Nation (2018) highlighted that reading issues are a global phenomenon that affects even developed countries. According to Willinsky (2017), in countries such as United Kingdom and United States of America, at least 30 to 35 percent of students have difficulties with reading and writing. In line with the above idea, Varenne (2018) also added that in United States of America large numbers of students drop out of school because they lack the literacy skills to cope with the secondary curriculum. The percentage of learners with literacy difficulties seems to increase as learners get older. Secondary schools in the United States of America have reported that some 70 percent of older readers require some form of remediation or additional support when dealing with expository texts (Meyer & Ray, 2017). Hempenstall and Buckingham (2016) submit that in Australian schools between 20 and 40 percent of students do not make optimum progress in learning to read. The Australian Bureau of Statistics cited in Hempenstall and Buckingham (2016) provides data revealing that in 2006, approximately 46 percent of the population had some difficulties with “prose reading” (narrative text, newspapers, brochures) and 47 percent had difficulties with “document reading” (forms, schedules, tables). These figures are indications that approximately 7 million Australians are experiencing problems with everyday literacy. Of these weak readers, approximately 18 percent perform at an extremely low level of competence ibid. Thus, even in developed countries, there are many challenges when it comes to reading.

A lot of national reports conclude that certain teaching methods are far more effective than others in teaching children to read (for example, DEST, 2005; House of Commons Education and Skills Committee, UK, 2005; National Reading Panel, US, 2000; Rose, 2006). These reports also conclude that effective methods are not always used in schools, which might lead to learners experiencing reading difficulties in the countries where

effective reading teaching are lacking. The amount of time devoted to instruction and practice in reading and writing is an important influence on literacy development (Sunde & Lundetræ, 2019). A daily literacy hour was introduced in the United Kingdom and in Australian schools to ensure that at least that amount of time is spent in every primary classroom on focused literacy activities. The above statistics show that it is apparent that they have a huge number of learners who are still struggling with reading in Fifth grade.

An African Context: Nigerian perspective

According to Okebukola, Owolabi and Onafowokan (2013, p.1), "there is no debate amongst scholars, policymakers, and educational stakeholders that reading achievement amongst African learners is an essential issue." Okebukola et al. (2013, p.1) further adds that "there is also no disputing the reality that improving literacy levels in schools throughout Africa offers a severe problem requiring urgent attention. Also, according to Onukaogu (2001), reported by Okebukola et al. (2013), the poor level of literacy in African schools persists. Supporting the above idea, Kannan (2009) points out that students learn basic grammar at the school level only to pass tests and exams and not to face real-world situations. Kannan (2009) further notes that students read only to succeed in English, but are not fully committed to mastering English. According to Schunk and DiBenedetto (2020), another issue that English learners face is scarcity of teachers who are profient in English and can successfully teach English as a result of the education system's vicious cycle. English FAL learners are afraid to use English, especially in the presence of affluent users, because it is humiliating to have to speak a foreign language to a fellow countryman, especially in the presence of the owner of that language. Desai (2016) also revealed that most schools and colleges lack basic equipment such as language laboratories and well-stocked libraries to strengthen learners' reading skills.

South African Context

Education has developed a lot over the past two decades and it would be advisable to examine these developments to understand the nature of the education system. According to Tunmer and Hoover (2017), a general assumption is made by language teachers, that reading is a naturally learnt act. Adams (2018) argues that reading is an acquired skill that is not natural or easy for most children. She further elaborates that reading is the fundamental skill upon which all formal education depends. She also states that language is integrated in all learning areas therefore learners need to be able to read before they can comprehend. However, there are challenges that inhibit the progress of reading in South African schools. These are the following:

Lack of Resources in Schools

There are certain constraints on the reading culture in African countries. Libraries as well as learning and reading play a fundamental role in the changing of lives and they have a role to play in determining the future of societies in Africa. Libraries are vital to education; and research has shown that current lower levels of proficiency in reading are due to underfunding of libraries and their services (Jeon & Day, 2016). Mupa and Chinooneka (2019) submit that resources such as reading materials are inadequate in many of our schools across the country. According to Kruizinga and Nathanson (2010), a lack of level guided reading books makes it very difficult for teachers to implement Guided reading correctly. Singh (2009) suggests that teachers in disadvantaged school

communities have a big role to play in creating a stimulating reading environment. English FAL learners need good English vocabulary to ensure reading success (Fleisch, Pather & Motilal, 2017). In addition, Marais (2016) refers to overcrowded classrooms as an added challenge faced by both teachers and learners. English FAL learners need individual attention to ensure progress under such challenging circumstances (Blunden-Greef & Motilal, 2014). Researchers, like teachers themselves, agree with the above idea, the number of learners per class in their current schools varies between 55 and 70 learners per class. This makes one-to-one interaction with learners difficult, leaving some of the struggling learners behind.

Foetal Alcohol Syndrome

Foetal Alcohol Syndrome (FASD) is another factor that slows reading progress in Intermediate Phase students in South African fifth-grade classrooms. Baes (2020) defines FASD as an umbrella term used to classify many disabilities caused by prenatal alcohol exposure, which also includes physical, cognitive, emotional, and behavioral deficits. Attempting to establish a relationship between FASD and learners' ability to read and study, Baes (2020) found that teachers struggle to find effective strategies for dealing with FASD learners in the classroom, which further leads to difficulties in teaching these learners to read and write. Extreme expectations are placed on teachers to teach learners at different levels of learning according to inclusive education policies in South Africa (Van Schalkwyk & Marais, 2017). Schools are typically the first place where learners with learning difficulties and disabilities are identified (Maggs & Shields, 2018). There is a general belief that teachers are unable to educate large numbers of learners with FASD in mainstream classes in South Africa (O'Connor & Paley, 2009; Paley & OConnor, 2011).

Methodology

Research Approach

This study is a qualitative research approach embedded in a constructivist paradigm and based on a naturalistic approach that tries to understand phenomena in context or in real-life settings, and in general the researchers do not try to manipulate the phenomenon of interest (Maree, 2015).

Research Design

The paper used a case study design. One of the most important characteristics of a case study is its flexibility to allow the study of a phenomenon in its natural environment and to allow the use of many methods in collecting case study data (Ritchie et al., 2013).

Research Instruments

This paper used non-standard in-depth interviews with English teachers and school principals. The interviews with teachers in each of the selected schools were the most appropriate tools to obtain detailed information about the reading challenges the teachers face when teaching English reading lessons in the fifth grade. The use of

interview questions allowed the researchers to obtain in-depth information about the challenges English teachers face in primary schools. (Maree, 2015).

Participants

Participants in this study were two teachers and two school principals from the Graff Reinet educational district. These participants were selected from two different primary schools. One teacher was selected from the rural area and the other from the urban area, as well as the school principals. English was the language of instruction when conducting interviews. Respondents were also interviewed using the volunteer sampling technique, which refers to a scenario in which participants willingly volunteer to take part in a study (De Vos et al., 2013).

Data Analysis

Thematic analysis was engaged for the data analysis. The recorded interviews were transcribed into English. After the authors were satisfied that the transcript was correct, we made two copies of it and independently encoded the data. After categorizing, we put similar things together using the data from interviews. From here, we developed the encoding, giving codes to the data to distinguish each data from each other. In this paper, the data analysis was performed manually in the following steps, namely: organising the data, finding and organizing ideas and concepts, creating overarching themes in the data, ensuring reliability and validity by giving the participants the transcribed document to check for accuracy. The data were coded using the following steps: Reading the data against memos for clarification and interpretation.

Trustworthiness

Maree (2015) affirms that it is a consistency check and credibility or stakeholder checks. The authors emphasize that there is no bias in the data collection process. To verify the accuracy of the data, all interviews with two teachers and two principals in two sampled schools were recorded and transcribed verbatim. Participants were given the chance to read the research report to determine if it matched what they had said during the data collection term. In this study, another way to improve trustworthiness was to make sure that participants were well-informed and willing to participate. The factor of bias was eliminated and the credibility of the findings increased throughout the study process and data processing.

Ethical consideration

Permission was obtained from the university, then from the provincial head office of the Ministry of Education for access to schools, and then from the principals and teachers. Ethical clearance for this research was from University of Fort Hare.

Results

This study was conducted to investigate the challenges that teachers face during reading lessons in the 5th grade classroom.in Somerset East and Cookhouse. Codes were used to protect schools and teachers' identity for confidentiality purposes Participants were

abbreviated as follows: School Principal: SP1, School Principal: SP2, English teacher: ET1 and English teacher: ET2. The results are presented below based on the major themes that emerged from the interviews used in this study as follows.

Theme 1: Challenges Teachers Face in Relation to Teaching and Learning during English Lessons

The study's first research question was: What challenges do teachers face in the classroom when English is the first additional language? The data for this question was collected through interviews. As the participants answered this question, it became clear where the starting point was in the fight to contain the challenges of teaching and learning. The answers indicate that the participants still face a serious problem of low resources in their schools. The following subtopics/categories were identified in this question:

ET1 is of the view that:

> *"Learners are not being exposed to books since there are no libraries in place. We do not have relevant and sufficient reading materials in English to their disposal at the respective schools This affects learners' Englishreading skills as they don't study much English."*

ET2 is of the opinion that,

> *"The DOE lacks in organizing workshops for teachers to learn how to teach reading in the classroom. She went on to explain that she is in the process of continuing her studies, where she will also receive training on how to teach learners to read, particularly in English as her first additional language."*

SP1 and **SP2** indicated that,

> *"Parents do not buy books or newspapers at home, because if that were the case they would not have faced this reading problem in their schools. He further elaborated by saying that the Department of Education (DOE) does not supply sufficient books to schools".*

In contrary, **ET3 and ET4** said,

> *"They have a library but it is not functional as it has outdated books. Few learners are affiliated with the library because other parents do not motivate their children to read or go to the library, making learning to read is very difficult based on the learner's limited vocabulary."*

ET4: added that,

> *"There is no support from the school management when it comes to reading in English as most teachers speak Afrikaans to the learners all the time. The learners only converse in English during the English lesson. Most of these teachers at the school where the*

research was conducted speak either Afrikaans or Xhosa. English is also their second or third language, so they have difficulty speaking or reading English."

Theme 2: Learners' Intrinsic Challenges (Impairment)

The data was also collected from the participants stated in this study. Visual impairment, dyslexia and foetal alcohol syndrome are common factors that are influencing the learners reading ability negatively.

TE2 stated that,

"Foetal alcohol syndrome plays a large role in learners' reading difficulties due to their socioeconomic background".

In addition, **SP1** and **SP2** concur with the above view stated by ET2 that,

"They explained that the children suffering from Foetal Alcohol Syndrome are placed in the mainstream. This is a major challenge for teachers as they are not trained to work with these types of children."

ET3 and **ET 4** indicated that:

"Some learners have visual impairments resulting in learners not recognizing the sounds. The researcher has to applaud the DOE for the program, which screens all learners for medical help. The Department of Health and DOE are working together in this regard. Hopefully this initiative will fix the situation of the visual impairment and all other diseases."

ET1 alluded that,

"The DoE has sent teachers to complete Honors in Augmentative and Alternative Communication (AAC), which is a good course but is not fully implemented in schools to assist learners with barriers."

Discussion

In this study, the findings obtained after data interpretation and analysis were examined with regard to the questions asked. Emerging themes were discussed with reference to the literature.

Challenges Teachers Face in Relation to Teaching and Learning during English Lessons

The paper revealed that it is evident that schools do not have sufficient resources to ensure effective teaching and learning. It has also been revealed that the DOE does not fully support schools in providing them with enough reading material and books. This finding is supported by Mupa and Chinooneka (2019) who succumb that resources are inadequate such as readers and other appropriate reading materials in many of our schools across the country. Along the same lines, Jeon and Day (2016) observed similar

results in their study, according to which learners have shown that the current lower reading literacy levels are due to underfunding of libraries and their services. The study also shows that schools in rural areas face the greatest problems and this affects learner performance. This finding is supported by Singh (2009) who suggests that teachers in disadvantaged school communities have a major role to play in creating a stimulating reading environment.

Learner (Intrinsic) Impairment

This study investigated whether intrinsic factors have an impact on literacy development. Foetal alcohol syndrome plays a large role in learners' reading difficulties due to their socioeconomic background. This is a major challenge for teachers as they are not trained to work with these types of children. The researchers believe these learners do not belong in the mainstream, but the DOE believes that inclusive education must take place in schools where educators must care for all types of learners. These findings are in line with Baes (2020) who found that teachers struggle to find effective strategies for dealing with FASD learners in the classroom, which further leads to difficulties in teaching these learners to read and write. These findings support the ideas of Van Schalkwyk and Marais (2017) who believe that extreme expectations are placed on teachers to teach learners at all different levels of learning according to inclusive education policies in South Africa.

Conclusion

The study focused on challenges that teachers face during reading lessons among 5th grade EFAL in the Cookhouse and Somerset East area in the Blue Crane Municipality. There are many possible reasons why learners have difficulty learning to read, write and spell in the early years of school. The above challenges in South African schools affect reading comprehension and cause frustration for both teachers and learners. Principals and teachers agreed that the DOE provides schools with useful workbooks, but in most cases these books are insufficient. Teachers in schools should create an environment conducive to effective reading to promote reading comprehension.

Recommendations

- The report suggests that Department of Education subject experts visit rural schools to evaluate teachers' needs and track progress in reading instruction. Teachers should be encouraged to develop clusters in which they may meet and discuss issues that will help them enhance their reading instruction.
- Teachers of English as a second language should be retrained, and seminars on the teaching of reading should be undertaken at the school level, so that communicative and grammatical ineptitude can be addressed at the source. In-service training at the school level is known as school-based in-service training. It has the advantage of providing on-the-spot training for EFAL instructors rather than removing them from their posts for a defined length of time during INSET.

- To support learners with problems, school-based psychologists and AAC

specialists should be employed in schools.

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The authors affirm that there is no potential conflict of interest.

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COMPARATIVE EFFECT OF SCAFFOLDING AND CONTEXT CUEING STRATEGIES ON STUDENTS' ATTITUDE TO ENGLISH LANGUAGE READING COMPREHENSION

Osikomaiya Mojisola Olufunke

Department of Arts and Social Sciences Education
Faculty of Education
National Open University of Nigeria, Abuja

Abstract

This study compared the effect of scaffolding and context cueing instructional strategies on students' attitude to English language reading comprehension. The research adopted pre-test, post-test and control quasi-experimental research design involving 2x2 factorial matrix. The population consisted of all senior secondary class II students in public secondary schools in Ogun East Senatorial District of Ogun State. Purposive sampling was used to select two Senior Secondary School II (SSS II) classes in order to prevent interaction of participants and an intact classes of sixty students were randomly assigned to the treatment group and another intact class to control group, that is, one hundred and twenty (120) participants in Odogbolu Local Government Area of Ogun State formed the sample used in the study. Twelve weeks were used for treatment procedure. Two research hypotheses were formulated and tested using univariate analysis of covariance at 0.05 level of significant. The instruments used in the study were Students' Attitude to Reading Comprehension Questionnaire with r =0.87 and English Language Reading Comprehension Passages Test at r =0.84 reliable index. Findings revealed that there was no significant difference between the effect of Scaffolding instructional strategies and context cueing on students' attitude to English language reading comprehension. Nevertheless, findings further revealed that both the Scaffolding instructional strategies and that of context cueing have significant effect on students' attitude to English language reading comprehension (P's < 0.05). The study further demonstrated that the use of scaffolding and context cueing instructional strategies are effective in fostering students' attitude in English language reading comprehension. Therefore, the study recommended that English Language teachers should use student centered instructional strategies to improve students' attitude towards learning of English language, this is because positive attitude do enhance learning of a second language.

Keywords: Comparative Effect**,** Instructional Strategy, Context cueing, Scaffolding Instructional Strategy, Attitude, Reading Comprehension

Background to the Study

Effective communication is based on integrating the four communication skills (listening, speaking, reading and writing). An association has been recognised amongst these skills such that a good mastery of listening and speaking skills leads to good reading and writing in language. Reading skills is an important literate skill that a child must master in order to cope with teaching-learning activities especially in a second language situation. English Language is a second language in Nigeria and it is a major means of

social, political, religious, cultural and inter-ethnic interactions among various ethnic groups in Nigeria. As a result, students must be well groomed in the language which is recongnised by the constitution as an official language in Nigeria.

Reading is an entry to knowledge and without it, second language students cannot have inclusive education. Reading is one of the most fundamental components of the primary, secondary and tertiary school curricula. It could be described simply as a communication process through which information is passed from the writer to the reader by means of written symbols. It involves the recognition and understanding of the nature of the linguistic symbols that constitute written language. Reading is an active process that requires complete attentiveness and thinking ability of the reader. It is an indispensable tool of learning in various hierarchies of modern educational system. Reading is a meaningful interpretation of printed message; it is a kind of interaction between the author and the reader. Reading is described as the process of comprehending the meaning of a written text by depending on the ability to use phonic skills (i.e. knowledge of letters and sounds) to decode printed words quickly and effortlessly both silently and aloud. Reading provides avenue for leisure and entertainment, it empowers the mind, broadens the vision, deepens the horizon and helps one to reach out to people, places, events. Therefore, a student who could read and comprehend would not only preform excellently in English language subject but also in other school subjects because the extent of students' competence in reading is seen as a pointer to their academic performance. Much as English language is a medium of instruction, it should be well taught with all the skills well integrated and different teaching strategies should be used to teach the students who are second language learners of English language. As important as English is to teaching-learning situation in Nigeria, a lot of students are not performing well in English this is because students are yet to grasp the skills of comprehension and as a result students lost lot of marks because of direct lifting of 'seeming answer' from the passage (Bateye, 2018).

With a relatively simple intervention, reading can have a powerful effect on students' comprehension, thinking, knowledge of the world, and choices in higher education and life careers. Apart from this, various researches have shown that students' attitude to reading affects their proficiency in reading tasks. Since attitude is very germane in whatever one does in life, its importance cannot be neglected in teaching-learning situations (Osikomaiya & Popoola, 2021). Attitude can be learned or acquired, shaped or re-shaped and can as well motivate individuals toward achievement. Differences in attitudes towards reading have been observed in several studies. Students need to develop and sustain positive attitudes towards the teaching and learning of English reading comprehension (Osikomaiya, 2013).

Examining students' attitudes toward reading is an important and essential part of assessing their reading progress. This is because literacy development determines children's future successes both in and outside of school. He observed further that children who develop positive attitudes toward reading are more likely to enjoy reading, be willing to read and be life-long successful readers (Avallone, 2005). Oladunjoye (2003) asserted that a positive attitude on the part of the learner will most likely lead to high competence while a negative attitude will likely bring about marginal or low

competence. Agboola (2008) opined that positive attitude to school work relates directly to higher academic achievement among school children. Also, Osikomaiya (2009) opined that negative attitude to school work produces unfavourable achievement among students. Ezeokoli (1986) observed that learning and attitude involve experience and behaviour change.

Sentences in English do not occur in isolation but in a context. Guessing words from the context is the most frequent way meanings of words are discovered, and in order to do this, students have to look for a number of clues. Context cueing is sensible guessing at unfamiliar or partly unfamiliar words, and it involves conscious or unconscious use of grammatical and pragmatic clues. Lynch (2021) said that the use of context in reading comprehension indicates something quite distinct from the utilization of context in word identification. He said further that the use of context to assist comprehension should be consistently encouraged by educators. Wren (2005) observed that students often attempt to guess words based on the context or on clues provided by pictures. Landin (1994) examined the theoretical bases of verbal cues, reviewed cueing research and suggest uses of verbal cue in physical education and sports. It should be noted that learners are very active when using context cueing to arrive at the meaning of a word in a comprehension class. Both the teacher and the students are aware that meaningful and enduring learning occurs most readily as the result of an active process of meaning-making rather than a passive process of much dependence on checking of meaning from the dictionary. Context Cue which has to do with the guidance given to the learner from the text. Isolated explanations can have a positive effect on student-learning outcomes when students construct different understandings from explanation in the text on their own.

On the other hand, scaffolding is typically a temporary kind of teacher or peer support provided until the learner internalizes an understanding. Raymod (2000) defines scaffolding as role of teachers and others in supporting the learner's development and providing support structures to get to that next stage or level. Popoola (2021) observes that a good teacher will also try to identify each child's need and individualize his effort on the learner. This enables the teacher to design activities immediately above the learner's current ability, which will, to a great extent, be determined by the knowledge of the learner's present ability (Pinantoan, 2013). The organizational plan for the classroom can also provide scaffolding, for example, students acquiring English might be introduced to a concept with the whole class, work with peers in some form of collaborative learning, and then work individually to apply the concept independently. A reading recovery teacher scaffolds student beyond the boundaries of his/her knowledge to new learning. The teacher teaches by having a conversation with the students while the students read the text. This interaction is described as "a system of social interaction organized around the comprehension and production of texts that demonstrably create new forms of cognitive activity in the students". As result of these interactions, reading recovery provides an excellent venue for observing inter-subjectivity, scaffolds and learning in a social context as well as for observing the fostering of students' independence as students learn to read. Scaffold is defined as instructional strategy that provides built-in-teacher or peer assistance that permits learners to read or write text at a higher level than they could achieve unassisted.

Scaffolding is used when students might not be able to accomplish learning tasks independently. Teachers can then support their learning through structuring tasks so that students begin with something they can do; calling their attention to critical features of a new task; modelling and thinking aloud about the steps and procedures to do the new task; and providing sufficient guided and independent practice so that students make the new strategy their own.

Many students in almost all the educational levels in Nigeria struggle with the problem of low language proficiency and this language problem has substantial negative effect on their performance in nearly all the school subjects, this is seen in both students' oral and written communication in English. This situation has been attributed to English language teacher's use of ineffective methods of teaching reading. It is against this background that the study examined the effects of scaffolding and context cueing instructional strategies on students reading performance in a second language situation. Therefore, teaching strategies (scaffolding and context cueing) are expected to have a positive impact on the students' reading.

Statement of the Problem

Many students in almost all educational levels in Nigeria contend with the problem of low language proficiency and perform poorly in tasks requiring reading comprehension in English language. Reading is a key skill in teaching -learning situation. reading as a communication skill constitutes a problem to many students. Student performance in English has not been encouraging due to failure recorded at state and national examinations especially at secondary school level. A lot of students have deficiency in reading and comprehending tasks which have led to persistent deterioration in students' academic performance not only in English but also in other school subjects. Students' incapability to accomplish reading tasks partially arises from ineffective methods of teaching and negative attitude. This research is of the view that when students of varied ability levels are taught using scaffolding instructional and context cueing strategies in a reading comprehension lesson, as the students read and attempt to interpret and create meaning from such passages, their performance is likely to improve and this would have positive effect on their academic achievement and attitude to reading comprehension in English language. Hence, this study seeks to examine the comparative effect of scaffolding and context cueing instructional strategies on students' attitude to English language reading comprehension.

Hypotheses

Two null hypotheses were tested at 0.05 level of significance.

Ho1. There is no significant treatment effect of scaffolding instructional strategy on students' attitude to reading comprehension in English language.

Ho2. There is no significant treatment effect of context cueing instructional strategy on students' attitude to reading comprehension in English language.

Ho3. There is no significant treatment effect between the effect of scaffolding instructional strategy and that of context cueing instructional strategy on students' attitude to reading comprehension in English language.

Theoretical Framework

The research is based on Constructivist Theory of learning. Constructivist theory is the label given to a set of theories about learning which falls somewhere between cognitive and humanistic view. Constructivism is a set of assumptions about the nature of human learning that guide constructivist learning theories and teaching method of education. It values developmental and appropriate teacher-supported learning method that is initiated and directed by the students. Constructivist theory focuses on learner's ability to mentally construct meaning of their own environment and to create their own learning, with the belief that all human beings have the ability to construct knowledge in their own mind through a process of discovery and problem solving.

Constructivist theory of learning emphasises authentic, challenging projects that include students, teachers and experts in the learning community, and learning is done by discovery. The constructivist theory approach requires the teacher to relinquish his/her role as sole information dispenser and instead to continually analyse his/her curriculum planning and instructional methodologies (Hanley, 1994). According to Huang (2016) constructivism is regarded as scientific and effective learning theory, which can be applied flexibly into the instruction of present teaching practice because it holds that learning is a process of students' self-construction, students should be the performer and participant of all learning activity. Constructivism achieve higher result than traditional method. Therefore, the teaching model based on constructivism theories can bring out the better performance of students in their reading learning.

Teachings in constructivism promote scaffolding, meta-cognitive reflective inquiry strategies to encourage students to engage in critical thinking and response to the content. The teacher supports students' emerging understanding as the students apply their prior knowledge to construct meaning from the passage. Through this process, students take ownership of their own learning, gradually the teacher withdraws the assistance given to the students unlike a situation where the teacher takes absolute control of the learning process and students solely depend on the teacher as dispenser of knowledge.

Methodology

Research Design

The pretest-posttest control group quasi-experimental design with two levels of the independent variables: Scaffolding and Context Cueing instructional strategies. The dependent variable used in the study was attitude of secondary school students to reading comprehension in English language.

Population, Sample and Sampling Technique

The target participants of this study consisted of all Senior Secondary Class II students in public secondary schools in Ogun East Senatorial District. Ogun State is stratified into three senatorial districts and random sampling technique was used to select a senatorial district, Ogun East Senatorial District. The district has nine (9) local government areas;

random sampling technique was used to select one local government area (Odogbolu Local Government Area). At the second stage, purposive sampling technique was used in selecting four schools from the local government area. From each school, thirty students were selected and 120 students constituted the sample used in the research. The sample (120 participants) were grouped into two experimental treatment groups, that is, 60 participants for Scaffolding Instructional Strategy (Experimental I) and 60 participants for Context Cueing Strategy (Experimental II). The chosen schools were evenly distributed and were distantly located from one another so that no interaction takes place between students from the schools. A school was eligible to participate in the study if it:

(i) is a public secondary school.
(ii) has completed the S.S.I scheme of work as at the time of data collection.
(iii) is a co-educational secondary school (school consisting of male and female students).
(iv) has presented students for Senior Secondary School Certificate (SSCE) and National Examinations Council (NECO) Examinations for a minimum period of ten years.

Research Instruments

Two research instruments used in this study were:

a. Questionnaire on Students' Attitude to Reading Comprehension (QSARC). Cronbach's Alpha method was used to determine the reliability of the instrument which was 0.87.
b. English Language Reading Comprehension Achievement Test (ELRCAT). A test re-test method was used to establish reliability of the test. The reliability co-efficient was 0.84.

Data Analysis

Data collected were analysed using descriptive statistics, t-test, and univariate analysis of covariance at 0.05 level of significant.

Research Procedure

The research was carried out in five phases. Twelve weeks were used for treatment procedures. Initially six schools were selected and visited. Thereafter two schools were selected based on geographical reasons in order to avoid interaction and reasonableness of the school system to accommodate the research:

Phase One: The researcher visited the two selected schools to seek for permission to carry out the research in the schools. During this visitation, English language teachers who served as research assistants and participants were selected. The teachers were selected based on the following criteria:

a. Between 8-10 years teaching experience

b. University graduate (First Degree) with B.Ed. in English Language.

c. Gender made up of both male and female. This phase lasted for one week.

Phase Two: The investigator organised a training programme for the research assistants who were trained. A total of four teachers were selected using Teacher's Observation Rating Scale (TORS). Two teachers were trained on how to use Scaffolding Instructional Strategy to teach reading comprehension to students in the experimental group. Two other teachers were used in the control group were exposed context cueing instructional strategy. At the end of the training programmes, demonstration lessons were conducted by the researcher to serve as model to the research assistants. This lasted for two weeks

Phase Three: Adequate briefing was made to explain the purpose of the study to the participants. The questionnaires were administered to the participants as the pretest assessment tools. The questionnaires were collected; days and time the research assistants would meet with the students were agreed upon with the two group.

Phase Four: The treatment was administered to the students for a period of 8 weeks in their respective treatment groups.

Phase Five: After the treatment, a week was used to administer achievement test to the participants as post-test. The questionnaires were collected after completion.

Treatment Procedure for Scaffolding Instructional Strategy

Procedures of Scaffolding Strategy (Experiment group I) **Step I:** The teacher explained that reading involves thinking and making sense of what is read (5minutes). **Step II:** Teacher prepared and spurred the students' interest in reading comprehension by asking those questions that would stimulate their prior knowledge on the passage they were going to read. Teacher elicited students' experiences related to the topic read. (10minutes). **Step III:** Students read the passage silently. They later read aloud to get the story within the passage. As they read, they verbalised their thoughts and shared their reading experiences as the teacher further modelled desired behaviour in them through questions and comments generated from both the teacher and the students. (15minutes). **Step IV:** Teacher provided assistance with the students helping out. The students took over the task with the teacher helping and intervening when necessary. Teacher watched without assisting the students as they used the strategy independently. (5minutes). **Step V:** Teacher and the students further explored the passage; by responding to specific questions, the students shared their understanding of what the passage meant. (5minutes). Step **VI:** Support in the form of explicit teaching continued until students understood the passage (5minutes). **Step VII:** The students answered the comprehension questions. (15minutes). Lastly, sixty minutes (60) was used for a class session.

Treatment Procedure for Context cueing Instructional Strategy

Instructional Procedures of Context Cueing Strategy (Experimental Group II) **Step I:** The teacher explains the meaning of unfamiliar words so that the reader does not have to break the flow of the text. Students should be provided many opportunities to examine unfamiliar words in rich context through the use of synonyms, definition, explanation, antonyms and inference type of clues. Teacher explains to the students that using context cue to infer the meaning of unknown word is to reduce much dependence on dictionary. (10minutes). **Step II:** Students read the passage loudly and silently to find out what the passage is all about. Then do the following instructions: circle the unknown words and

write the words below the passage, think about what the words might mean, and jot down some of their thoughts. They might consider their past experiences with something similar, the part of speech of the word, what the word cannot be and what it might be. Description cues can also be used, they give clues as to the sensual aspects of unknown words (its appearance, smell, taste, feel, or sound) or the action the word indicates or the purpose the word has (12minutes). **Step III:** Teacher encourages the students to use five types of context cues for determining the meaning of a word in reading material. They are **definition, experience comparison and contrast, synonym**s (13minutes). **Step IV:** Teacher gives verbal explanations and tries to complete and be explicit in presentation and discussion with the students. (10minutes). **Step V:** The ideas in the passage are explored by the teacher and students. Students' read the text the second time now that the previously unfamiliar words have been known. (5minutes). **Step VI:** Students answer comprehension questions. (15 minutes). Sixty minutes (60) was used to teach experimental group II.

Data Analysis and Interpretation

Hypotheses 1: There is no significant treatment effect of scaffolding instructional strategy on students' attitude to reading comprehension in English language

Table 1: Independent t-test sample statistics showing treatment effect of scaffolding instructional strategy on students' attitude

Group	N	Mean	SD	Std. Error	Df	T	Sig of t
Control	60	53.4785	5.45698	0.54	119	18.99	0.000
Experimental	60	70.3500	7.93368	0.49			

The result in table 1 revealed a significant outcome ($t=18.99$, $p<0.05$). This implied that students in Experimental Group I (Scaffolding Instructional Strategy) and Control Group (Modified Traditional Method) revealed significant difference between the two groups. Hence the hypothesis of no significant treatment effect is by the above rejected. Thus, there is a significant treatment effect of scaffolding instructional strategy on students' attitude to reading comprehension in English language

Hypotheses 2: There is no significant treatment effect of context cueing instructional strategy on students' attitude to reading comprehension in English language

Table 2: Independent t-test sample statistics showing treatment effect of context cueing instructional strategy on students' attitude

Group	N	Mean	SD	Std. Error	Df	T	Sig of t
Control	60	50.5897	7.5692	0.69	119	15.986	0.000
Experimental	60	69.1167	9.46911	0.58			

The result in table 2 revealed a significant outcome (t=15.986, p<0.05). This implied that students who are exposed to Experimental Group II (Context Cueing Instructional Strategy) and Control Group (Modified Traditional Method) revealed significant difference between the two groups. Hence the hypothesis of no significant treatment effect is by the above rejected. Thus, there is a significant treatment effect of context cueing instructional strategy on students' attitude to reading comprehension in English language

Hypotheses 3: There is no significant differences between the effect of scaffolding instructional strategy and that of context cueing instructional strategy on students' attitude to reading comprehension in English language

Table 3: Tests of between-subjects' effects of post-test students' attitude to reading comprehension

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	49.756[a]	2	24.878	.323	.724
Intercept	8662.699	1	8662.699	112.619	.000
Attitude pre-test	4.122	1	4.122	.054	.817
Instructional strategies	47.008	1	47.008	.611	.436
Error	8999.711	117	76.921		
Total	592578.000	120			
Corrected Total	9049.467	119			

a. R Squared = .005 (Adjusted R Squared = -.012)

The results in Table 3 indicated that there was no significant effect of instructional strategies (scaffolding and context cueing) on students' attitude to reading comprehension ($F_{(1, 117)} = 0.611$; $p > .05$). The two hypotheses which stated that there is no significant effect of instructional strategies (scaffolding and context cueing) on students' attitude to reading comprehension were not rejected by this finding. The implication of the finding was that both instructional strategies have similar gains on students' attitude to reading comprehension.

Table 4: *Descriptive statistics of the posttest students' attitude to reading comprehension*

Treatment Group	**Mean**	**Std. Deviation**	**N**
Scaffolding Instructional Strategy	70.3500	7.93368	60
Context Cueing Instructional Method	69.1167	9.46911	60
Total	69.7333	8.72043	120

The result in Table 2 revealed that participants in the scaffolding instructional strategy group had a mean score of 70.35 with a standard deviation of 7.93 whereas participants in

the context cueing instructional strategy group had a mean score of 69.12 with a standard deviation of 9.47. Table 2 also showed that based on the sample of the study, scaffolding instructional strategy had higher means attitude compared with context cueing instructional strategy and that the difference is not significant, therefore cannot be generated to the population.

Discussion

The study revealed that scaffolding and context instructional strategies significantly develops students' attitude to reading comprehension positively. It was discovered that both instructional strategies have similar gains on students' attitude to reading. This may be because the strategies are both activities-oriented and students are highly motivated by the two strategies. Osikomaiya (2020) noted that students exposed to activity-based methods performed significantly better than those who were not. Osikomaiya and Popoola (2020) submitted positive attitude often leads to successful learning and that students learn more effectively and achieve better when they are interested in what they learn. Meanwhile, Bateye (2018) citing Oguntade (2000) and Ayanniyi (2009) was of the opinion that the development of the right attitude to learning by students is crucial to the attainment of good performance in any learning endeavour. Also, Fakeye (2010) reveals a positive relationship between students' attitude and their achievement in English Language. Jueli (2008) opined that adequate methodology which emphasize active student engagement improves reading attitude towards English reading comprehension.

Also, Mohammed (2012) discovered in his study that scaffolding has a positive effect on learners' reading comprehension and motivation scores. He said Instructional Scaffolding is, therefore, an effective model for teaching reading, and such an instruction influences the development of higher functions and skills beyond the confines of a learner. The result of this study is supported by Osikomaiya (2013), Mohammed (2012) and Walqui (2006) which confirmed the claim that scaffolding do promote teaching and learning of reading. Soliba et al. (2020) found that the reading attitudes of the students turned positively through the use of the strategies, leading to a conclusion that reading strategies and reading attitudes are complementary. Based on the above language teachers should use innovative techniques in the teaching of reading aspect of English language.

Conclusion

This study has demonstrated that the use of instructional scaffolds and context cueing strategies are similarly effective in promoting students' attitude to English reading comprehension. In addition, the use of conversational dialogues which the two strategies embodied ensured students' engagement and active participation in English language lessons. Based on the above, teachers of English language should make efforts to use student-oriented instruction strategies that will enhance teaching and learning of English in a second language situation. Positive attitude and great level of interest and motivation are well established factors to successful reading activities.

Recommendations

Scaffolding and context cueing instructional strategies are recommended for use in the teaching of English language reading comprehension in secondary schools because it has

great effect on students' attitude to reading. The teachers of English Language in Nigerian secondary schools should be encouraged to develop interest in the use of student-centred instructional strategies in order to enhance students' attitude to reading activities in English comprehension and in all school subjects generally.

Also, curriculum planners and experts in English Language should design curriculum that are students' activity based. Workshops and seminars should be organised regularly for language teachers and teachers should be exposed to the use of scaffolding and context cueing instructional strategies, this is because developing a right attitude to reading tends to had positive effect on students' achievement. Scaffolding and context cueing instructional strategies have been found to be active and worthwhile alternatives to the conventional method that is in practice in most of the schools in Nigeria. Scaffolding and context cueing instructional should be used to promote positive attitude of participants to learning English language reading comprehension and English language as a school subject.

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ENVIRONMENTAL, HEALTH AND DEMOGRAPHIC STUDIES

ENVIRONMENTAL DEGRADATION AND SUSTAINABLE DEVELOPMENT IN NIGERIA

[1]Lawal Yusuf Oke, [2]Aberu Felix, [3]Lawal Oyindamola Oluwatoyin & [4]Adebosin Walid Gbadebo

[1]Department of Economics
Olabisi Onabanjo University, Ago-Iwoye, Nigeria

[2]Department of Economics,
Tai Solarin University of Education, Ijagun, Ijebu Ode, Nigeria

[3]Department of Administration
Olabisi Onabanjo University, Ago Iwoye, Nigeria

[4]Department of Cooperative Economics& Management
Lagos State Cooperative College, Nigeria

Abstract

The risk associated with increased pressure on environmental resources in Nigeria has raised serious concern in recent times. Despite its huge endowment, achieving sustainable development remains threatened. Also, the plethora of studies on the relationship between environmental degradation and sustainable development have not sufficiently addressed the concerns. Wadding the research gap, this study examined the effect of environmental degradation on sustainable development in Nigeria. Ex-post-facto research design was employed. Secondary time series data from 1990 to 2020 were sourced from World Development Indicators (WDI), Human Development index and Human Development Report (HDR). It applied Endogeneous Growth Theory, while data were analysed using Descriptive Statistics, Autoregressive Distributed Lag (ARDL) and Ramsey Regression Specification Error Test (RESET). The results revealed that environmental degradation has negative significant effect on sustainable development in Nigeria. The study concluded that poor management of environmental resources hampered sustainable development and recommended that there is need for government to make legislation to protects the environment from its abysmal usage, holistic review of environmental policies and strategies, which can help develop responsible traits to protect the environment.

Keywords: Environmental Degradation, Sustainable Development, Human Development Index, Carbon Emission

Introduction

Environmental concerns have gradually come to be viewed in relation to socio-economic development. The rising concern of environmental issues has received world attention. It has now been globally accepted that, no country can afford to ignore management and protection of its environmental resources. It is well documented in the literature that the challenges associated with environmental degradation are often linked with process of

development and therefore have effects on local, regional and global levels (Ogboru & Anga, 2015).

In Africa, the perceived uncontrollable human activities on the environment in the quest for development have raised huge concern. The yearnings for industrial growth have generated a considerable empirical argument on how the growing economic activities of this present generation would not jeopardize future sustainable growth. These environmental activities, particularly, the human activities have created a mixed reaction despite increased sensitization and intergovernmental agencies programmes tailored towards protecting environment.

In Nigeria, environmental degradation which is the aftermath effect of both industrial and human activities has constituted a negative externality and a source of nuisance to the environment where environmental protection has becomes a cardinal issue of concern. Records have shown that between 1990 and 1995, Nigeria experienced 271% increase in the greenhouse gas emission. It rose consistently in 1996 and consequently decreased in 2001 before the more recent rise (Hansen, 2020). In recent years, the sharp decline in emissions recorded was primarily from carbon monoxide (CO2) emissions from fossil fuel combustion, and was largely due to the coronavirus (COVID-19) pandemic-related reduction in transport and economic activity(HDI, 2020). The troubling trend of environmental degradation if unabated may create an increasing realization of dangers posed to human life and prosperity of our basic resources (land, air, water and vegetation) in quest for development.

According to the International Energy Association (2019), Nigeria emitted 104.27 MtCO2 in 2018. This figure represents an increase of 271.6% from 1990 levels even though it does not produce nearly as much as greenhouse gas population as the United States and China. It produces the 3rd highest amount of Green House Gasses (GHG) in Africa, just behind South Africa and Zambia. In 2016, Nigeria was solely responsible for 0.97% of the total GHG emissions in the world (Hansen, 2020). This posts serious risks on the standard of living central to the implementation of sustainable development (Dana et al., 2020), as negative effect of environmental degradation to human health remains unabated (Kayode & Samuel, 2015). One would wonder if the three standard concepts of sustainable development (economic, social and environment) can be achieved in the nearest future where no one would be exonerated from its attendant consequences. The devastating consequences have reawakened the interest of policy makers to strengthen the implementation of environmental protection act, especially in the dumping of toxic waste and mismanagement of CO2 emissions in Nigeria.

Admittedly, oil exploration and exploitation in the South-South region of Nigeria since the early 1980s accounted for the poor welfare and created security bottleneck (Inyang, 2019). Since the discovery of oil, the natural environment has experienced a precipitous decline following a windfall boom from oil. This oil producing communities have witnessed uncontrollable oil spills and the attendant consequences are severe and hazardous (Jimoh, 2006). The perceived government's insensitivity and high level poverty in Ogoni land orchestrated by environmental pollution and land pressure

necessitated the civil action instituted by the Social Economic Responsibility Accountability Project (SERAP, 2001) on behalf of people of Ogoni land against the federal government of Nigeria in 2001. This ambience of oil spillage and government insensitivity to the welfare of Nigerian has been engendering soil, water and air pollution. The consequences of these in terms of health implications are that human beings, animals, and plants have been adversely affected to the extent that people now spend more on medical treatment. These consequences led to enactment of the harmful waste law (Special Criminal Protection Act,1990) and the Federal Government Protection Agency Act as amended by decree 59 of 1992.

Despite this measure toward protecting the environment to achieve sustainable development, the eco-migration within the borders of Nigeria nation has been growing worse as global warming swells the sea level, increases the frequency and severity of coastal storms which consequently led to climate change with huge security risk to the national development, where thousands of people leave their settlement in lowlands to uplands(Ikoni, 2010).

World Bank (2003), noted that Nigeria gas flaring has contributed more greenhouse gas emissions than all other sources in sub-Saharan Africa combined. This implies that the 70 million tons of carbon dioxide would have made Nigeria the world's 42nd biggest emitter of carbon dioxide from fossil fuel and cement manufacture in 2000, over Switzerland, Sweden and Portugal, Norway. in 2004, World Bank also recorded that the annual financial loss to Nigeria from gas flared in Niger Delta has been put at about US $ 2.5 billion. It has increased with localization of industries across the four-cardinal compass of the country. The Nigeria environment is therefore largely threatened by man through social and economic activities, while its problem arisen as a result of lack of discipline. This places Nigerians at disadvantages, as it leads to fall in the standards of living, increased health challenges, population conflicts or violent between groups striving for a dwindling resource. This makes Nigeria's quest for sustainable development unrealistic, and its future is being threatened by malicious human activities on the environment. It is against this background that this study examines the effect of environmental degradation and sustainable development in Nigeria between 1990 and 2020.

Concept of Environmental Degradation

World Bank (1991) defined environment as the social and natural conditions surrounding humanbeing including future generations. Bayode, Emmanuel and Sogbon (2011) noted that environment is made up of biophysical components and processes of natural environment of land, water and air. National Conservation and Environment Protection Act (1987) further defined environment as the physical factors of the surrounding of human beings, land, soil, water, atmosphere, climate, sound, odour, taste and the biological factors of animals and plants. While Federal Environmental Protection Agency Act (1992) gave a robust definition of environment to include water, air, land, and all plants and human beings, or animals living there in and the interrelationships which exists among any of them. Therefore, it is apparent that modern economic activities in

terms of production and mining operations require pressure on the environment, which have been very lugubrious and destructive as far as our environment is concerned.

Environmental degradation is defined as the deterioration of the environment through human activities resulting in the depletion of resources, contamination of air, water, and soil, the destruction of the ecosystems and the extinction of flora and fauna (Ogboru & Anga, 2015). IIkoni (2010) defines environmental degradation as the contamination of soil, air and water through application of noxious substances. However, when the environment is contaminated by noxious substances, it generates pollution. Thus, pollution is defined pursuant to section 38 of the Federal Environmental Protection Agency Act,1990 as Man-made alteration of chemical, physical or biological quality of the environment to the extent that its detrimental to that environment beyond acceptable limit (FEPA,1990). These human activities have manifested itself in the magnitude of greenhouse gas emission witness in Nigeria on daily basis. Also, exploration and exploitation of a non-renewable resource such as crude oil usually causes some environmental damage which affected inhabitants in which the subsistence component of their economy hinges on agriculture.

GEMET (2021) defined environmental degradation as the process through which the natural environment is compromised in some way, reducing biological diversity and the general health of the environment. Corroborating the above, United Nations International Strategy for Disaster Reduction (2010) defined environmental degradation as the reduction in the capacity of the environment to meet social and ecological objectives, and needs. In summary, environmental degradation is the deterioration of the environment through the depletion of resources.

Sustainable Development

The term development refers to the quantitative and qualitative exchange in an economy where such economic activities involve growth in the gross domestic product and improved well- being. However, this wellbeing transformation involves multiple areas of development such as; human capital, infrastructure, regional competiveness, environmental sustainability, social inclusion, health, safety, literacy and other initiatives (Dang, 2013). Todaro (1997) defined development as process that has many sides including economic, social, political and educational advancement. While economic development by way of definition implies even or equitable distribution of wealth with a greater percentage of the people living standard of an overall population (Ogboru 2006).

Sustainable development therefore is the development that meets the needs and yearnings and aspirations of the present generation without compromising the ability of future generations to meet their own needs (Oyeshola, 2008). This suggests that sustainable development aims at maintaining economic advancement, sustainability and progress while protecting the long-term value of the environment; it also provides a platform for the integration of environmental policies and development strategies (Purity, Ifeoma & Eucharia, 2020).

United Nation/UNECE/OECD 2008 joint report provided further clarification on the concept of sustainable development as increasing well-being over a very long time. It is the one that does not reduce the productive base or the productive ability of the future generation (Inyang, 2019). Economically speaking, sustainable development process is dynamic and can only work through economic activities taken to achieve human-centered development (Ogboru & Anga, 2015). These development processes include:

1. Meeting the basic needs of all people on the planet earth and help them live a secured life
2. Pragmatic and progressive development based on the level of knowledge available to them, their social organization and how they apply themselves.
3. Globalization, which supports sustainable patterns of trade and financial relations that engenders world peace.
4. Flexible political and administrative structures that have the capacity for self-correction to engender development.
5. Economic growth that has relationship with environmental sustainability that sustains human security.
6. Basic human needs that supports livelihoods and reduces poverty is a human peace initiative.

Admittedly, there is the need to preserve both human and material resources in the pursuit of sustainable development. To achieve this, it beholds on individuals and corporate organisations to engage in socio-economic activities which are compatible with the needs of man and less pressure on the environment. Thus, the main focus of sustainable development is the long-term sustainability of the economy and environment. It can only be achieved through the integration and recognition of economic, environmental, and social concerns throughout the decision-making process.

In recent times, the south-south region of Nigeria witnessed exploration and exploitation of oil which by implication has some negative impacts on its environment. A number of communities in the region witnessed local gas flares which caused acidic rain, through transpiration process and corroded the metal sheets used for roofing. These toxic substances emitted in the flares for over 40 years, including benzene and particulates, have exposed the inhabitants of Niger Delta communities to serious health risks. It also contributed to damage of their property which violates their fundamental human rights as enshrined in Chapter IV of the Constitution of Federal Republic of Nigeria 1999 (as amended). The effect of the gas flares is conspicuous in the level of their livelihood. It has exposed them to a premature death; child respiratory illnesses, asthma and cancer, as well as acid rain with increased out of pocket expenditure.

Causes of Environmental Degradation

Environmental degradation is the disintegration of the earth or deterioration of the environment through the consumption of natural assets (air, water and soil). This process involves human activities which are principally caused by the followings;

***Population Growth*:** The population of Nigeria tends to grow at an alarming rate. Records have shown that Nigeria's population was estimated at around 216.7 million, between 1965 and 2022(NPC,2022). This implies that the number of people living in

Nigeria increased at an average rate of over two percent which makes it the 6th most populous country in the world. The economic implication is that the increment would lead to acquisition of more land to engage in productive activities for living. Due to population increase, human activities in quest for sustainability has been unabated with unfriendly destruction of the environment; and by extension, leads to emission of greenhouse gasses.

***Corruption*:** This is a cankerworm that has eaten into the fabric of the system, ravaged and truncated the economy of Africa especially Nigeria. It is unequivocally a developmental issue. This is because it impedes development and minimizes the capability of government to reduce poverty. Nigeria's corruption structure is a critical impediment at the nucleus of development of society. The former minister of finance labeled Nigeria as "fantastically corrupt" nation due to inability of government to address the menace. Corruption has become endemic and which has ravaged the entire Nigerian System thereby making other nations of the world to perceive nationals as the most corrupt people in the World. Corruption Perception index place Nigeria on red pedestal making it impossible to redeem its early glory as one of the most corrupt countries in world (Transparency International, 2001). Corruption makes it impossible for various policies, statutory environmental provisions to be strengthened on the land.

***Poverty*:** Extreme poverty strikes when household resources prove insufficient to secure the essentials of dignified living (Purity, Ifeoma & Eucharia, 2020). The consequences of persistent poverty include insufficient food, children out of school, diminution of household back-up resources and exclusion from valuable social networks (Kaplinsky, 2001). Poverty in Nigeria is a huge threat to humanity in particular and Africa economy in general. It is a bane to economic growth and development and has simultaneously frustrated and undermined the dreams and aspirations of great giants. Poverty is a condition of being extremely poor and the inability of an individual to command sufficient resources to satisfy basic needs. This poor state apothegmatically describes the situation of Nigeria with high integrity decay. It has manifested itself in high level of illiteracy, over-reliance on foreign counterparts, insecurity and poor governance. Financial Derivatives Company (FDC) stated that Nigeria has maintained its position as the poverty capital of the world with 93.9 million of Africa's most populous country currently living below the poverty line. The quest for sustainable economy is not feasible given the increasing nature of environmental degradation.

***Political Instability*:** Nigeria has witnessed political instability in the recent times. It is at present the epicenter of political instability in Africa. Political instability does not enhance good governance as there would be politically motivated programs that might create more harm than good to the environment.

Consequences of Environmental Degradation

a. Health Implication

The concentration of greater number of people in most urban areas of Nigeria has asserted pressure on land space for the production of food, infrastructure, housing and industrialization (Structural Transformation and Natural Resources, 2013). This

exacerbates the environment, as additional persons result in increase in the demand of infrastructure and eventually results in ecological imbalance which comes with adverse environmental hazards and disaster. Population growth should necessarily be supported with corresponding socio-economic growth so that basic amenities and infrastructures are not overstretched.

b. Environmental Implication

The population and industrial growth in the urban areas has serious economic implication on deforestation process. The overall effect of the process of deforestation calls for serious concern. This is because forests are supposed to be protected and reserved for the immediate environment. The symbiotic relationship between the environment and human is indeed very crucial. The oxygen emission from trees plays a vital role in human healthy living. The forest is supposed to serve as shield for breath, soils beneath, especially from direct impact of downpours, high temperatures and destructive winds. The ecological consequences can be seen in erosions, floods, environmental degradation and instability.

c. *Social Implication*

When the nature is overstressed owing to population pressure, social menace becomes more prevalent in the environment. For instance, insurgence and banditry and incessant onslaughts by Fulani herdsmen are occasioned by vegetation. These various attacks on famers in quest for open grassing have caused lots of havoc to lives and properties. This menace has diverted the attention of government from other economic profitable projects to security, thereby slowed down economic development and reduced productivity drastically. Most states of the federation bedeviling with activities of the Fulani herdsmen are living in perpetual fear. The economic implication is that , the price of commodities now skyrockets, thus, raised the consumer price index and meted untold hardship on the entire populace.

Empirical Review

Purity, Ifeoma and Eucharia (2020) examined the challenges militating against environmental sustainability and sustainable development in Nigeria. The study adopted exploratory research design. It found that environmental degradation, corruption, poverty, youth restiveness, political instability, Boko Haram insurgencies are the major challenges confronting environmental sustainability and sustainable development in Nigeria. Inyang, (2019) in his study examined environmental degradation and sustainable development in the south - south region of Nigeria and submitted that environmental degradation has devastating effect on individuals, society and economy. It pointed out the major cause of environmental degradation which includes increased pressure on environmental resources by the population in various degrees.

Kayode and Samuel (2015) in their study examined environmental degradation and sustainability in Nigeria with reference to education. It adopted context analytical approach and found that attitude towards environment was unfriendly. The study recommended environmental education as a panacea for environmental degradation. Ogboru and Anga (2015) in their study examined the effects of environmental degradation and the risk it poses to sustainable economic development in Nigeria using theoretical approach. The study submitted that a high number of cases of diseases such as

cancer, tuberculosis and viral diseases are consequences of environmental pollution which poses great challenge to sustainable economic development.

Methodology Adopted for this Study

In the literature, attempts were made to operationalize sustainable development. However, few studies accounted for statistical measurement of sustainable development. Furthermore, a few of these plethora studies were unable to stablish the nature of relationship that exists between environmental degradation and sustainable development in Nigeria. This study moved away from the previous empirical studies and operationalizes sustainable development in the perception of Human Development Index (HDI) which is a statistic composite index of life expectancy, education and per capita income indicator following the works of Hollanders (2019) and Dana et al. (2020). Moreso, most of these studies used qualitative analysis. This study departed from the existing literature by employing quantitative statistical analysis to establish the nature of relationship between environmental degradation and sustainable development in Nigeria. It relied on endogenous growth theory. Economically speaking, it is well documented in the literature that for a nation to experience an enduring sustainable development, there must be a long run perpetual growth across all the sectors, where most growth variables are endogenously determined. Thus, the endogenous model is expressed as;

$Y = AK^{\beta} L^{(1-\beta)}$ (1)

Where Y= output
A= total factor productivity
K= domestic investment
L= labour

The above equation is further expressed and modified in a linear form as;

$$HDI = \beta_{\circ} + \beta_1 CEPC + \beta_2 GFCF_t + \beta_3 POPG + \varepsilon_t \quad (2)$$

Where HDI= Human Development Index
CEPC = Carbon emission per capita
GFCF= Gross fixed capital formation=Domestic investment
POPG= Population growth rate

Similarly, the bid to investigate the long run and short run impact of environmental degradation and sustainable development in Nigeria within the framework of ARDL approach by Pesaran, Shin &Smith,(2001) demands the specification of the model using the ARDL bound test to cointegration. Thus, the equation is specified as;

$$\Delta HDI_t = \beta_{\circ} + \sum_{i=1}^{N1} \delta_1 \Delta HDI_{t-k} + \sum_{j=0}^{N2} \delta_2 \Delta CEPC_{t-k} + \sum_{j=0}^{N3} \delta_3 \Delta GFCF_{t-k} + \sum_{j=0}^{N4} \delta_2 \Delta POPG_{t-k} + U_t \quad (3)$$

Equation (3) presents standard ARDL modeling which comprises short-term and long-term parameters of the repressors. However, δ_{t-1} is the lagged error correction coefficient calculated

$\delta_{t-1} = HDI_{t-1} - \emptyset CEPC_{t-1} - \varphi GFCF_{t-1} - \omega POPG_{t-1}$ is expected to be negative and statistically significant for long run equilibrium to exist.

Results and Discussion

Table 1 shows the summary of the descriptive statistics used in the relationship between environmental degradation and sustainable development for the study period 1990-2020 in Nigeria. The results revealed that domestic investment and human development index of 27.97681 and 0.489677 are the highest and lowest average mean values respectively. Similarly, the highest and lowest standard deviations for domestic investment and human development index are 11.587 and 0.037 respectively. Also, all the variables exhibited positive skewness except population growth which exhibited negative skewness of -0.925

Table 1: Descriptive statistics Results (1990-2020)

	HDI	**CEPC**	**GFCF**	**POPG**
Mean	0.489677	0.608710	27.97681	2.570903
Median	0.470000	0.660000	26.06000	2.565000
Maximum	0.630000	0.830000	53.12000	2.760000
Minimum	0.460000	0.430000	14.16870	2.250000
Std. Dev.	0.037281	0.140635	11.58731	0.094326
Skewness	1.975735	0.052710	0.461122	-0.925341
Kurtosis	7.428828	1.426053	2.036491	5.590627
Jarque-Bera	45.50365	3.214214	2.297727	13.09282
Probability	0.000000	0.200467	0.316997	0.001435
Sum	15.18000	18.87000	867.2813	79.69800
Sum Sq. Dev.	0.041697	0.593348	4027.972	0.266921
Observations	31	31	31	31

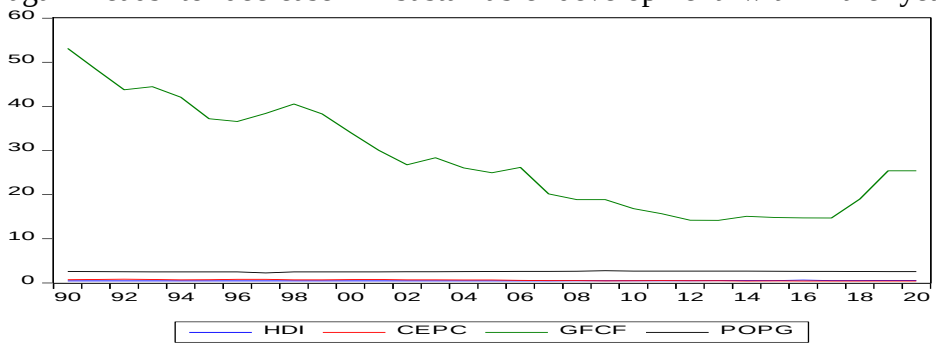
Authors' compilation from E-Views 10 software, 2022

Furthermore, the Jarque-bera test for all included variables found that all the variables are normally distributed except human development index and population growth at different significant levels. Similarly, the same human development index and population growth showed level of significance based on their probability values.

Graphical Analysis

The relationship between environmental degradation and sustainable development is exhibited in Figure 1. Gross fixed capital formation a proxy for domestic investment exhibited downward trend between 1990-2017 in Nigeria. It picked up between 2017 and 2019. This perhaps was largely attributed by the economic recovery and growth plan policy. It maintained straight line between 2019 and 2020. This explicitly reflects the outbreak of COVID -19 pandemic experienced globally where economic activities were affected. In specific term, carbon emission exhibited steady spiral movement with the population growth rate between 1990 and 2020. This suggests that increase in population growth brings about increase in human pressure on the environment in Nigeria which

again leads to decrease in sustainable development within the year under review.



Source: Author's compilation (2022)

***Figure** 2: Trend of Human development index, Carbon emission per capita, Gross fixed capital formation and Population growth rate (1990-2020*)

Pre-Estimation Techniques Results

Unit Root Test

Table 2 reports the Augmented Dickey Fuller (ADF) unit root test. It found that all the included variables are stationary at first difference integrate order, I(1) except for the dependent variable-human development index (HDI), at integrate order of two, I(2) in this study. This established that the included variables dataset are stable at mixed integrate order of two, I (2) and one I (1). Although, no variable was stationary at integrate order of zero, I(0). Hence, all the included variables are stationary at first and second difference, and thus a mixed stability order exists among the variables in this study.

Table 2: Unit root test

Variable	ADF Unit Root Test			
	Level	1st Difference	Difference	Integrate Order
HDI	-2.998**	-3.75***	-2.63*	I(2)
CEPC	-3.67***	-2.62*	-2.96**	I(1)
GFCF	-3.67***	-2.62*	-2.967**	I(1)
POPG	-2.62*	-2.67**	-3.67***	I(1)

Source: Authors' compilation from E-Views 10 software, 2022

Note: (a) *, **, * significant at 1%level, 5%level and 10%level of significance**

Table 3: Correlation Matrix

	HDI	CEPC	GFCF	POPG
HDI	**1.000000**			
CEPC	-0.735658	**1.000000**		

GFCF	-0.616714	0.847818	**1.0000000**	
POPG	0.376587	-0.733414	-0.682113	**1.000000**

Table 3 reveals the correlation relationship between sustainable development and environmental degradation proxied by carbon emission per capita and the following set of control variables (gross fixed capital formation and population growth rate). Iyoha, (2004) argued that multicollinearity in variables occurs when the result of the correlation coefficient is greater than 0.95. Hence, It shows that the correlation coefficients among the variables are not above 0.95, indicating that there is no tendency for multicollinearity to occur among the independent variables. Explicitly, while other variables are negatively correlated with HDI, population growth rate is positively correlated with HDI (0.37). The economic implication of this relationship is that all the components of environmental degradation in this study, except for population growth rate influenced human development index of Nigeria negatively. Increase in the population growth does not translate to low human development index except where government fails to carry out her own welfare function. This suggests that population growth increase will not deter achievement of sustainable development growth in Nigeria all things being equal.

Co-integration Bound Test

Since all the variables are stable at mixed integration orders of one and two then, the ARDL Bound test was considered appropriate for the joint variables long run relationship in this study(Pesaran et al., 2001). Table 4 below found that all the included variables in the model have a linear joint long run relationship in this study. The trace statistics values are also greater than the probability values at 5% level of significance. This implies that all the variables exhibit long run relationship. Furthermore, the stationarity test of the variables which was presented in table 2 above indicated that all the variables are stationary at first and second order of integration. This necessitated the use of Auto Regressive Distributed lag method (ARDL). The ARDL OLS showed the short-run and Long-run OLS estimates. The error correction term (ECT) values of -0.63 and 3.67 at 5% level of significance confirm the expected negative and statistical significance level of the error correction term and thus, confirmed a long-run relationship existence in the specified model of this study. The long run OLS estimation methods from ARDL found that environmental degradation significantly influenced sustainable development negatively in the face of current economic reality in Nigeria. The economic implication is that the more the damage on our natural resources through environmental degradation, achieving sustainable development becomes difficult in Nigeria. This would also affect the sustainable development agenda of 2030. Moreso, the value of adjusted R-Squared revealed that the variation in human development index is 57% explained by carbon emission per capita, domestic investment and population growth in the model over 1990-2020 in Nigeria. The Durbin-Watson statistics value of 2.27 indicated no presence of serial- correlation.

Table 4: ARDL (1, 0, 0, 0) estimates

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
HDI(-1)	0.372657	0.189081	1.970881	0.0599

CEPC	-0.151768	0.082028	-1.850214	0.0761
GFCF	-0.000230	0.000877	-0.262762	0.7949
POPG	-0.081053	0.081696	-0.992130	0.3306
C	0.615187	0.299489	2.054121	0.0506

R-squared	0.647010	Mean dependent var	0.490667
Adjusted R-squared	0.590531	S.D. dependent var	0.037502
S.E. of regression	0.023998	Akaike info criterion	-4.470701
Sum squared resid	0.014397	Schwarz criterion	-4.237169
Log likelihood	72.06052	Hannan-Quinn criter.	-4.395992
F-statistic	11.45586	Durbin-Watson stat	2.277070
Prob(F-statistic)	0.000020		

*Note: p-values and any subsequent tests do not account for model selection.

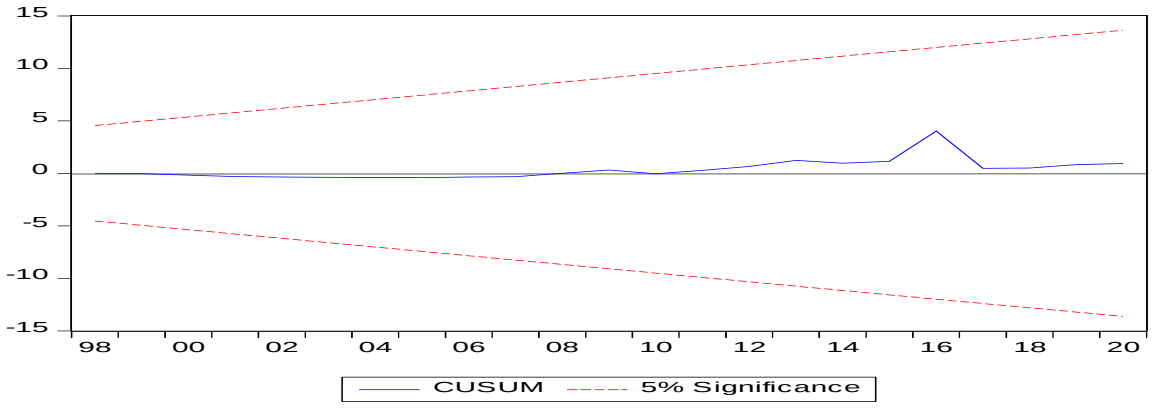
Post-Estimation Regression Results

Table 5: ECM Estimates

Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CointEq(-1)*	-0.627343	0.169475	-3.701681	0.0011

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	2.362491	10%	2.37	3.2
K	3	5%	2.79	3.67
		2.5%	3.15	4.08
		1%	3.65	4.66

In the same vein, CUSUM post test was conducted to establish the stability of the variables considering the critical value at 5% level of significance. The results revealed that the critical value falls within 0 and 5% which confirmed stability of the variables overtime.



Source: Author's compilation (2022)
Figure 3. CUSUM test

Similarly, Ramsey RESET test was conducted to confirm whether the model was well specified using the F-statistic value (4. 28E-05) and the P-value (0.9948). It was revealed that the F-statistic is greater than the P-value. This suggests that the model of the study is well specified. Breusch-Godfrey Serial Correlation LM Test was also conducted as shown in figure 7 below which revealed that there is no serial correlation amongst the independent variables and the error term considering its F-Statistic value which is greater that probability value at 5% level of significance.

Table 6: Ramsey RESET Test

	Value	Df	Probability
t-statistic	0.006543	24	0.9948
F-statistic	4.28E-05	(1, 24)	0.9948

Table 7, Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.519500	Prob. F(2,23)	0.2400
Obs*R-squared	3.501286	Prob. Chi-Square(2)	0.1737

Conclusion

This study probed into the relationship between environmental degradation and sustainable development in Nigeria between 1990 and 2020. Preliminary test was conducted and its outcome necessitated the use of ARDL OLS and error correction methods (ECM). Furthermore, CUSUM test employed established stability of the variables while the Ramsey RESET test to established that the model was well specified. The findings from the empirical results revealed that environmental degradation has a negative significant relationship on sustainable development in Nigeria.

Recommendations

i. There is urgent need for holistic review of environmental policies and strategies, which can help develop responsible traits to protect the environment.
ii. Government should make a legislation that Integrates social, environmental and other costs of negative environmental externalities into economic activities, so that penalty will be awarded to such economic activities that do not conform with environmental laws. This will help prevents cases of environmental degradation.
iii. Government should impose penalty for non-compliance to environmental policies and regulations.
iv. There is need for government to partner with various international organizations involved in advocacy to sensitize Nigerians on the inherent danger associated with environmental degradation.

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ASSESSING SOCIAL FACTORS AFFECTING ENVIRONMENTAL EDUCATION USING THE SOCIAL CHANGE MODEL IN OSUN STATE, NIGERIA

[1]Bolatumi Oyegoke, [2]Duduzile Nkomo &
[3]Irene Tautona

[1,2&3]Baisago University, Botswana

Abstract
Many environmental discourses agree that environmental issues need to be effectively communicated to the public. The public could be educators, society, policymakers and education systems. For the various classes itemized, the effectiveness of environmental education will depend on the context, the purpose, and the content. This paper focused on environmental education as social change. Social change is based on critical social theory that presents environmental problems as been rooted in social, economic and political systems and the worldview that supports these systems. However, several factors including the COVID -19 pandemic affect social roles in relation to day to day activities. Other factors include: gender, economic, cultural, and motivational and the resilience factor. The effect of these social factors on environmental education was discussed. The paper concluded by considering the socio-ecological resilience factor in environmental education to address environmental issues. The paper therefore recommends creating awareness based on the elements of socio-ecological resilience. This involves developing and continuously strengthening the people by intentionally mobilising its people to effect change to promote environmental sustainability. Such mobilisation will begin by creating awareness among people within the community using the community structures and resources.

Keywords: Environmental Education, Social Change, Resilience

Introduction

Environmental education is a field of study emerging towards solving environmental problems by creating awareness among the relevant stakeholders to fulfil specific purposes and in particular the sustainable development goals. Environmental education continuously evolves to address various emerging environmental issues more especially to meet the United Nations Sustainable Development Goals. Achieving sustainability in the post COVID-19 era will require all forms of education and training including environmental education in all its forms. However, there are several conflicting perspectives of environmental education. The differences are determined by perspectives and proprieties held by educators, society and policymakers on relevant content to be delivered by schools and other agents of transformation (Johnson & Mappin, 2005). Societies in particular have their details or rules of behaviour conventionally considered to be correct or normal. These rules of behaviours introduce several factors to environmental education. Also differences of opinion to environmental education are

brought about by the relevant discipline that provides the content. These also vary from science to nature study, social sciences, humanities, advocacy groups, among other field of knowledge. The conceptual frameworks for tackling some of these issues would also vary according to whether the tool is formal, nonformal or informal, whether the setting is Africa or elsewhere, and whether the subject or agency is woman or man, educated or uneducated.

Johnson and Mappin (2005) presented three approaches to environmental education. They are: (1) Environmental education as behavioural change involving environmental citizenship in a way that brings about responsible environmental behaviour or environmental literacy; (2) Environmental education as personal change which is an alternative approach to increasing environmental responsibility. It focuses on developing and nurturing people's understanding of their personal motivation or attitudes that guide their decision towards environmental actions. (3) Environmental education as a social change is based on critical social theory that argues that environmental problems are rooted in social, economic and political systems and the worldview that supports these systems in order to achieve sustainability and apposite social systems.

COVID- 19 with all the associated conditions such as social distancing, isolation and the wearing of masks brought about outstanding experiences that are immersive; it removed people from the physical or emotional context of day to day life. COVID-19 introduced such measures where, within a family unit, a woman who tested positive would be isolated from other members of the family who tested negative. Such experiences introduced what researchers such as Koo et al. (2020) and Ardoin and Heimlich (2021) referred as 'reset effect'; which implied making a significant transition from prior lifestyles and birth change in day to day activities. This has implication for environmental education. As psychological studies assert, such moments provide insight and create opportunities for ruminating on everyday activities and provide openings for learning about the environment in ways that are memorable, actionable and sustainable (Hearth & Hearth 2017). Therefore, making meaning of such experiences such as the COVID-19 experiences in the context of past events and future expectations occurs through examinations and paying attentions to the shifts that occur within various social roles as presented by the pandemic(Ardoin and Heimlich, 2021). COVID-19 made possible the seamless shifts between social roles, which have implication for environmental education. Ardoin and Heimlich (2021) suggested individuals to connect, make meaning, and learn about the environment and environmental issues cumulatively across and among all daily-life experiences as they move through and enact various social roles for the benefit of society.

Statement of the Problem

COVID-19 showed that environmental crises do not come gradually, but they come abruptly to destroy global political, economic and social systems overnight. While environmental concerns are still always related to socio-economic progress in political discourse, the pandemic has demonstrated the need for a synergetic discussion on the interdependency of social and ecological resilience in the face of global environmental threats. Different groups have different perspectives to environmental issues and

environmental education. Societies hold different rules of behaviour which they considered to be correct which introduce social dimensions to environmental education. Some of such social factors as identified in Osun State, for instance, include gender, cultural, motivational, and socio-economic and the resilience factors. The impacts of these factors need to be considered for effective environmental education.

Research Objectives

The objectives of this paper are to:

1 explore social factors that contribute to/influence poor waste management practices in the Osun State, Nigeria.

2. relate the social factors influencing waste management practices to Environmental Education.

Purpose of the Study

This paper assessed the social factors influencing pro-environmental activities and the implication for environmental education for the purpose of the sustainability of the environment. These factors, as they affect environmental education, are relevant to any community with similar social systems as Osun State, Nigeria.

Literature Review

Social Factors and Environmental Education

Gender is posited as an important marker in identifying pro-environmental persons who will take action in favour of the environmental sustainability. Kollmuss and Agyeman (2002) explain that "Women usually have a less extensive environmental knowledge than men but they are more emotionally engaged, show more concern about environmental destructions, believe less in technological solutions, and are more willing to change". With regards to environmental education, Sterling (2011) summits that environmental education has the capacity to connect individual to awareness and behavioural change with the existing systems of governance. For example, in places where gender inequalities is prominent with regards to performing social roles, Plummer (2010) presented a clearer picture of gender and environmental education by stating that to achieve change that will inform action. Plummer (2010) stated that environmental education needs to foster discussions around structural power inequalities at all levels.

As a cultural milieu, a household in Osun State could consist of the nuclear family and dependants such as nieces and nephews and parents of either of the spouses. A household size can vary from three to ten. A household size is one of the factors that determine the volume of waste generated within a community and the wider society (Chimka & Ogola, 2015). The woman goes largely unrewarded for the effort even in a so-called technological world and seeks quiet solace in spirituality and superstition. Women who engaged in full time employment, they are responsible to perform their social roles to the family including the extended members of the family.

Cultural practices encompass both the environmental consciousness and pro-environmental behaviours of people. Depending on the limits allowed by culture, people

take or do not take action against environmental degradation (Abraham, 2014; Kollmuss & Agyeman, 2002). Sauve (2002) noted that environmental education is about the human relationships to the environment. She further described the human-environment relationships to be reimagined as seen the environment as a place to live which focuses on everyday life. Such connections are fundamental to developing a sense of belonging and environmental responsibility, thus impact environmental education (Ardoin & Heimlich 2021). Culture promotes sense of belonging among people within a community hence the need to harness culture to foster environmental education.

Ecology informs behaviour, but does not judge its success by its ability to modify behaviour. In their very useful review of environmental psychology, Kollmus and Agyeman (2002) examine a question that concerns many environmental educators – namely "what motivates people to act environmentally and what are the barriers to pro-environmental behaviour?" Motivation is crucial for human action. Generally speaking, it is central to environmental sustainability discourse. Motivation is probably the reason there are environmental problems in the first place. So it seems pertinent to look to motivation for a possible solution to certain environmental issues. Slingsby and Barker (2005) offer an interesting summation of the connection between motivation and behaviour. There is abundant evidence that increasing a person's knowledge of the environment does not necessarily make their behaviour more "pro-environmental. People tend to make decisions when it comes to deciding which action to take that may impact on the environment. for instance, if cooking with firewood is economically cheaper than cooking with gas, the former is selected although it has a much greater damaging effect on the environment than the latter (Kollmuss & Agyeman, 2002). Such assumptions about what is or is not "pro-environmental behaviour" are not a part of what we understand by ecological education. However, it is still useful to attempt an identification of a critical mass of pro-environmental persons that can be targeted for an environmental reorientation, given the truism that no knowledge is lost. A critical mass of pro-environmental women could "snowball" awareness to a point that may begin to reverse a contrary environmental stance in the community.

Environmental Education as a Social Practice

Environmental education involves learning about environmental issues. Watson and Tharp (1992) referred to environmental learning as any changes in acts or capacities that develop as a result of interactions with the environment. Such interactions are ongoing and processed in conscious and deliberate ways as well as unconsciously and/or subconsciously. They present numerous possibilities for infusing or recognizing environmental learning in everyday life. Therefore, environmental education happens across a variety of biophysical and sociocultural settings, experiences, and contexts and is thus influenced by one's culture, values, beliefs, and ideologies (Gould et al., 2019). Because of these ongoing, mediated aspects, learning processes and outcomes are subsequently and unavoidably influenced by, values, beliefs, and ideologies (Gould et al., 2019).

It seemed important to examine and attend to the context in which people learn about the environment—and what in the course of that learning, motivates engagement in

environmentally related everyday-life behaviors as well as longer-term practices. Such examinations as earlier discussed will provide abundant opportunities for co-creating the mutually desired environment of the future (Ardoin & Heimlich, 2021). Sustainable environment is thus attainable through individual and collective actions informed by the social change model of environmental education and socio-ecological resilience model. Hence, environmental learning is a dynamic, social endeavor, influenced by interactions among people as well as the broader sociocultural and biophysical contexts (Marsick and Watkins, 2018; Rogoff, 1994; Vygotsky, 1978).

According to Ardoin and Heimlich (2021) individuals need to connect with their day to day activities, make meaning, and learn about the environment and environmental issues cumulatively as they enact various social roles. They further explained that interpreting environmental learning through the many social roles encountered throughout everyday-life learning requires consideration of new methodologies, methods, approaches, settings, and colleagues. Such a reimagining of environmental education will connect environmental issues with people's lives in ways that are deep, relevant, and meaningful. It will build skills in context, and motivate participation in ongoing sustainable practices over the short and long term, for the benefit of society.

Environmental Education and Socio-ecological Resilience

Another aspect of environmental education in relation to social factor worth mentioning is the social-ecological resilience factor. Critics of the ecosystem theory in ecological science aver that natural populations are actually adaptable to changes in the environment (Des Jardins, 2005). Lundholm and Plummer (2010) define socio-cultural resilience as "the amount of disturbance a system can absorb and still remain within the same state or domain of attraction" or the degree to which the system can build and increase the capacity for learning and adaptation. These two definitions of socio- ecological resilience presented a clear illustration of the definition of environmental education by Sauve (2002) as earlier discussed. Socio-ecological resilience showed the interconnectivity between changes that occur in the physical environment as a result of disturbances a system can absorb and still remain the same. At another level, within the human social context, social- ecological resilience implied changes that may occur within a system; which the system can build to increase the capacity for learning and adaptation. Therefore, environmental education for the sustainability of the human habitat becomes imperative. The human species has an extraordinary capacity for resilience which can be galvanized to the general weal, as documented in *The Community Resilience Manual* (2000).

Servant-–Miklos (2022) presented three different aspects of resilience reported by resilience scholars. These include resilience at the individual level, at the community level and at the socio-ecological level. The proponents of the individual resilience have been pushing to include psychological resilience within socio-ecological resilience. Psychological resilience meant the extent to which an individual is able to adapt successfully to adverse conditions or situations (Zautra, Hall and Murray, 2010). Psychosocial resilience will involve coping efficacy problem solving, efficacy, sense of purpose and hope (Sterling, 2011). Krasny and Roth (2010) indicated that individual

resilience contribute to socio-ecological resilience by a cumulative factor within communities.

At the community level, socio-ecological resilience has been linked to communities of practice focused on resources stewardship Servant–Miklos (2022), According to the Community Resilience Manual (2000), "Communities, whether sophisticated or inexperienced in the application of community economic development, felt the community resilience process motivated and mobilized people and helped bring into focus priorities for action" (p.2). The manual is also not, opposed to "the integration of ecological characteristics and indicators…and linking community health indicators to the process…" (p.3)

The Community Resilience Manual (2000) presents a functional description of community: "A resilient community is one that takes intentional action to enhance the personal and collective capacity of its citizens and institutions to respond to, and influence the course of social and economic change" (p.5). The manual also notes that "Current research supports the idea that resilience is not a fixed quality within communities. Rather, it is a quality that can be developed and strengthened over time. As resilience is strengthened, the capacity to intentionally mobilize its people and resources to respond to, and influence social and economic change is enhanced." (p.5). Connecting individual to community resilience, researchers such as William and McEwen (2021) revealed how learning for resilience that is focused on the resilience of the individual helps children to develop key skills for building community resilience, such as empathy, sense of belonging and connectedness with others.

Lastly, socio-ecological resilience involves a connection between social and ecological level. There are four elements to socio-ecological resilience as indicated by Frazy et al, (2007). They include; 1) the collective will and intention to change, 2) possessing sufficient knowledge to inform decisions about change (such will involve knowledge about the impact of current behaviour, knowledge about the appropriate direction for change and knowledge about how to achieve change), the collective ability to accept change and modify behaviour and the ability of leaders to take bold decisions for action. Although solving environmental issues require collective actions, but individual action cumulate to community actions as individual socio-ecology resilience sum up to produce the community socio-ecological resilience. It is important to consider the individual socio-ecology resilience for promoting sustainable environment through environmental education.

Theoretical Framework

Environmental education emerged as a theoretical model addressing social change during the 1990s and is "based on critical social theory that argues that environmental problems are rooted in social, economic, and political systems and the worldviews that support those systems" (Johnson & Mappin, 2005, p.17). For this model, environmental education is more than ecology, behavioural change, or interpretation of nature. It is more about changing social values and systems in order to achieve sustainability and social justice. As a curriculum, its wide all-encompassing practicality in terms of social

mobilisation for change may only make it fit a higher level of formal education setting than others (higher than high school education, for instance) while making it suitable for informal education setting for the same elastic reason.

Environmental Education as social change model demands that people change their beliefs, norms and values and systems within and across communities to attain environmental sustainability. Hence, several factors may influence environmental education when related to the demand of the social change model. Some of such factors include gender factor, socio- economic factor, cultural factors, motivational factors and resilience factors.

Research Methodology

This research was conducted to explore social factors affecting waste management practices by women in the State. The qualitative method was employed to carry out this study. The social factors affecting environmental education in Osun State Nigeria were explored.

Sample Selection

The sample for this study was homogeneous. The criteria for selection included the following: 1) women who engaged in domestic activities that generated waste; 2) women who were resident in the state, and 3) women who were willing to participate in the study. Eight women participated in the focus group discussion conducted to collect data for the study.

Sampling Techniques

Purposive and snowball sampling methods were employed for the selection of participants for the focus group discussion. First, purposive sampling method was used to select a woman with the sample selection criteria. Snowballing involved approaching a single case that was included in the phenomenon to be investigated in order to gain information on other similar persons (de Vos, 2005). This person was requested to identify further people who made up the sample. This way, the researcher proceeded until an adequate number of cases that was required for the sample were constituted.

Data Collection Procedure

Focus group discussion (FGD) was carried out to establish the contextual understanding and the opinion of women in the State towards the environment. The researcher was the main facilitator in the FGDB. Audio tape recorder was used to capture the discussions. For the discussion, there were two moderators and a scribe who took note of both verbal and nonverbal communications, group dynamics, and the themes that emerged (Creswell, 2014). The main reason for group discussion was to get a collective opinion of participants on the areas of discussion. Prompt and probing questions were used to generate discussions at a deeper level. The discussion lasted for about 50 minutes.

Findings of the study

The findings of the study revealed factors that influence waste management practices of the women civil servants. Such factors included indifferent or uncaring role towards proper waste management socio-cultural and socio-economic factors.

Indifferent or Uncaring Role towards Proper Waste Management

Some participants mentioned women's indifferent or uncaring role towards proper waste management as one of the social factors that influenced WM. One of these participants commented

> *"Women are supposed to be custodian of a healthy environment but the converse is the case."*

The participant meant that women were supposed to safeguard the environment to minimize the negative impact of the activities in the environment and therefore promote a healthy environment. However, she realised that the women were not fulfilling this role. Other participants who were of the same view also commented, one of them said:

> *"Women are the main problem in the community; they own the responsibility of cleaning the environment."*

The participants implied that women were expected to be the main players in keeping the environment clean; and as such they should bear the responsibility for poor condition of the environment. The participants were of the view that this responsibility is as a result of women being more emotionally and physically attached to the environment. The participants implied that they were the ones who actively sustained the family cooking food and discharging the waste from the process. Generally, women admitted the responsibility of caring for the environment but, they were presumed to have failed in their responsibilities, hence the poor condition of the environment.

Social Reasons Why Women were Indifferent towards the Environment

Participants were asked to provide reasons for their indifference and uncaring for the environment. The reasons given by the women were similar. Such reasons included, gender and cultural, economic reasons

Gender and cultural Issues

Further probing to find out why participants were indifferent towards the environment, one of the participants exclaimed.

> *"Look at me now I am the only one around, my husband has been transferred to the North I am the only on taking care of the children*

The statement made by this participant indicated some frustration as a single parent nurturing the children. The husband works in the northern part of the country while she is remained in the south western part with the children. In situations where couples were separated by job transfers for the purpose of earning their living, in most cases the children remain with the mother who is accountable for the moral, spiritual, social and academic development of the children.

The participants implied that women do not only take care of the children; they are also responsible for caring for their relatives and the in-laws. Intimacy with the extended family also adds to the responsibility of the woman to attend to all social responsibilities within the extended families. Other participants expressed support for the views of the previous participants and added that it was not easy for them to consider good waste management practice when they are saddled with the responsible of taking care of the families. One of such participants indicated by saying: "…how do we get time to consider managing my waste?"

The participant meant she had limited time to manage waste.

Economic Factor

Another factor that the participants believed contributed to poor waste management in Osun State was the financial costs for removing wastes from households. The participants believed that charges were high and many households could not afford them. One participant (P9) complained that: *"... Government must reconsider and lower the fee to carry waste products from home to a cheaper rate*. Another one participant who shared the opinion of the previous one said: *"– not 1000 naira per month that we used to pay"*

These responses indicated that the government should consider reducing the amount imposed as payment for waste collection. At the time of this study, each household was expected to pay 1000 Naira. The participants indicated that this amount was too high for the people to pay for waste disposal. It was "*difficult for people to afford it."* The inability to pay for collection of garbage was attributed to poverty and the low income earnings of the civil servants. When asked to indicate monthly income earned that 66 (62%) out of 106 participants indicated that they earned income below 50000 Naira" ($138). One participant declared *"Some do not even have 500 naira to buy food not to talk of to spend on waste disposal."*

This participant indicated that if some households could not afford to get 500 naira for feeding their household, then the government would not expect them to pay 1000 naira for waste collection. As this participant observed, households would opt to buy food rather than pay for waste disposal with the little money they had. The participants confirmed that poverty was a significant factor that contributed to poor waste management. Proper waste disposal method required households to pay 1000 naira to government. Some households in Osun State could not afford this amount. Thus, their economic condition dictated their order of priority and further relegated waste disposal.

Discussion

The participants identified several social factors that influenced waste manegement practices of the people.

Socio Cultural Factor

The participants implied that women were expected to be the main players in keeping the environment clean, and as such, they should bear the responsibility for poor condition of the environment. Patriarchy structures society according to gender biases, as already mentioned elsewhere. The Osun State situation is no different. By the acts of omission and commission by men, certain expectations circulate within the community of the roles

which different sections of the community are expected to occupy with or without (Walters, 1997; Kemp & Squires, 1997). For instance, women in Osun State are burdened with 90% of responsibility of generation of domestic waste from cooking (Ako-Nai, Ologunde, 2010). Shift of such roles may be possible as a result of COVID- 19. The social responsibilities of women and several other roles in which women function connect them directly and indirectly to the environment and environmental sustainability. However, the frequency and extent of these responsibilities as well as the unfair division of labour are overwhelming to them, as indicated by the participants. In a patriarchal society the humanity designated female is seldom rewarded for tasks undertaken. This condition contributes to the attitude of women towards some of the social responsibilities including waste manegement. Plummer (2010) indicated that as a result of inequalities environmental educationist should focus discussion on structures of inequalities to address the situation. Therefore, this is an important area for research in the country and elsewhere in such communities where such inequalities abound.

Socio-Economic factor

The participants indicated inability to pay for proper waste disposal as one of the reasons for poor waste manegement in the State. A measure designed to regulate WM in the State required households to pay a sum of ₦1000 periodically. Tadaro and Smith (2009) aver that in order for environmental policies to succeed in developing countries, they must address issues of poverty and the lack of access to vital resources, among others. The economic factor affects waste manegement from the point of view of the generation of waste. Ecoeconomics avers that people tend to make economic decisions when it comes to deciding which action to take that may impact the environment (Hartsock, 1997). Women cook with firewood instead of with gas cooker which has a lesser impact on the environment. This is so because using firewood is cheaper, in that firewood can be bought in small quantities at a time while gas is bought in fixed quantities in gas cylinders. Moreover, gas supply can be erratic and its scarcity can cause a price hike of a given quantity in the gas cylinder. That would be only a part of the experience occasioned by a general abdication of responsibility by government towards the people. Individual families end up taking personal responsibility to provide themselves with potable water (by digging wells or sinking boreholes in the sprawling metropolis).

They decided to burn fossil fuels to run privately owned generators for electrical power supply for domestic and sometimes commercial use. They have no choice but to cut their way through to access earth roads in order to link their houses to frequently dilapidating government-built road network. Often, waste disposal is left to individuals and the families to handle as they deem fit – with the predictable outcome of streets strewn with litter and motor-way shoulders piled with garbage dumped by homeowners who own vehicles are unwilling to burn the refuse in their backyard. These are some of the factors which affect human behaviours; and for socio-economic reasons the woman tends to bear the brunt of the burden of survival in the State as in other States in the country (Akinbami & Mamodu, 2013).

Obviously, domestic waste is an important matter in Nigeria, as in many parts of Africa, for demographic, health and aesthetic reasons. At the level of public administration, failure to provide adequate infrastructure (for example, road network) for waste removal and disposal is a natural guarantee that waste will pile up in homes, in streets and at the roadsides, or be dumped in streams, lakes, and rivers. The careless massing of waste near human dwellings is a health hazard because the waste pile becomes a breeding place for malaria carrying mosquitoes and vectors of Lassa fever, Ebola, cholera, typhoid, diarrhoea, and other parasites.

The women in Osun State were proven to be resilient: they engage in income generating activities, some are gainfully employed as well as been primary caretaker of the family including the extended families in most cases. Therefore if the elements for socio-ecological resilience as indicated by Frazy et al. (2007) can be applied, the challenge to the environment can be minimized. Empowering or strengthening the people through proper environmental education will yield great dividend to the people. This can be achieved by engaging the various groups; youths, women, men in their collective will and intention to change. Such action can be mobilized through religious groups; vocational groups such as tailors, poultry famers etc. Awareness through environmental education on critical areas of the impact of current behaviour, knowledge about the appropriate direction for change and knowledge about how to achieve change may influence action on waste management within the state.

Conclusion

Day to day activities provide opportunity for people to learn to become skilled, motivated community members who move for change in environmental behaviours. However, COVID-19 has brought about shift in social roles and social functions around homes. This has implication for environmental education. Individuals need to connect with their day to day activities, make meaning, and learn about the environment and environmental issues cumulatively as they perform various social roles. Environmental education during COVID-19 or post COVID requires consideration for social factors that affect household activities. Women in this study expressed reasons for engaging in poor waste management practices. The reasons presented were socio-cultural and socio-economic problems mainly attributable to patriarchy. Culture as a social factor promotes sense of belonging in the people, having a sense of belong will engage the people to take responsible action towards the environment and promote environmental education. Another point of discussion was the inequalities in the distribution of roles within households; such issues should be discussed to promote sustainable environmental action. Waste management, is a process involving waste generation, waste storage, recycling of waste, waste collection and waste disposal. These processes involve household practices that are affected by patriarchy. So, attitudes relating to waste management cannot be fully explained outside the context of patriarchal structures and the conventional limitations imposed on women's rights. Women need to obtain mental freedom from the belief that they are solely responsible for household chores to provide for the family.

Recommendations

The paper recommends assessing qualitative information about the perceptions, attitudes, and feelings of the people in particular, the women on the distribution of social roles among households. Mapping of organizational linkages and levels of collaborations among existing structures within the communities should be investigated to explore channels of environmental education. The social groups within communities should be mobilized to create awareness on the impact of their day to day activities on the environment, guide on the appropriate direction for change and provide information about how to achieve change. Such efforts should be directed towards influencing waste management practices within the State. Also leaders who are responsible for environmental issues should be sensitized to take bold decisions for sustainable action.

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CLIMATE SMART SOLUTIONS IN FARMING: LESSONS FOR BOTSWANA COMMUNITIES

Nomazile Chicho

Department of Safety Management,
BA ISAGO University,
P. Bag BR 94, Gaborone, Botswana

Abstract

The world has been significantly affected by climate change, the impact of which is ominously felt on the agricultural sector. This review highlights on the possible smart farming techniques that can present solutions to challenges that have been brought by climate change and climate variations that threatens food insecurity. This study utilised various search engines and databases such as Google Scholar, books, statistical reports, publications and documentaries to acquire the information that adequately addressed the aim of this study. Findings indicate that several technologically based, yet climate responsive farming practices were reportedly effective in improving livelihoods of local communities; including hydroponics farming systems, indigenous knowledge, biogas and solar-based farming. Though limited scholarly articles on such farming practices in Botswana, several are practiced locally, however at a lower scale; and thus, calls for their intensifications.

Keywords: Climate Change, Smart farming, Technology-based farming, Botswana, Sustainable farming

Introduction

Climate change has been on the agenda of development, innovations and environmental protection globally; thus, calling every country to responsively develop strategies for climate risk reduction. It has also presented a global challenge for humanity and the livelihood activities therein; particularly the impact is ominously felt in the agricultural sector (UNDP, 2012; Harvey et al., 2018) which extensively rely on rainfall. Agricultural sector plays an important role in income generation, employment or general livelihood support in most SADC countries (Silitshena and McLeod, 1992). Botswana is among the countries that operate and conform to the Agenda 2030 for Sustainable Development which aims at transforming the world to achieve a wide range of developmental goals and among others that are imperative for this study are 'Goals No. 2 which reads 'to end hunger, achieve food security and improved nutrition and promote sustainable agriculture and Goal No. 3 which is 'Climate Action'. Further, several studies affirm that farming is a key livelihood strategy in most African countries including Botswana, and is dominated by traditional agriculture (arable and livestock farming) with mostly low and subsistence yields (CSO, 2012; Makate, 2019; Statistics Botswana, 2012; UNDP, 2012). Literature indicates that climate change threatens rural livelihoods, especially in the sub-Saharan region whose countries are relatively vulnerable to climate change (Makate, 2019). For

the purpose of this paper, climate smart agriculture/farming refers agricultural practices that sustainably improve production, resilience of production systems, and reduction of greenhouse gas emissions, protect the environment and overcomes climate extreme events.

Notwithstanding the dominance of traditional agriculture, Botswana government, through Integrated Support Programme for Arable Agriculture Development (ISPAAD) programme, is encouraging and promoting self-food sufficiency by availing agricultural inputs such as mechanised machinery, services, education, capacity building, technological exposure and high value seeds to farmers, including smallholder farmers in rural areas whose dominant livelihood activities encompass farming (IFAD, 2020; ISPAAD, 2012; Marumo et al., 2014). Despite such efforts, use of advanced technology in the farming industry in Botswana remains limited. UNDP (2012) policy brief has since noted that the agricultural sector is not only facing climate change challenges like recurring droughts and extreme weather events; but also limited smart farming skills, inadequate agricultural market access and limited use of improved technology. With improvement of economies, African countries, Botswana inclusive, are slowly investing in technologically driven and smart farming practices (Figure 1) that have relatively higher yields, environmentally conservative and present economic returns. Most literature has indicated that urban agriculture which is usually associated with technologically related and climate smart farming contributes towards food security, climate risks reduction, creation of employment and environmental considerations (Awiti and Karinga, 2016; Binns & Nel, 2014; Mutsabarura, 2018). Agricultural technologies also help improve production and resolve constraints on agricultural production (Nhamo, 2017).

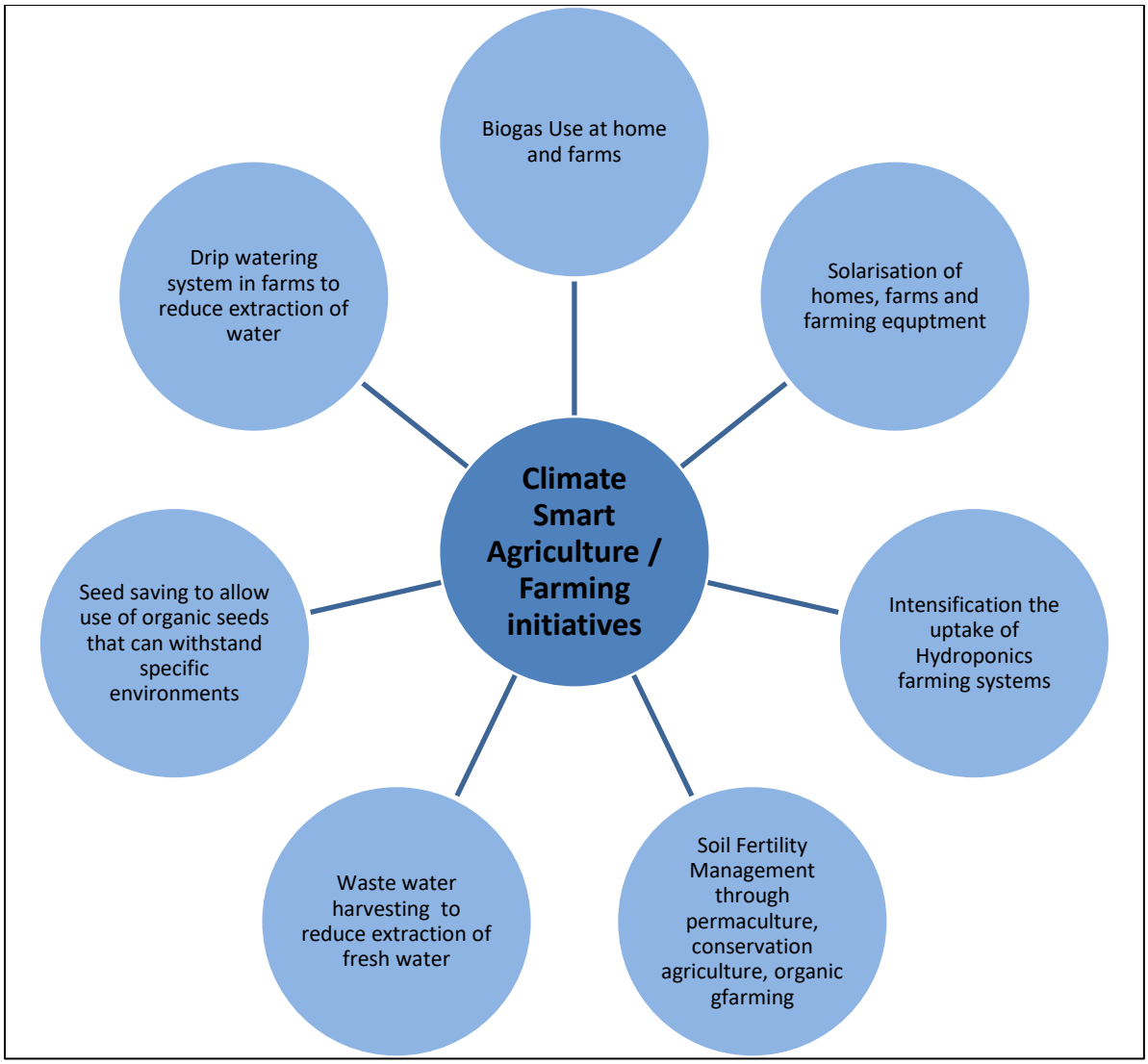

Figure 1: Climate-smart Farming initiatives
Source: Author, 2022

Methodology

This desktop study utilised various scientific search engines and databases such as Google Scholar, related books to acquire the peer-reviewed information that adequately addressed the aim of this study. Furthermore, relevant governmental statistical reports, farmers' guide publications and climate change and farming documentaries were also reviewed to provide relevant data. The literature reviewed dated back to early years of 2000 to establish trends on agricultural contribution to GDP and how it has changed over time. The trend would help establish how the communities perceive and adopt climate smart technologies in an effort to improve their yields and achieve food security. The exclusion criteria ensured that all articles that did not relate to the study theme were not considered.

Climate Change and Agriculture in Botswana

Agriculture has been reportedly contributing to carbon emissions, with global food systems emissions lying at approximately between 21–37% (Lynch et al., 2021), therefore, the sector needs to be part in coming up with solutions to climate change and its related impacts. Nevertheless, Botswana's information on greenhouse gases emissions highlight that Botswana serves as a net sink because the emissions were balanced by the vegetation there in (See Table 1 and Table 2) (Adedoyin, 2016; Koboto et al., 2021). However, it is important to note that impacts of climate are seamless and affect communities indiscriminately, especially with Botswana's climate, and Table 2 indicate a slight increase of greenhouse gases emissions.

Table 1: Botswana's Greenhouse Gas (GHG) Inventory for 2000

Sectors	Emissions Gg CO2 eq	Sink Gg CO2 eq
Energy	5,537.923	
Agriculture	1785	
Waste	111.3	
Land-use change and Forestry		-42,941
Total emissions	7434.223	
Net Total (after subtracting sink)	-35506.777	

Source: Koboto et al., 2021

Table 2: Botswana's Greenhouse Gas (GHG) Inventory for 2011

Sectors	Emissions Gg CO2 eq	Sink Gg CO2 eq
Energy	6894.50	
Industrial Processes	540.72	
Agriculture, Forestry and Other Land uses	16540.89	-127520.50
Waste	132.34	
Total Emissions	24108.45	
Net Total After subtracting	(103,412.11)	

Source: Adedoyin et al. (2016)

Despite the observations indicated in Table 1 and Table 2 for Botswana, carbon emissions, reduced forests, industrial activities are, generally, responsible for global warming that eventually leads to occurrence of extreme events. As a result, communities are exposed to climate hazards that are associated with environmental displacement, sometimes referred to as climate refugees (Rashad, 2022).

Botswana is characterised by semi-arid climate conditions that negatively affect food self-sufficiency in the country. Relatively, Leith (2005) pointed out that Botswana's economy had been entirely dependent on agro-pastoral production prior to independence; however, the contribution of agriculture to GDP has been significantly declining recently (see Figure 2). Although the literature reveals that contribution of agriculture to Botswana's GDP have declined from 40% at independence to 5.2% in 1994, to 2.8% in 2009, 2.4% in 2010 and further to 2.11% in 2020, the agro-pastoralism has remained an

important source of food, income and draught power to many households in Botswana (CSO 2012; GoB, 1991; O'Neil, 2022; Statistic Botswana, 2012).

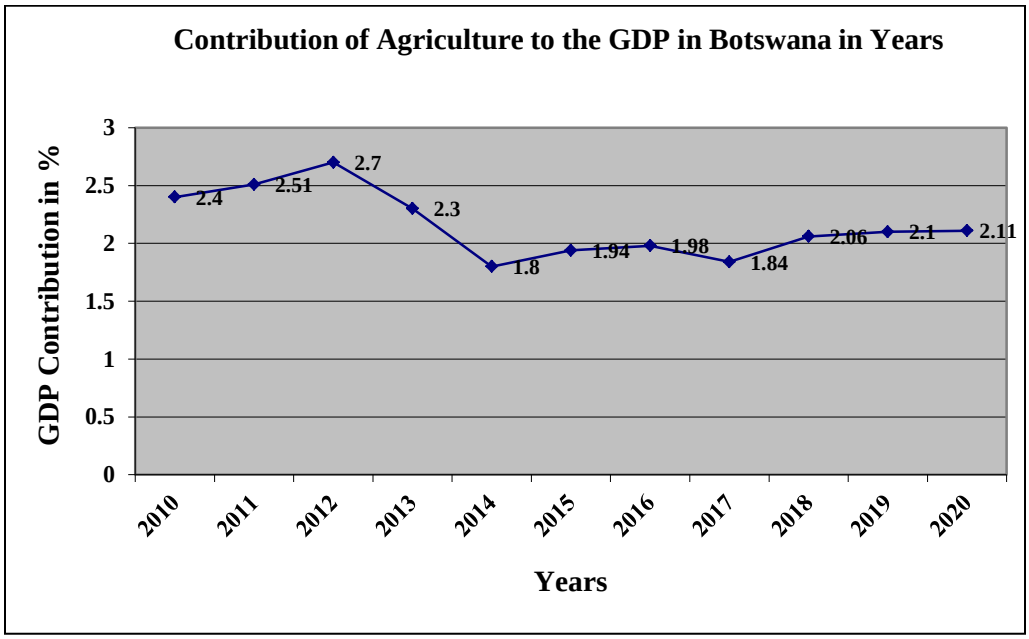

Figure 2: Contribution of Agriculture to the GDP in Botswana
Source: Author, 2022 (Data from CSO 2012 and O'Neil, 2022)

Climate change has significantly affected farming in several facets of production. Evidence has indicated that some areas have received relatively massive amount of rains resulting in deadly and destructive floods while others have seen erratic and deficiency of rains resulting in extreme and persistent droughts (Nhamo & Chikoye, 2017). In response to challenges of low agricultural yields resulting from droughts in Botswana, the government introduced several programs. For example, the ISPAAD, a programme which was introduced as an improvement on the ALDEP which was replaced in 2008 after failing to achieve the objectives of improving food security in Botswana (ISPAAD, 2012). ISPAAD's main objectives are to increase grain production and promote food security both at national and household levels. Furthermore, it aims at the promotion of commercialisation of agriculture and facilitation of access to farms and farm inputs (ISPAAD, 2012; Morapedi, 2016). ISPAAD therefore initiated, promotes and funds collective fencing of fields by farmers, supply of agricultural inputs like seeds, fertilisers and access to credit for agricultural purposes (ISPAAD, 2012; Morapedi, 2016). The programme provides incentives for citizens to develop interest in arable farming through provision of these agricultural inputs. Nevertheless, such efforts must be accompanied by climate responsive farming practices because impact of climate change on agriculture has so far been recognised and agriculture is accordingly responding to such challenges by turning them into opportunities.

Opportunities for Climate-Smart Farming

With climate variations and mostly affecting traditional communities, evidence indicates that the need for technologically based farming is indispensable. Several technologically

based, yet climate responsive and cautious farming practices were noted to be significantly effective in improving livelihoods of local communities. Thus, they constitute some efforts to attain climate resilient society. Several factors have been noted to contribute towards promoting climate resilient communities and they include:

- Contextualisation of climate-responsive indigenous farming practices. Similarly, Nhamo and Chikoye (2017) and Harvey et al (2018) support this notion by indicating that even technology on climate response need to be tailored to farmers' needs.
- Climate resilience support for farmers, particularly smallholder farmers.
- Contextualised capacity building for climate resilience.
- Inclusive decision making in farming strategies.

Challenges presented by climate change have influenced innovations in most countries. This section highlights the key climate smart initiatives that have potential for improving food security among communities. Such initiative and/or technologies noted in the subsequent section include hydroponics farming systems, conservation agriculture and indigenous knowledge, biogas and solar-based farming. Such initiatives are unequivocally warranted, as they will improve household incomes, national income, contribution of agriculture to the GDP as well as reduction of import levels and tariffs of agricultural products in Botswana.

Hydroponics and Aquaponics Farming

Botswana with recurrent dry spells and drought has experienced decline in agricultural yields. Similarly, despite farming being the direct source of food, some rural people are reported to have no access to adequate and secure livelihoods from farming due to shortage of land in most countries (Bernsten et al., 1992; Son and Kim, 1998, Ghorbel, 2021). Thus, with land being a finite resource, it is therefore imperative that farmers employ space friendly farming technologies such as hydroponics (see Figure 2). Hydroponics is a water based farming system where plants are submerged in a nutrient solution and the system dates back to 6000 BCE when it was known as Neolithic Revolution.

Nabi et al. (2022) note that Holland, Spain, Australia, USA, Italy, Canada, Mexico, and China are intensively using hydroponics; and in Pakistan, its adoption has been highly supported by the government. The hydroponics farming system is appraised for relatively lower running cost, higher production in lesser space. With urban farming gaining traction in recent years (Lee-Smith, 2013; Mosha, 2015; Ghorbel et al., 2021; Monica, 2020), hydroponics has been reportedly as one of the farming system to be rewarding among communities, especially people living in areas with space constraints such as urban setups. For example, Ghorbel et al. (2021) noted that this smart-farming practice, in this case, hydroponics in is associated with saving irrigation water, because as a closed loop system, at least 90% of water is saved, it give farmers opportunity to grow a wide range of vegetables over a limited space. Furthermore, evidence indicates a relative high and quality productivity from hydroponics as compared to conventional soil based

farming (Ghorbel et al., 2021; Rizvi, Sharma and Kum, 2022; Sathyanarayana et al., 2022). For instance, Rizvi et al. (2022) highlighted that fodder grown through hydro farming resulted in increased production of milk as compared to conventional/traditional feeding methods for dairy cattle. Hydroponics has been viewed to be time cautious because there may be application of automation, and operation control methods; thus, ensuring that farmers may focus on other farming activities (Sathyanarayana et al, 2022). Additionally, the system is also appraised for allowing continuous (year round) production with limited exposure to weeds or diseases (Resh, 2013; Borgwardt, Endress and Bühler, 2022; Nabi et al., 2022).

The uptake of hydroponics system in Botswana is feasible (Global Post, 2021; Aatv Channel/AA Magazine, 2021; Borgwardt, Endress and Bühler, 2022). However, it is limited and calls for the upscale of projects to rural areas that face challenges of access to food. With positives noted above and some in Box 1 (below), with Botswana's limited access to surface water, communities threatened by food insecurity, hydroponics is indispensable. Hydroponics has been extensively and successfully implemented in Israel where the climate, like that of Botswana, is dry and it has presented financial benefits (Nabi et al., 2022). Overall, this agriculture system is appraised to have ability to ensure self-sustenance towards the global food security crisis.

Plate 1: Nutrient Film Technique based Hydroponic Garden
Source: Hydroponics Garden, Bokaa, Botswana

Box 1: Noted Advantages of Hydroponics Farming Systems

- May use places where soil based plant growth is not viable;
- Plants isolated from soil based pests and diseases;
- Plants isolated from weeds;
- Farmer can control nitrients quantities and monitor pH and temperature of the water;
- Crops grow twice as faster than those in uncontrolled environments;
- Grown medicinal plants do not lose their originality and medicinal values;
- No cultivation or preparation of the soil; thus, less labour;
- Cost effective through preservation of nutrients from leaching to the soil;
- Relatively safer foods as less pesticises are used;
- With predicted yield, there is increased fod security;
- Easy to harvest.

Source: Author, 2022, Compiled from Nabi et al., 2022

Conservation Agriculture and Indigenous Knowledge

Literature notes that adoption of conservation agriculture is commendable for minimum disturbance of soil through zero tillage, thus saving soil moisture. Also, it promotes soil cover through cover crops and finally promotes crop diversification (UNDP, 2012; AKZ TV – Africaknowledgezone, 2015). Transitioning to conservation agriculture, farmers have noted that soil testing is critical for a farmer who wants to be responsive to climate issues because this will ensure that the farmer cultivate appropriate crops or may organically correct soil nutrients (AKZ TV – Africaknowledgezone, 2015). Thus, capacity building on soil management and other farming practices is important.

Impactful climate information for agricultural management is critical for communities' ability to reduce risk exposure. Therefore, audience specific communication among agricultural enterprises, farmers, extension workers and field education officers is vital. This will ensure that communities receive information in a format understandable to them. Similarly, mode of information delivery is critical (Moser, 2010). For, instance use of journal articles to common farmers may not achieve the intended outcomes; but, rather use of community meetings would be effective. CDKN Africa (2015) also supports that indigenes may not present their information in an academic expected way. However, they are realistic and have solutions that are being implemented to cope with climate challenges. Hence, effective climate communication is imperative. As such, Tshepa and Thakadu (2022) emphasize that there is a need for diverse climate change communication through different platforms and sectors such as fashion industry, tourism facets, construction spheres, transport sector, land use and forestry debates.

Furthermore, there is a need to ensure access to agro-climate information, climate element maps as well as climate statistics. CDKN Africa (2015) and UNDP (2012) highlight that it is critical to harness indigenous knowledge that promotes best farming

practices because this would promote climate resilience. Thus, fully embracing indigenous knowledge can improve the uptake and scaling of climate smart initiatives among communities (Makate, 2019). The significance of availing smart agricultural technologies to small holder farmers is also supported by Nhamo and Gondwe (2017) who indicated that indigenous communities, who are usually marginalised, have abilities to effectively integrate their traditional knowledge to adaptation and risk reduction strategies presented. Overall, collaboration between researchers and communities is critical in developing climate responsive initiatives because this will establish how each farmers responds to climate change; hence, tailor-make programmes to suit different farmers (Harvey et al., 2018). Such noted ideas may assist Botswana in effectively responding to climate change.

Biogas Use

The dependency on fossil fuel related energy has influenced researchers to propose development of biogas-solar photovoltaic grid which would serve multi-purpose duties (Bambokela et al., 2022); thus, waste management, provision of energy and presenting solutions to local farmers. Botswana is reported to be one of the highly connected in Africa in terms of electrification (Bambokela et al., 2022). However, electricity in Botswana is mainly produced from fossil fuels. With regard to O'Connor et al. (2021), enactment of small-scale anaerobic digestion system by farmers implies improved access to renewable energy technology, especially for rural agricultural industries. Furthermore, biosystems are commended for their ability to produce bio-energy, bio-fertiliser and mitigate emissions. Benefit of biogas production is further highlighted by Yaqoob (2021) who emphasized that its production and use for electricity generation is ecologically friendly renewable resource and would benefit most rural communities who have power crisis. It has been further praised for environmental management in Pakistan (Yaqoob, 2021).

Realising benefits of biogas energy production as clean energy, Botswana is engaged in establishing existence of responsive leadership for implementation of green energy initiatives like biogas production (Runyowa & Fourie, 2021). Further, such efforts are noted through collaborative projects between the Government of Botswana and the United Nations Development Programme who are implementing green energy projects through promoting production and utilization of biogas from agricultural waste in some parts of Botswana; thus, facilitation of low carbon production (UNDP, 2020).

Plate 2: Construction of biogas digester
Source: UNDP, 2020

With nations facing increasing waste production, especially rich in organic matter; this present opportunity for nations to convert such into bio-energy; thus benefit the environment and waste management crisis (Tagne et al., 2021). Despite efforts of promoting biogas use, the challenge is that unlike in the Westen world, African nations significantly rely on traditional technologies which are not adequately advanced (Tagne et al., 2021); leading to challenge of adoption of technologically based initiatives, especially among rural communities. Molieleng et al. (2021) also notes that adoption of smart farming technologies is relatively slow; especially among rural communities who have limited access to proper infrastructure. Despite extension officers being crucial in information dissemination among communities; their limited exposure to advanced agricultural technologies remains a challenge (Molieleng et al., 2021). With farms remotely located in most African communities (Molieleng et al., 2021), adoption of biofuels will ensure that places not connected to the grid have access to electricity.

Conclusions

The climate smart initiatives discussed are indicatively adaptive to rural communities as well as by high technology based set up. Therefore, noting that reduction of food insecurity should be done at both rural and urban areas, it is imperative to apply these farming systems and initiatives (hydro farming, biogas energy use, integration of indigenous knowledge on climate change adaptation) among rural communities of Botswana. Therefore, Botswana need to invest in intensifying these, as literature highlights that, nations who have implemented these are enjoying economic benefits as well as saving the environmental damage which eventually contributes towards achieving climate resilience among communities. Though there are limited scholarly articles on

such farming practices in Botswana, several have been reported to be practiced locally, however at a lower scale; and thus, calls for their intensifications.

Recommendations

this study presents the following recommendations towards adaptation of climate smart initiatives:

- Intensify adoption of the smart farming techniques from household level to commercial scale to improve food security.
- Empower communities with skills to enable them to adopt technologically driven initiaves; and also promote skills transfer among community members.
- Incorporate indigenous knowledge on designing climate adaptation strategies
- Emphasise on private-public-government partnership on development programmes that integrate urban farming as a strategy geared towards poverty eradication, climate mitigation. Climate risk reduction and sustainable development.
- Incentivising farming, especially to the women who are highly affected by high rates of poverty.
- Enhancing willingness to adopt climate smart farming initiatives by community farmers

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TO GO ON OR TO GO HOME?: STAKEHOLDERS' PERCEPTIONS OF MANDATORY COVID-19 VACCINATION IN A RURAL UNIVERSITY IN SOUTH AFRICA

Babawande Emmanuel Olawale, Bonginkosi Hardy Mutonogoza & Winston Hendricks

[1,2,&3]University of Fort Hare, Private Bag X1314
5700, South Africa

Abstract

This study utilises the democratic theory of education to examine the perceptions of mandatory vaccination in South African higher education institutions. Underpinned by an interpretivist paradigm, the study employs a qualitative research approach and a case study design. Data were collected using structured interviews with university managers, lecturers, and students. The findings from the study revealed that the possibility of mandatory vaccination for the university is perceived as overly burdensome and coercive as it threatens stakeholders' right to liberty. Based on the study's findings, we recommend that mandatory vaccination should be the last resort until further information on COVID-19 vaccines addresses the concerns of the larger populace in South Africa.

Keywords: COVID-19, democracy, higher education, pandemic, vaccination, South Africa.

Introduction

Vaccines are one of the most significant accomplishments of public health. Unlike other vaccines that are now relatively accessible worldwide, the COVID-19 vaccines have revealed deep-seated inequalities as the developing countries continue to grapple with the lack of vaccine availability (El-Amin et al., 2012; Bozzola et al., 2018). Across the world, there have been heightened vaccine hesitancy cases. This hesitancy has sparked debates about the appropriateness of vaccination requirements, such as legal mandates for vaccinations during public health emergencies and more routinely for entrance into public spaces (El-Amin et al., 2012). This is because high vaccine uptake rates are critical in preventing infectious diseases, yet anti-vaccination campaigns have been notorious for having damaging impacts on the uptake of vaccines (Bozzola et al., 2018).

As the world battles with the ever-evolving COVID-19 variants such as Delta (B.1.617.2), Omicron (B.1.1.529), and BA lineages (Daniel & DeSimone, 2021), various recommendations have been made to improve the uptake of the approved vaccines. Proponents of mandatory vaccinations argue that this will help countries and the world to reach herd immunity and thus combat the upsurge of the COVID-19 pandemic. This notion held by mandatory vaccination proponents has, however, raised fundamental questions on the freedom of choice (Khunti et al., 2021; Giubilini, 2020). Simply put, mandatory vaccination does not address the underlying issues of safety, efficacy, perceived need and trust, among others (Khunti et al., 2021; Bozzola et al., 2018). These issues become more compounded when individuals working in public health are at the

forefront of some of the hesitancy experienced (Khunti et al., 2021). In an argument for compulsory vaccination, Giubilini (2020) contends that vaccinations are meant to protect both those who receive the vaccine and, through herd immunity, those who for some reason cannot receive the vaccine – this includes medical conditions, allergies, age, among others. At this point, it is essential to make the distinction between mandatory and compulsory vaccination. Giubilini (2020) surmises that mandatory vaccination involves withholding goods and social services for those persons who elect not to vaccinate for non-medical excuses, while compulsory vaccination is the criminalisation of vaccine rejection.

It is argued that vaccination requirements, sometimes presented as laws and mandates, are vital tools for achieving the high vaccination coverage levels that positively impact population health (Giubilini, 2020; El-Amin et al., 2012). The first vaccination mandates were enacted in Italy in 1806, France in 1810, and Sweden in 1816. Proposals for vaccination requirements have frequently sparked heated debates about ethical issues, particularly among parents and guardians of infants and children who would be vaccinated (Graeber, Schmidt-Petri, & Schroder, 2021). In the past, these concerns influenced the extent to which vaccination requirements were enacted, or, if enacted, the extent to which they could be enforced (Salmon et al., 2006; Durbach, 2005). While philosophical explanations endorse a policy of mandatory vaccination, we want to emphasise that our study is not meant to advocate for such a policy. We would like to know if and why the university population would find such a policy acceptable. To this end, we study stakeholders' perceptions concerning the prospects of mandatory vaccination at a rural university in South Africa.

Theoretical Framework

This study is underpinned by John Dewey's Political Theory (1926), which tightly links "community" and "democracy" as mutually supportive structures. According to Shook (2013), Dewey constantly sought ways to strengthen the connectedness of communities to construct a workable democratic politics that fosters the kinds of liberties required for the growth of new communities. However, Dewey's liberal ideology rejects the explanation that the political realm must artificially establish rights in these communities because rights do not exist in individuals (Dewey, 1935; 1937). While rights are not grounded on people as individuals, "there is a social sphere of duties and rights that exists prior to, and relatively independent from, any political rights" (Shook, 2013; p.7). According to Dewey (1926), the government was established to advance social welfare rather than to protect individual rights. As a result, the government takes on this task by adding a layer of political duties and rights to those that already exist in the social sphere (Dewey, 1916, 1926, 1935; Shook, 2013). Dewey (1937) argues that the government must recognise that civil rights, freedom of expression, assembly, and publication are not just individual rights, but are necessary for a society's welfare and healthy development.

Thus, the implication of this theory for the study is in the governments' respect of individuals' rights as an advancement of social welfare for a workable democracy. Still, the question of which rights people have must be resolved through a public debate on the social benefit of democracy. This right to freedom and security of a person is, however,

enshrined in section 12(2) of the constitution of the Republic of South Africa, which states that "every person has the right bodily and psychological integrity, which includes the right to make decisions concerning reproduction; to security in and control over their body; and not to be subjected to medical or scientific experiments without informed consent" (Republic of South Africa, 1996). Also, this theory is relevant to the study because it acknowledges a person's freedom in its fullest sense – that is, one's ability to exercise their right/liberty in a democracy.

Research Question

What do people feel about the prospect of mandatory COVID-19 vaccination at their University?

Methodology

Research Design

Based on the use of a qualitative research approach, we adopted a case study design in order to get in-depth information on stakeholders views of mandatory COVID-19 vaccine in their university. The case study design was chosen for our study because it "closes in" on reality and allows us to test our theories directly concerning the phenomena as they unfold in practice (Flyvbjerg, 2006).

Research Paradigm

The interpretivist paradigm underpins this study because it seeks to understand the complexity of human behaviour through engagement in various forms of interactive dialogues (Kivunja & Kuyini, 2017). According to Creswell and Cresswell (2018), the constructivist paradigm is primarily concerned with creating background information rather than drawing conclusions about realities. As a result, this paradigm enables researchers to get an in-depth overview of the university's stakeholders perception about mandatory COVID-19 vaccine in their university.

Research Approach

A qualitative research approach was employed for the study to gain a deeper insight into the phenomenon under investigation. A qualitative approach entails gathering and analyzing non-numerical data such as text, videos, and audio in order to comprehend ideas, beliefs, or experiences (Bhandari, 2020). The qualitative approach was chosen for this study because of its flexibility and emphasis on preserving rich meaning when interpreting data on stakeholders' perceptions of mandatory COVID-19 vaccination at their university.

Population, Sample and Sampling technique

Population refers to the entire group that the study or the research will focus on and draw a conclusion about a certain thing on that particular group of people (Bhandari, 2021). For this study, the population comprises university managers, lecturers, and students from a rural university. Thus, given that sample refers to the group of people that will participate in the study (Kivunja & Kuyini, 2017), our sample comprises of three (3) managers, five (5) lecturers, and fifteen students (15) students across all faculties in which all participants were conveniently sampled. The choice of a convenient sampling

technique is owing to the fact it considers the population at hand thereby making data collection easy and accessible (Cohen, Manion & Morrison, 2018). As such, the instruments used in the process of gathering and measuring information on targeted variables systematically in order to answer stated research questions and evaluate outcomes are referred to as data collection tools (Kabir, 2016). For the purpose of this study, we gathered data using a qualitative online survey administered over a period of three weeks.

Data Analysis

Data analysis refers to the set of processes and procedures that we use to progress from collected data to some form of explanation, understanding, or interpretation of the people and situations under investigation (Nigatu, 2009). Thus, for our study, data were analysed thematically. Thematic analysis is defined by Braun and Clarke (2006) as a method for identifying, analysing, and reporting patterns in data. The six steps as proposed by Braun and Clarke (2006) was employed for the study as we familiarise ourselves with the data collected, generated initial codes, and searched for the appropriate themes. Thereafter, we reviewed these themes, defined and name the themes and finally, we came up with the final report. This data analysis technique was found suitable for the study because it allows for the rich, detailed and complex description of collected data.

Ethical consideration

Prior to participating, we ensured that all participants were provided with information about the proposed study. Everyone was given the opportunity to provide informed consent through an online platform ahead of time. At the selected rural university, we sought access from the relevant university authorities and we were granted permission to conduct the research through an online survey in adherence to the COVID-19 rules and regulations. The rationale for obtaining informed consent was to protect and respect each participant's right to self-determination (Cohen et al., 2018). Similarly, other ethical issues such as confidentiality, anonymity, and privacy of participants' information were respected.

Results and Discussion

Our study investigated stakeholders' perceptions of mandatory COVID-19 vaccination at a rural university. Thus, results and discussion was presented under the following sub-heading;

- The legitimacy of mandatory vaccination policy
- Perceived harm from vaccines

The legitimacy of mandatory vaccination policy

Regarding the prospect of mandatory COVID-19 vaccination in the university, participants' responses can be categorized as two opposing views. While some participants believe that only a mandatory vaccination policy will ensure enough people get vaccinated, most participants felt that such a stance is unacceptable and infringes on individual rights. For instance, a participant stated that,

> *I think a mandatory vaccination policy lacks a taste of democracy… if no one is forced to take it in the rest of the country, why should it be forced when it comes to higher education institutions?.... The government said no one is forced, then what happens to freedom of choice in this institution? (Student 14).*

Similarly, another participant added that,

> *Let the vaccine's effectiveness speak for itself. People don't need to be forced – the moment you start forcing us to get a vaccine makes us ask a lot of questions. This is my body, I can do what I want with it, and I am comfortable with the consequences of my decision. If the vaccine protects people, then why are those who are injected feeling the need to force us to take a similar decision (Lecturer 3)*

This sentiment was also evident in the discourse with another participant who reasoned,

> *The COVID-19 vaccine must not be made mandatory as a prerequisite to enrolment or access to the university. I feel like one needs to decide if they are to vaccinate or not. If the vaccine is good enough, people will get vaccinated even with or without a mandatory policy. University as a community of enlightened should strive towards an anti-authoritarian approach and give people time to see the vaccine's effectiveness (Student 8).*

Contrary to the above views, a limited number of participants argued for mandatory vaccination as the only way to contain the COVID-19 pandemic. These views were aptly expressed by a faculty manager who stated that,

> *The only way to get all hands on deck is to enforce a mandatory vaccination policy. We have it with other vaccinations, such as the polio vaccination, which is not something new. Our non-vaccinated students are putting the entire population at risk of infection and death. If people can get things like yellow fever vaccination when coming from other countries, what then is the difference with the COVID-19 vaccination (Manager 2)*

While mandatory COVID-19 vaccination policies are beginning to be mooted as a panacea to the low uptake of the COVID-19 vaccine, there are increasingly loud debates on the legitimacy of such policies. Our findings revealed that participants questioned the legitimacy of the mandatory vaccination policy as it was perceived to be against individual liberties. This gives credence to Dewey's (1926) political philosophy, which argues for governments' respect of individuals' rights to advance social welfare for a workable democracy. Therefore, one can consider the views of Khunti et al. (2021) who contend that mandatory vaccination must be avoided at all costs because it is discriminatory and may cause stigmatisation, further loss of trust, and widens inequalities. Perhaps, Betsch and Bohm (2015) were right when they stated that compulsory vaccination increased anger among individuals with a rather negative

vaccination attitude. In contrast, voluntary vaccination did not, which eventually led to a decrease in vaccination uptake.

However, there have been strong arguments indicating that introducing vaccine mandates may incite undesirable adverse reactions in cases where support for mandatory vaccination is low - even when the policy is not self-relevant (Vaz, Ellingson & Weiss, 2020; Omer, Betsch & Leask, 2019; Motta et al., 2021). Thus, while educational interventions emphasize the benefits of vaccine mandates, mandatory vaccination policies affecting the general public can trigger harmful behaviours (Sprengholz et al., 2021). Betsch and Bohm (2015) augment this view by adding that any intervention strategy or policy that decreases a populace's freedom of choice can result in the impetus to reassert constrained freedom. Betsch and Bohm (2015) further contend that if a person feels constrained because they have a negative attitude toward vaccination, or may not intend to vaccinate in the first place, they will try to prove their freedom of choice by refusing vaccination on every possible occasion. As such, we caution that mandatory vaccination policies may backfire, particularly among the population of university stakeholders who harbour negative attitudes toward COVID-19 vaccination.

Perceived Harm from Vaccines

The participants' responses also revealed misperceptions of risk with regards to the dangerousness of the COVID-19 vaccine. While stakeholders who do not subscribe to a mandatory vaccination stance contend that the vaccine is harmful and cannot be used to contain the virus, stakeholders who were pro-vaccine argued otherwise. A case in point can be drawn from the sentiment aired by a participant who argued against mandatory vaccination,

> *I will feel bad if my institution adopts a mandatory vaccination position. We already know from what the vaccine makers had said that this vaccine neither prevents transmission of the virus nor offers a 100% immunity, so why must it be forced on us. Is it not right that one chooses their own destiny? (Manager 3).*

Similarly, a participant added that

> *I have also heard that the vaccine is going to be used to control the population – especially here in Africa. At first, I did not believe this until a friend of mine got vaccinated and it affected her menstrual period – I would instead take my chances than have something I don't know injected into me. These things are being spoken about on social media, I have seen enough to know what works and what does not (Student 2)*

Further evidence can be gleaned from the perspective offered by a participant who deposed,

> *I am not thrilled about it, and I'm against it. I feel like I have the right to choose. I have read some things that say the vaccine is in a*

> *try-and-error phase, making it look as if we are being used as guinea pigs. There are many uncertainties; you read about some doctors committing suicide to protest against the administration of the vaccine – it boggles the mind as to why the current vaccine is being made mandatory. They tried using promotions. Where have you ever heard of people getting prices for receiving medications? This is just too fishy and risky for me (Lecturer 1)*

Alternative views were offered by a minority of participants who argued that social media has been used to spread fake news on the dangerousness of the COVID-19 vaccines.

> *I will feel safe if the university adopts a mandatory vaccination policy because the chances of getting infected will be very slim. The university can not control the spread of fake news on social media platforms, but mandatory policy will be beneficial to protect us as members of the university community. I have friends making claims based on rumours on social media platforms. Such individuals will significantly benefit from the mandatory vaccination policy. They may not like it now, but they will undoubtedly be thankful later. (Student 15).*

Research findings from the study revealed that the fear of harm from vaccines had contributed significantly to negative perceptions towards COVID-19 vaccination. This can find validation in the conclusions reached by Paul, Steptoe and Fancourt (2021) who reason that the most significant behavioural and attitudinal barriers to receiving a COVID-19 vaccine include a general mistrust in vaccine benefits and safety, as well as concerns about undocumented side-effects. Other significant barriers incorporate poor adherence to COVID-19 government guidelines and a lack of awareness about COVID-19, both of which have been demonstrated in previous research (Faasse & Newby, 2020; Rhodes et al., 2021). These negative perceptions may potentially be heightened by the institution of coercive measures of sanctioning vaccine uptake in learning institutions. One must reflect on the considered view of Khunti et al. (2021), who surmise that the reasons for COVID-19 vaccine hesitancy are complex and include scepticism, low perceived risk, fears about adverse effects, concerns about fertility, the tendency to postpone vaccination until there is compelling evidence of vaccine efficacy, and general mistrust of authorities. Flanigan (2014) argues that despite the risk associated with vaccination, mandatory vaccination policies can be justified because the refusal of vaccines is harmful to the people in the community. To Giubilini (2020), it is dubious to argue whether the rejection of a vaccine makes a difference because as with tax evasion, the fact is that when one rejects a vaccine, they are failing to make their contribution to essential social and public goods (Giubilini, 2020).

Conclusion and Recommendation

Our study set out to investigate the perception of stakeholders on mandatory COVID-19 vaccination at a historically disadvantaged university in South Africa. Our findings

revealed negative perceptions towards mandatory vaccination which is being mooted as a solution to the low uptake of the COVID-19 vaccines. Two prominent findings emerged: the legitimacy of mandatory vaccination policies and perceived harm from vaccines. A protuberant concern about the possibilities of mandatory vaccination for the university is that it is overly burdensome and coercive as it threatens stakeholders' rights and freedoms. Based on the study's findings, we recommend that mandatory vaccination should be the last resort until further information on vaccines addresses the concerns of the larger populace. Furthermore, the university should minimize conflicts among the relevant ethical principles important for democratic societies because such conflicts can feed the anti-vaccination movement.

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VOCATIONAL EDUCATION

BUSINESS EDUCATION UNDERGRADUATE CURRICULUM AND STUDENTS' EMPOWERMENT FOR SUSTAINABILITY IN NIGERIA

[1]Olusegun Ezekiel Alao, [2]Joseph Nnamdi Mojekwu & [3]Carol Chinyere Opara

[1]Department of Technology and Vocational Education,
Faculty of Education, University of Lagos, Nigeria.
[2]Department of Actuarial Science and Insurance,
Faculty of Management Sciences, University of Lagos, Nigeria
[3]Department of Arts and Social Sciences Education,
Faculty of Education, University of Lagos, Nigeria

Abstract

The prevailing occurrences of youth and graduates unemployment in Nigeria and the need to eradicate the associated crises through empowerment for sustainability necessitated this study. The study aimed to assess the Business Education undergraduate curriculum for students' empowerment and sustainability of the Nigerian economy. The study answered two research questions and tested two hypotheses. The descriptive survey research design and mixed-methods approach were employed. The sample size of the study consisted of 727 penultimate and final-year undergraduate students of Business Education and 25 lecturers in South-West, Nigeria. The research instruments used were questionnaires and focus group discussion schedule. An average index of 0.89 was determined for the internal consistency of the research instruments using Cronbach Alpha scale reliability. The research questions and hypotheses were analysed using Mean, Bar-graph, Independent Sampled T-test, Analysis of Variance (ANOVA), and Post-Hoc graphical statistical tools, all at a 0.05 level of significance. The findings revealed that the Business Education undergraduate curriculum in Nigeria lacked adequate innovative pedagogical strategies that are capable of empowering students for achieving the sustainability of the Nigerian economy. Therefore, some of the recommendations were the practice of Education for Sustainable Development (ESD), urgent curriculum review, and the adoption of innovative pedagogical strategies.

Keywords: Business education curriculum; Education for sustainable development, Innovative pedagogies, Students' empowerment, Nigerian economy

Introduction

The social, economic and environmental challenges of the twenty-first century, especially in developing nations, have brought increasing demands for a quality education capable of achieving sustainability in the world economy. The Nigerian system of education also emphasizes qualitative, comprehensive and functional education as a sure panacea to the niggling problems of unemployment, underemployment and decent work shortfall most of the youth and graduates are experiencing today (National Policy on Education, 2014). Mojekwu and Ibekwe (2012) and Opara (2017) buttressed this unpleasant situation in Nigeria by acknowledging that millions of youths and graduates still live in poverty

which exposes them to some vices of life. These negative circumstances attracted the interest of the world leaders, especially in the year 2015 when the United Nations Conference was held in New York, which brought about the adoption of the 2030 Agenda for sustainable development (Edward & Joanne, 2017). Prominent among the items on the Agenda were eradicating poverty (Goal 1), achieving zero hunger (Goal 2), and promoting decent work and productive employment for all (Goal 8), among others. Achieving the seventeen (17) sustainable development goals (SDGs) therefore became the global pursuit using the instrumentality of quality and functional education, of which vocational and technical education is the key due to its empowerment capabilities. Franco et al. (2018) argued that all tertiary institutions in the world are required to align their policy, curriculum and practice with the sustainable development goals.

Literature Review

Business Education and Students' Empowerment for Sustainability

As a vocational education, the Business Education curriculum focuses on capacity building and empowerment of students through entrepreneurial and educational contents and pedagogies (National Universities Commission, 2018). Empowerment may be referred to as the ability to acquire the needed knowledge, skills, attitudes and values to effect a revolutionary change and improvement on self as well as on the community. The change brings about self-emancipation and complete societal liberation from the social, economic and environmental ills and threats (Babalola & Tiamiyu, 2013). Some of the uniqueness of the Business Education programme at the undergraduate level is found in the compulsory 6-month Students' Industrial Work Experience Scheme (SIWES), and specialisations in Accounting, Marketing and Office Technology and Management. Each of these specialisations has its peculiar curriculum contents and pedagogies, apart from the areas of similarities in both contents and pedagogies. The essence of the Business Education undergraduate curriculum, irrespective of the areas of specialisations, is to produce competent and self-reliant graduates capable of achieving the sustainability agenda of the society. Gidado and Akaeze (2014) also emphasized the expected relevance and capacity of the Business Education curriculum in creating and promoting entrepreneurial opportunities to empower both the prospective employers and practicing employees for sustainable business management, productivity and profitability. UNESCO (2017) also recognizes the indispensability and potency of quality education to bring about a peaceful and non-violent society, which is paramount to the sustainability of any nation. Barakabo (2017) maintains that the Business Education programme has the potency of developing the capacity of the recipients through the entrepreneurial competencies integrated in the curriculum. Some of the prospects of the Business Education programme in Nigeria, most especially, an increase in employment opportunities, a reduction in the unemployment rate, and economic development. UNESCO (2017) further reported that education curricula must tackle the root cause of violence among youth and graduates through the creation of empowerment opportunities in the form of poverty-eradication capacity building and societal transformation consciousness towards sustainability. Nwokike, Ezeabii and Jim (2018) posited that the Business Education curriculum, by design and objectives, is central to the attainment of sustainable development in Nigeria. The aforementioned prospects of the Business

Education programme are some of the expected outcomes of the programme in this twenty-first century.

The State of Business Education Curriculum and Unemployment in Nigeria

Surprisingly, some research findings (Ekpenyong & Edokpolor, 2015; Edokpolor & Owenvbiugie, 2017) as well as the report of the National Bureau of Statistics (2020) revealed that most of the graduates of the Business Education programme are unemployed, underemployed, poor, and lack economic security. Nwosu and John (2018) also buttressed the incapability of the tertiary institutions' curricula to produce an appreciable number of employable graduates in this twenty-first century era. Nwokike, Ezeabii and Jim (2018) discovered that skills and competencies required by the industries for sustainability in this twenty-first-century were inadequately embedded in the Business education curriculum. The type of education a country promotes determines the socio-economic engagements and business practices in such a nation. The economic, social and environmental condition of Nigeria today is a reflection of the values that her educational system and curricula uphold.

Innovative Pedagogies for Empowerment and Sustainability in Business Education Curriculum

Assessment practices or strategies in academic settings must be self-directed and promotes the demonstration of students' abilities. Lackeus (2015) opined that empowerment through entrepreneurship in education should span from training for business establishment and management to inculcating creativity, proactiveness, innovation, and opportunity orientation in the students. As much as it is necessary for vocational education and training curriculum, in particular, to be fully embedded with entrepreneurial content, equally important is the need to apply innovative pedagogical strategies that can create values for both the individual and the society. Ajisafe, Bolarinwa and Edeh (2015) posited that issues of curriculum content and instructional strategies must be adequately addressed in the Business Education programmes at tertiary institutions in order to attain social, economic and environmental transformation in Nigeria. Innovative pedagogies and assessment strategies must project progress reports and accurate feedback on learning activities of learners. The use of technologies is very central to the twenty-first-century pedagogical and assessment strategies especially in online and distance education, which is a very crucial approach to teaching and learning in the post-Covid-19 era (Reju & Jita, 2020). Ntoyakhe and Ngibe (2020) argued the necessity of innovative activities among students to ensure quality delivery of the curriculum that can lead to empowerment and sustainability both in the university system and the entire society. Nwosu and John (2018) suggested the revamping of the curricula to inculcate innovative skills and competencies for entrepreneurial empowerment of students and transformation of the society. Nwosu and John (2018) also suggested regular exposure of students to empowerment opportunities such as running a school-based enterprise, organising business plan competitions, participating in the entrepreneurial exhibitions, among others, as strategies for achieving sustainability in the educational and socio-economic systems in Nigeria. Ogedengbe, Okhakhu and Adekunle (2015) also emphasized the need for tertiary institution students to be empowered with an entrepreneurial mindset for them to function as catalysts for sustainability in the Nigerian

economy. Olorundare and Kayode (2014) emphasized on the need for private and public partnership with the university system for better empowerment of students and graduates for sustainable development and ultimate transformation of the society. Franco, et al (2018) also buttressed the need for collaboration among the stakeholders of tertiary institutions such as students, staff, scholars, management, communities, business organisations, professional associations, and government for the actualisation of the sustainability agenda. Okoli and Igwegbe (2015) considered constant collaborations with industries and periodic exhibitions of entrepreneurial products as innovative instructional strategies for motivating and empowering students for sustainability.

There is also an urgent need to diversify the entrepreneurial orientation of Business Education students towards sustainable empowerment opportunities that focus more on creating values for societal sustainability than the rigid pursuit of profit maximization. Adam, Jibrin and Lukman (2018) acknowledged the need for diversifying the Nigerian economy to lessen the overdependence on oil as a major source of revenue, which invariably would demand diversification of the curriculum focus and skills towards exploring sustainable business opportunities in the society. Ebinga (2014) attested to the fact that the business education curriculum needs to be enhanced to promote the inculcation of skills and competencies for self-reliance in commercial, agricultural and several sectors of business establishments towards the achievement of sustainable development of any nation. It is high time the Business Education curriculum promoted practical and collaborative activities that build students' capacity towards identifying and solving social, economic and environmental problems in the society. Actually, diversifying entrepreneurial opportunities in the Business Education programme would necessitate curriculum revamping as wellas the adoption of innovative pedagogical strategies in Nigeria (Adam, Jibrin & Lukman, 2018). Alao and Alao (2021) and Ogbondah and Nwogu (2017) also supported the argument that entrepreneurship education is a catalyst for youth empowerment as well as a panacea to various social, economic and environmental maladies that resulted from youth unemployment in Nigeria. Ogbondah and Nwogu (2017) citing Adebowale (2012) acknowledged some grave consequences of non-empowerment of youth with entrepreneurship competencies. Some of the consequences identified include frustration and low self-esteem among youth, an increase in youth crimes, low wages and poverty among fresh graduates, and mental and physical health challenges among youth. As much as the achievement of sustainable development is a priority among the goals and objectives of the business education programmes in Nigeria, equally important is the need to employ innovative pedagogies through implementing the principles and practice of education for sustainable development.

Shaibu, Ameh and Barinem (2016) identified written assignments, test and examinations as the common evaluation techniques used for Business Education courses. The ideal curriculum for Business Education emphasizes the empowerment of students with skill-based, vocational, entrepreneurial, and information and communication technology competencies for both personal emancipation and society transformation. Therefore, using paperwork or written assessment methods only concentrate on the cognitive domain, neglecting the affective and psychomotor domains, which are more evident in

the actual performance of the graduates as employees or employers of labour. It is also expected that higher education institutions should both teach and practice sustainable development principles through Education for Sustainable Development (ESD).

The Need for Education for Sustainable Development (ESD) in Business Education Programme

Education for Sustainable Development (ESD) involves a teaching and learning approach that is locally relevant, culturally appropriate, and universally sustainable - economically, socially and environmentally (Howard, 2018). Education for sustainable development has the ability to prepare the recipients towards being responsible to take actions for environmental integrity, economic viability, and a just society. Education for sustainable development is holistic and transformational through the relevant curriculum content, innovative pedagogies, conducive learning environment as well as the problem-solving learning outcomes (Bell, 2016). There is a necessity of integrating sustainability in management and business education in higher education learning (Dima & Meghisan-toma, 2018). Solving the social-economic and environmental problems in the society, which lead to the achievement of the sustainable development goals (SDGs 2030), is the focus of education for sustainable development (ESD). Holistic evaluation of the three domains in education is also a major characteristic of the practices in integrating education for sustainable development.

Theoretical Framework

The theoretical framework for this study includes: Human Capital Development Theory (Becker, 1964) and Experiential Learning Theory (Kolb, 1984).

Human Capital Development Theory

Becker's Human Capital Development Theory (1964) emphasizes the priority of investing more in human capital than tangible assets through education, training, skills, health and other values in human beings. Becker therefore, argues that investment of all these values in an individual will enhance job satisfaction, greater performance and higher productivity, which lead to profit maximization with less job turnover in the organization. This theory is related to this study in the sense that Business Education students, as a human capital asset, must be properly trained through the education process in order for them to be empowered with functional competencies for the attainment of sustainable development goals in Nigeria.

Experiential Learning Theory

The Experiential Learning Theory (Kolb, 1984) explains that it is a combination of cognitive, affective, and behavioural processes of knowledge, skills and attitudes through the active personal involvement of the participants in the learning process. This theory emphasizes the significant role that experience plays in the learning process. It is learner-centred, learner-directed, and problem-solving focused. This study identifies with the Experiential Learning Theory in that it stipulates practical pedagogical strategies appropriate for the business education undergraduate curriculum.

Conceptual Framework

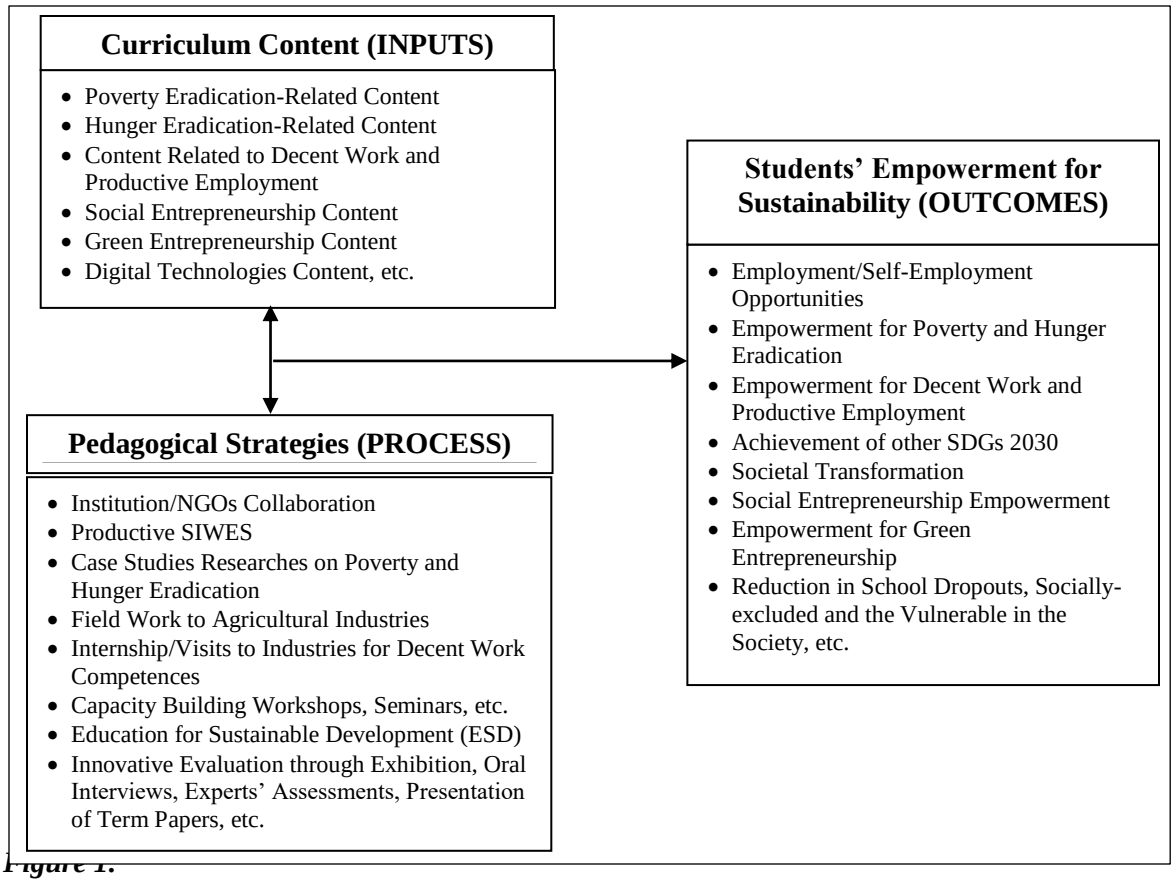


Figure 1:
Conceptual Framework for Assessing Business Education Undergraduate Curriculum for Empowerment and Sustainability.
Source: Researchers 2021

The Conceptual Framework (figure 1) illustrates the whole concept of this study and the interactions among the variables involved. The Business Education curriculum, which comprises the contents and pedagogical strategies, is the independent variable while sustainable empowerment opportunities are the dependent variable. Therefore, the inclusion of these curriculum contents (INPUTS) and the implementation of these innovative pedagogical strategies (PROCESS) would engender students' empowerment for the sustainability of the Nigerian, and the world's economy (OUTCOMES).

Research Questions

The following research questions were answered to guide the study:

1. What is the extent to which Business Education undergraduates are exposed to innovative pedagogical strategies for sustainable empowerment opportunities in South-West, Nigeria?
2. To what extent is the Business Education undergraduate curriculum capable of creating sustainable empowerment opportunities in South-West Nigeria?

Research Hypotheses

The following null hypotheses were tested in the study:

1. There is no significant difference between the opinions of Accounting, Marketing and Office Technology Management undergraduates on their exposure to innovative pedagogical strategies in Business Education in South-West, Nigeria.
2. There is no significant difference between the opinion of federal and state lecturers on the capability of the Business Education undergraduate curriculum in creating sustainable empowerment opportunities in South-West, Nigeria.

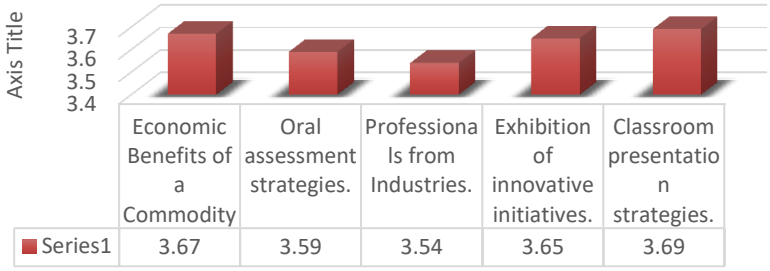
Research Methodology

The scope of this study included all public universities that offer Business Education undergraduate programmes in South-West, Nigeria. However, the study was delimited to only one federal and three state universities in South-West, Nigeria because they fully possessed the characteristics necessary for objective assessment in this study. Descriptive research design was adopted in this study. The population of this study comprised all 2,346 penultimate and final-year Business Education university students and 44 lecturers of Business Education. The sample size for this study comprised 770 penultimate and final-year Business Education university undergraduates and 25 Business Education lecturers. However, 727 students respondents eventually emerged as the sample size due to logistics challenges. The sample size was determined using Yamane (1973) sample size statistical model. Mixed-methods approach was employed in this study. The research instruments used were questionnaire and a focus group discussion schedule. The internal consistency of the research instruments was determined using Cronbach Alpha scale reliability and it yielded an average index of 0.89. The research questions and hypotheses data were analysed using Mean, Bar-graph, Standard Deviation, Independent Sampled T-test, Analysis of Variance (ANOVA), and Post-Hoc, at a 0.05 level of significance. The decision rule was based on any calculated mean score of 3.00, such that 4.5 and above is for 'to a very great extent'; 3.5-4.49 is for "to a great extent"; 2.5-3.49 is for "to a moderate extent"; 1.5-2.29 is for "to a low extent"; while below 1.5 is for "almost non-existent". Further, the value (p) was used in taking the decisions on the hypotheses. If the p-value is less than or equal to 0.05, the null hypothesis is not retained, but if the p-value is greater than 0.05, the null hypothesis is retained.

Data Analysis and Results

Research Question 1: What is the extent to which business education undergraduates are exposed to innovative pedagogical strategies for sustainable empowerment opportunities in South-West, Nigeria?

Figure 2: A Bar Graph Showing Innovative Pedagogical Exposure of Business Education Undergraduates



Key: *Very Great Extent (VGE) = 4.50 & above; Great Extent (GE) = 3.50-4.49; Moderate Extent (ME) = 2.50-3.49; Low Extent (LE) = 1.50-2.49; Almost Non-Existent (ANE) = less than 1.50*

Result of Research Question 1 Analysis

The results in figure 2 show that Business Education undergraduates in South-West, Nigeria, were exposed to the identified innovative pedagogical strategies to a great extent ($\bar{x}$ > 3.50). This shows that only little improvement is needed to attain their exposure to a very great extent. On the contrary, the findings from the focus group discussion revealed that only classroom presentation strategies were commonly used while other pedagogical strategies were used either occasionally or non-existent.

Research Question 2: To what extent is the Business Education undergraduate curriculum capable of creating sustainable empowerment opportunities in South-West Nigeria?

Table 1: Extent to which Business Education undergraduate curriculum is capable of creating sustainable empowerment opportunities

S/N	Item	Mean	S.D	Remark
1	Preparing students beyond establishing profit-making ventures.	3.92	0.812	High Extent
2	Equipping the vulnerable with functional competencies charging little or no fee.	3.12	0.971	Moderate Extent
3	Empowering the street children with self-employment skills.	3.16	1.143	Moderate Extent
4	Producing students with passion for improving lives in the communities.	3.48	0.963	Moderate Extent
5	Channeling students' orientation towards solving waste management problems.	2.72	1.100	Moderate Extent
6	Contributing to poverty eradication among people in the rural communities.	3.56	1.044	High Extent
7	Encouraging entrepreneurship in agricultural businesses to reduce hunger.	3.24	1.128	Moderate Extent
8	Providing empowerment opportunities for the physically-challenged.	2.68	0.852	Moderate Extent
	Average (%)	**3.24**	**1.002**	**Moderate Extent**

Very High Extent (VHE) = 4.50 & above; High Extent (HE) = 3.50-4.49; Moderate Extent (ME) = 2.50-3.49; Poor Extent (PE) = 1.50-2.49; Almost Non-Existent (ANE) = less than 1.50

Result of Research Question 2 Analysis

The results in table 1 reveal the opinions of lecturers' respondents on the extent to which the Business Education undergraduate curriculum is capable of creating sustainable empowerment opportunities for the sustainable development of the Nigerian economy. The overall results showed that the Business Education undergraduate curriculum is only capable of empowering the recipients for the sustainability of the Nigerian economy to a moderate extent (Average $\bar{x}$ = 3.24; SD = 1.002). However, the lecturers' respondents agreed that the Business Education undergraduate curriculum could prepare students beyond establishing profit-making ventures (Item 1: $\bar{x}$ = 3.92; SD = 0.812) and also contribute to poverty eradication among people in the rural communities (Item 6: $\bar{x}$ = 3.56; SD = 1.044) to a high extent. Therefore, these findings show that the Business Education undergraduate curriculum has not attained the functionality quality of 'Education for Sustainable Development' (ESD) that is capable of adequately empowering the recipients for the achievement of SDGs in South-West, Nigeria.

Research Hypothesis One:

There is no significant difference between the opinions of Accounting, Marketing and Office Technology Management undergraduates on their exposure to innovative pedagogical strategies in Business Education in South-West, Nigeria.

Table 2: Students' opinions exposure to innovative pedagogical strategies in Business Education

Specialization	N	Mean	Sd	F	Sig
Accounting	402	18.60	3.76		
Marketing	138	18.47	4.37	11.57	.000
Office Technology and Management	187	16.95	4.11		
Total	**727**	**18.15**	**4.03**		

The result presented in Table 2 shows that Accounting students ($\bar{x}$ = 18.60, Sd = 3.76) had the highest positive perception of students' exposure to innovative pedagogical strategies in Business Education in South-West, Nigeria; followed by marketing students ($\bar{x}$ = 18.47, Sd = 4.37), while the lowest perception was from Office Technology and Management students ($\bar{x}$ = 16.95, Sd = 4.11). Thus, One way ANOVA was run to determine if there was a significant difference in students' responses based on their specialization. The result shows a significant difference in students' responses based on their specialization ($F = 11.57$, $p < 0.05$). Therefore, the null hypothesis was rejected. The post-hoc test result is presented in figure 3.

Figure 3: Post-Hoc Test

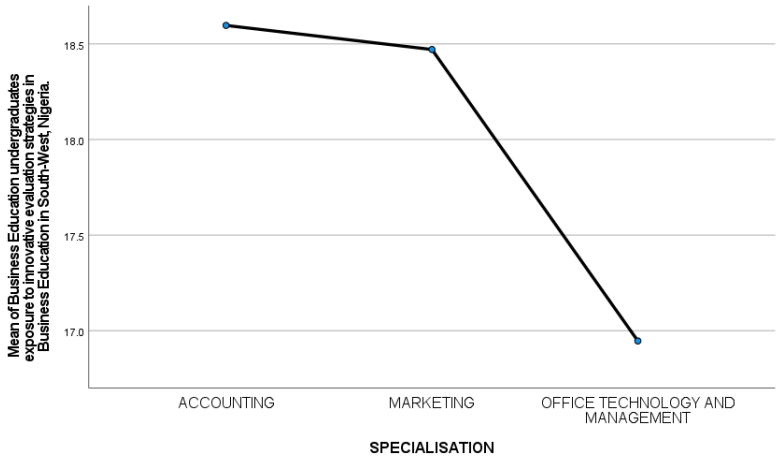


Figure 3: Perception of Business Undergraduates on exposure to innovative pedagogical strategies

The result presented in Figure 3 shows that accounting students have the highest perception of exposure to innovative evaluation strategies in Business Education in South-West, Nigeria; followed by marketing students, while Office Technology and Management had the lowest perception.

Research Hypothesis Two:

There is no significant difference between the opinion of federal and state universities lecturers on the capability of the Business Education undergraduate curriculum in creating sustainable empowerment opportunities in South-West, Nigeria.

Table 3: Comparison of Opinions of Lecturers in Federal and State Universities on the Capability of Business Education Undergraduate Curriculum in Creating Sustainable Empowerment Opportunities in South-West, Nigeria.

Institution	**Number**	**Mean**	**S.D**	**Tcal**	**Df**	**P – value**	**Remark**
State	20	26.90	5.857	1.714	23	0.100	Not Significant
Federal	5	21.80	6.380				

Table 3 presents the Independent Sampled t-test comparison of opinions of lecturers in federal and state universities in South-West, Nigeria on the capability of business education undergraduate curriculum in creating sustainable empowerment opportunities. The t-test comparison showed that a difference which is not statistically significant exists between the opinions of Business Education lecturers in federal and state universities in South-West, Nigeria ($t_{calculated} = 1.714$, $df = 23$, $p > 0.05$). We, therefore, accept the null hypothesis. Therefore, there is no significant difference between the opinions of lecturers at federal and state universities in South-West, Nigeria, on the extent to which the Business Education undergraduate curriculum is capable of creating sustainable empowerment opportunities. This means that both federal and state Business Education lecturers had similar opinions on the capability of the Business Education undergraduate curriculum in creating sustainable empowerment opportunities necessary for achieving the sustainability of the Nigerian economy.

Discussion of Findings

The findings of the study as shown in the bar graph (figure 2) establish that Business Education undergraduates had good exposures to innovative pedagogical strategies for sustainable empowerment opportunities. Students were exposed to oral assessment, which has the tendency of inculcating better communication skills in the learners. Professionals from industries were also invited to impart some professional knowledge and skills to the learners as well as to expose learners to several sustainable empowerment opportunities in the society. The study also establishes that students carried out creative works as well as exhibitions of innovative initiatives. Presentation of academic and field works in the classrooms were regular practices among Business Education undergraduates in the sampled institutions. Students were also allowed to assess the economic benefits of some commodities for better entrepreneurial engagement that would have a sustainable economic impact on the society in the nearest future. The study of Obiete, Nwazor and Vin-Mbah (2015) supported the findings of the quantitative data that Business Education students were exposed greatly to innovative pedagogies for sustainable empowerment opportunities. On the contrary, the qualitative findings through the focus group discussions with the student respondents revealed that only presentation of assignments and field-works were being carried out in the classroom. Other innovative pedagogies that were reported to be greatly implemented (figure 2) were almost non-existent in the classroom. This second finding confirmed the study of Edokpolor and Agbonkpolo (2018) and Shaibu, Ameh and Barinem (2016) that Business Education undergraduates were only exposed to traditional pedagogical and evaluation strategies such as written assignments, tests, examinations, and others. The researcher's opinion still supports the fact that tertiary institutions in Nigeria should be more proactive to expose students to innovative pedagogies for empowerment opportunities leading to sustainability of the Nigerian economy.

The findings in table 1 highlight the opinions of Business Education lecturer respondents on the capability of the curriculum to create sustainable empowerment opportunities. It was concluded that the Business Education undergraduate curriculum could only create sustainable empowerment opportunities to an average extent ($\bar{x}$ = 3.24). The quantitative report revealed that the Business Education undergraduate curriculum in the sampled institutions prepares students beyond profit-making ventures, and that it also contributes to poverty eradication in the rural communities to a high extent ($\bar{x}$ = 3.92 Item 1; $\bar{x}$ = 3.56, Item 6).

It was surprising to discover that the Business Education curriculum only succeeded to empower students to equip the vulnerable and street children with skills at a moderate level. In other words, empowering the vulnerable and socially-excluded with sustainable skills through the capacity-building programmes in the communities for almost free-of-charge was not a core practice in the curriculum and instruction of Business Education in South-West Nigeria. With all scientific and practical evidence of the poverty-stricken nature of most Nigerians, poverty and hunger eradication innovations such as the practice of agribusiness, and empowering the physically-challenged with sustainable entrepreneurial skills were almost absent from the actual implementation of the curriculum. Therefore, to properly position the Business Education undergraduate curriculum for sustainable empowerment opportunities leading to the achievement of the

SDGs 2030, deliberate and practical interventions and innovations need to be integrated into the existing curriculum. Then, Business Education undergraduates would be adequately empowered as catalysts for the actualization of the sustainability of the Nigerian economy. The findings of Nwokike, Ezeabii and Jim (2018) and Storey, Killian and O'Regan (2018) revealed that the Business Education curriculum lacked adequate content and innovative pedagogies to fully empower the recipients for sustainability agree with this study. The researchers agree with the findings of this study because the Business Education undergraduate curriculum, now, could not empower students for achieving the sustainability agenda of poverty and hunger eradication, as well as productive employment in Nigeria. Hence, an urgent need for restructuring and revitalisation of the programme curriculum and pedagogical approaches in Nigeria.

The results presented in Table 2 and Figure 3 show that Accounting students had the highest perception of exposure to innovative pedagogical strategies while Marketing and Office Technology and Management students had lesser exposure. This is an indication that students from the three specialisations in the Business Education programme in Nigeria were not exposed equally to innovative pedagogies for empowerment. There is a need for deliberate actions of the various relevant stakeholders to expose all Business Education students to empowerment opportunities in Nigeria. The study also showed (in table 2) that both lecturer respondents from the federal and state universities in Nigeria had similar opinions on the capability of the Business Education undergraduate curriculum in exposing students to sustainable empowerment opportunities. Therefore, general intervention strategies to enhance the curriculum must be ascertained in both federal and state universities in South-West Nigeria.

Conclusion

It is concluded I this study that the Business Education undergraduate curriculum has not attained the functionality quality of 'Education for Sustainable Development' (ESD) that is capable of adequately empowering the recipients for the achievement of SDGs of poverty eradication, zero hunger, and decent work/productive employment for all in South-West, Nigeria. The Business Education undergraduate curriculum should prepare students beyond establishing profit-making ventures, which focus on the rich, or people that can pay for services rendered. The passion to solve social, economic and environmental problems in the society should form the basis of the Business Education undergraduate curriculum contents, its pedagogical strategies, as well as its entrepreneurial orientation and activities (FRN, 2017).

Recommendations

It is therefore recommended that the teaching and learning of the Business Education undergraduate curriculum should lay emphasis on sustainable empowerment opportunities to improve the welfare of school dropouts, unemployed youth, the vulnerable, and other marginalized individuals in the communities. Assessment and pedagogical strategies in the Business Education undergraduate programme should span beyond paper assessment to include the entrepreneurial impact of students on the immediate communities. Experiential learning strategies for solving social, economic and environmental problems in society should be very prominent for pedagogy in the Business Education undergraduate programme.

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IMPACT OF NON-FORMAL EDUCATION IN EMPOWERING VOCATIONAL-BASED TEACHERS IN ACHIEVING SUSTAINABLE DEVELOPMENT IN NIGERIA

[1]Lano Maduagwu & [2]Okebiorun J.O.

[1&2]University of Lagos, Nigeria

Abstract

The impact of non–formal education in empowering vocational subject teachers to contribute meaningfully to sustainable development is the focal point of this paper. The study employed the descriptive research design of the survey type. The population of the study comprised all the vocational subject teachers in the six education districts in public senior secondary schools in Lagos State, Nigeria. The sample consisted of 328 vocational subject teachers from three educational districts in Lagos State whose selection was based on a multistage sampling procedure. An instrument tagged 'Empowering Vocational subject teachers Questionnaire' (EVSTQ) was used to collect data for the study. The reliability of the study was determined through split- half method which a reliability coefficient of 0.72. The study was guided by three research questions and three research hypotheses tested and answered at P< .05. The data collected were analysed using descriptive and inferential statistics of Pearson moment of correlation, and ANOVA. Findings of this study revealed that there was a positive relationship between non-formal educations in achieving Sustainable development most in particular goal 4. In conclusion, this study clearly shows that non-formal education is an effective tool for updating and broadening the knowledge the Vocational teachers had acquired at the initial education. Based on the findings, it was recommended that non-formal education should be encouraged among the Vocational subject teachers as this will expand their access to opportunities to learn about sustainability issues and values.

Keywords: Career, Competencies, Empowering, non-Formal Education, Sustainable Development, Teachers and Vocational

Introduction

Education is the key to the development of any nation. At any given time, education is important for any given country's socio-economic, cultural, and political development. One of the most important roles of education in development whether in quantitative or qualitative development is the expansion of an individual's educational opportunity. Education is also perceived as the first step of sustainable development and a very significant step in improving a generation of people to appreciate the importance of sustainability (Okebukola, 2013). As reaffirmed at the United Nations Conference on Sustainable Development, full access to quality education at all facets is an indispensable condition for achieving sustainable development. On the other hand, education will eradicate poverty, gender equality, and women empowerment. Furthermore, quality of education is a determinant for human growth as well as for the attainment of the internationally agreed development goals, including Goal 4, and for the full involvement of both women and men especially young people (United Nations, 2012). Buttressing the

importance of education, Okebukola (2013) sequences the contributory role of educational sustainability for strengthening the economy of a nation as including; developing skills and knowledge for growing the economy and spawning new industries, promoting creativity, stimulating research for innovative discoveries, alleviating poverty, enhancing gender equality and improving health. Education, predominantly the all-inclusive and quality education is the focus of SDG 4 and is critical to all of the other SDGs and sustainable development in general (Buckler & Creech, 2014). SDG 4 is therefore a wise decision because education is the bedrock of any society that is willing to open up employment opportunities for all which helps in bringing out an individual from the shackle of unemployment and poverty, reduces societal inequalities, and provides the knowledge and skills needed to live supportive lifestyles (Hanachor & Wordu, 2021).

The above assertion is the reason why ensuring all-inclusive quality education for citizens and teachers is number four goal of sustainable development goals. Goal number four focuses on acquiring foundation and higher order skills, more significant and more equitable access to technical and vocational education, training, and higher education needed to function well and contribute to society (United Nations, 2016). If education is then the instrument par excellence that is universally used for the development of any civilised society, no nation can achieve SD without first of all improving and increasing the manpower of teachers through acquisition of skills and knowledge that is gotten on the platform of NFE.

The frequent occurrence of low students turn out in vocational subjects may be as a result of inadequate and lack of competency needed by the Vocational subject teachers. The teaching of vocational subjects such as home economics, food and nutrition, fine art, music, agricultural science, introductory technology among others in Lagos State secondary schools has become paramount to achieving SD goals. The goal of vocational subjects in Lagos State secondary schools is to enable the students to acquire demonstrable skills, acquire practical and skilful knowledge that can prepare the students for employment in recognised occupation, and enable them to triumph over poverty (https://www.lagosschoolsonline.com/PDF). Hence, the vocational subject teachers who are to impact the knowledge to students must be constantly trained and developed to teach the subjects at all level. The teachers must be competently and adequately trained in the vocational subject's area. In addition to their degree, they must have proficiency in vocational skills which may not be necessary gotten in formal education but that can be gotten in NFE programmes. The vocational subject teachers need professional skills. Hence, their continuous training and retraining for updating of their competency level calls for discussion. Thus, for the Nigerian government to achieve the stated goals of sustainable development, refreshing and reforming the practicing teachers becomes imperative. The determinant of achieving sustainable development is a function of the abilities, skills, and competencies of the teachers among others.

This is because the modern knowledge society is based on people who have the skills and competencies to provide solutions for society's challenges. Hence, the knowledge and skills which individuals and vocational subject teachers mostly require to function effectively and maximally in this present world does not solely rest on the formal system

of education. The 21st century global citizens requires all forms of education be it formal, informal and non-formal. It is a glaring fact that education in all its forms constitutes a vital tool for all round development. It is equally a tool for addressing virtually all problems be it physical, social, political, economical, psychological, religious and environmental issues. In the context about sustainability of development, education (formal, informal, and non-formal) contribute to the competence of individuals to participate in and construct a sustainable way of life (Okebiorun, 2019). Thus, education is a significant tool for getting sustainability which includes public awareness, training of life skills, developing in individual intellectual flexibility and creativity, and inculcating of the right cultural values in the citizens of a nation. Hence, the saying that "education is not only an end in itself". Rajaj and Chiv (2009) pointed out that any form of education is a key instrument for bringing about changes in knowledge, values, behaviours, and lifestyles required to achieve sustainability and stability within and among countries. It was in the light of this that the Federal government of Nigeria spells out the relevance of education to national development in the National policy of education (2004: 1) as

> *Education shall continue to be highly rated in the national development plans because education is the most important instrument for change; any fundamental change in the intellectual and social outlook of any society has to be preceded by an education revolution.*

The above statement clearly shows the relevance of both formal and non-formal education in achieving sustainable development in Nigeria. Despite the importance of formal education in developing the nation's manpower, it has been grossly criticized as being inadequate for national development. Akubuilo et al. (2014) contended that more emphasis is placed on formal education in Nigeria at the detriment of adult and non-formal education. Hence, non-formal education is thus a child of necessity as a result of shortcomings and failure of the formal education system in developing countries and mostly in Nigeria. The main advantage of NFE is its flexibility and ability to adapt to individual people's current needs and the continual changes in society. It can enhance personal development, as well as improve teachers' professional skills. The imperative of NFE is expressed in the fact that it serves as a tool to enrich and empower an individual's knowledge and develop his potential as well as his competencies. NFE unlike theoretical formal education is practical and vocational based. Hence, its relevance to the sustainability of vocational subjects' teachers cannot be overemphasized. NFE programmes includes adult basic education, workers education, vocational education, continuing education, and all forms of literacies education that can enhance the skills of the vocational subjects' teachers to acquire job skills and life skills. NFE programmes aim to assist displaced workers in making the transition to alternative jobs in sectors of the economy or in becoming self-employed. In some cases, NFE programmes have been developed explicitly for redundant employees. Teachers are the bedrock on which an individual depends and rely on to actively bring out the latent talents of the individuals for their personal growth and for societal benefits as well. Recognizing the vocational subject teachers as an embodiment of human capital as well as the channel through which the human resource of a nation is developed becomes imperative. The importance of vocational subject teachers is crucial and whatever is required to empower and boost their skills should be of paramount concern to the stakeholders (Okebiorun & Babalola, 2017;

Okebiorun, 2016; Badu-Nyako & Zumapkeh, 2013). In a nutshell, NFE activities are of great importance as they positively influence society growth and development, it is something people need and want as long as they are alive and regardless of the amount of their previous education.

Other possibilities in NFE programmes that can empower Vocational subject teachers are distance learning and computer-assisted instruction. The role of NFE in empowering vocational subject teachers to contribute meaningfully to the actualization of sustainable development is the focal point of this paper. The authors are of the opinion that NFE programmes as identified above can provide the vocational subjects teachers with perspectives, values, competencies, knowledge, skills, attitudes, and behaviours to live sustainably in the society. Against these backgrounds, this study examines the relevance of NFE in empowering vocational subject teachers for sustainable development.

Statement of Problem

The impact of formal education in teacher's empowerment has always been in dispute. Whereas some argued that formal education is theoretical and very rigid, others hold a contrary view that NFE is narrow in scope and not broad for empowering teachers. NFE seems only to be practical and vocational based and it seems it cannot empower teachers. Whereas the competencies and skills of teachers teaching vocational subjects in Nigeria seem to be low and inadequate in content. In addition to this, their training and development seems to have been haphazardly handled which in turn affects their productivity in a negative manner. If Nigeria will achieve the vision 2030 as stipulated in SD goals, then it requires a fresh look at NFE and its programmes in empowering the vocational-based teachers in Nigeria. In achieving the SD goals and mostly goal four (4), one must be able to understand the value and worth of vocational teachers by empowering and giving them a good opportunity to learn and to enhance their progress as professional teachers as stipulated in the goal. For 21st century teachers to function optimally, the vocational subject teachers require provision of intellectual and professional development programmes adequate enough for any development. Hence, this study investigated the role of NFE in empowering vocational subject teachers and its relevance in achieving sustainable development.

Purpose of Study

The purpose of this study was to examine the role of non-formal education in empowering vocational subject teachers in achieving sustainable development. Specifically, the objectives of the study were to;

1. find out the perception of the vocational subject teachers regarding the contribution of NFE in empowering them with life skills needed in the teaching and learning process in schools in Lagos State, Nigeria;
2. examine the ways NFE if any, will contribute to achieving sustainable development goal four (4) in Nigeria; and
3. find out if NFE will enhance the career development of Vocational subject teachers in Lagos State, Nigeria.

Research Questions

The following research questions guided the study;

1. What is the perception of the home economics teachers regarding the contribution of NFE in empowering them with life skills needed in the teaching and learning process in schools in Lagos State, Nigeria?
2. How will NFE contribute to achieving sustainable development goal 4 in Lagos State, Nigeria?
3. To what extent will NFE enhance the career development of vocational subject teachers in Lagos State, Nigeria?

Research Hypotheses

The following hypotheses were tested

Ho_1. There is no significant contribution of NFE in empowering the Vocational subject teachers with life skills needed in the teaching and learning process in schools in Lagos State, Nigeria.

Ho_2. There is no significant relationship between NFE and achieving SD goal 4 in Lagos State, Nigeria.

Ho_3. There is no significant relationship between NFE and the career development of Vocational teachers in Lagos State, Nigeria.

Literature Review

Concept of Non-Formal Education

The world has become increasingly complex and uncertain such that humanity is altering the planet's climate, animals, and landscapes in unprecedented ways and threatening all life on earth, thus making individuals to demand qualitative and quantitative education that goes beyond formal education for survival. Consequently, the world is changing rapidly, people need an idea to live and cope in the changing world. By this, a new approach different from the theoretical formal education is needed. NFE seems to be the way out in educating people for sustainability. The emphasis on the 21st century competencies and human capital development is also of great importance to NFE. The 21st century competencies are needed by the teachers in order to be able to adapt themselves to changes which are caused by disruptions in the life of the society.

Many countries including Nigeria consider education (formal, informal and non-formal) as an instrument for individual or national development, as a catalyst for change from ignorance or subservience to full possession of knowledge and self-confidence. Nevertheless, snippets garnered from the National Policy of Education (2004) emphasized that any fundamental change in the intellectual and social outlook of any society has to be preceded by an educational revolution. NFE as defined by the European Youth Foundation (2021), is a planned, structured programmes and processes of personal and social education for young people designed to improve a range of skills and competencies, outside the formal educational curriculum. Thus, NFE is framed in accordance with specific requirements of a certain skill or job. Though it is not a substitute for formal education, it complements the formal education within the ambit of lifelong learning. The Federal Republic of Nigeria (2004) outlined the goals and objectives of mass literacy, adult and non-formal education to include;

a. provide functional literacy and continuing education for adults and youths who have never had the advantage of formal education or who did not complete their primary education. These include the nomads, migrant families, the disabled and other categories or groups, especially the disadvantaged gender;
b. provide functional and remedial education for those youths who did not complete secondary education;
c. provide education for different categories of completers of the formal education in order to improve their basic knowledge and skills;
d. provide in-service on the job, vocational and professionals in order to improve their skills; and
e. give the adults citizens of the country necessary aesthetic, cultural and civic education for public

The aims and objectives of NFE as stated above are so enormous and germane that it can make individuals and mostly the vocational subject teachers to be self-fulfilled, self-reliant and above all to be self- actualized. The National policy of education, Federal Republic of Nigeria, (2013) has placed a great premium on NFE given its role in the vocational and technological development of Nigerians. The Federal Government recognised NFE as an aspect of education which leads to the acquisition of practical and applied skills as well as fundamental knowledge. Oyebamiji (2012) explained NFE to be educational activity which is systematically organized outside the framework of the formal school system aimed at providing selected learning experiences to sub-groups in the society. The sub-groups in this study are the vocational subject teachers in Lagos State, Nigeria. Similarly, Badu-Nyako and Zumapkeh (2013), pointed out that NFE has been impacting on people positively, especially the poor, marginalized and the excluded. In this vein, Okebiorun and Babalola (2017) inferred NFE to be educational activities prioritised to increase knowledge, create awareness and empowering individuals to take appropriate decisions and initiatives in exploring the challenges and opportunities created in an environment. NFE according to them informed individuals with social awareness, liberate and give necessary civic education for enlightenment.

The role of NFE in promoting, integration of diverse elements within the society is crucial. Okebiorun (2014) explained NFE includes many types of learning experiences; it is a life-long process of learning which includes adult education, apprenticeships system, continuing education, in-service programme, on-the-job training programme, personnel and professional development, workers and students' industrial training. In the light of this, UNESCO (2020) observed NFE practices are rich experiences in diversity of approaches, which provide and recover cognitive and non- cognitive learning content. These experiences according to UNESCO (2020) also provide the vocational subject teachers with knowledge, skills, values and attitudes that people need to live fruitful lives, make informed decisions and take an active role locally and globally in solving problems related to sustainable development. NFE programmes are thus, recognized as relevant for empowering the vocational subject teachers in achieving sustainable development in Nigeria.

Concept of Sustainable Development

In the literary sense, development means change in the original state, structure, or size of a thing, especially from a small to a big object. From the cognitive perspective, it involves a change in individuals' thought, perception and awareness. While sustainable simply means gradual growth of something so that it becomes more advanced and stronger. The Bruntland Commission shifted the widely concept of 'Development' by reshaping and modifying the concept to 'Sustainable Development'. The Most interesting aspect of sustainable development is the fact that it puts into consideration the present conditions of people as well as not compromising those that come later. Therefore, the concept of sustainable development remains the modern parameter of measuring development in the 21st century (The Bruntland Commission, 1987).

The Bruntland commission (1987) defined sustainable development as the development that meets the needs of the present without compromising the ability of the future generations to meet their own needs. There are about 17 sustainable development goals (SDGs) in Nigeria designed as a blue print to achieve a better and more sustainable future for all. The Sustainable Development Goals (SDGs) according to Beisheim (2015) are;

1. End poverty in all its forms everywhere
2. End hunger, achieve food security and improve nutrition and promote sustainable agriculture
3. Ensure inclusive and equitable quality education and promote lifelong learning opportunity for all
4. Ensure health lives and promote well-being for all ages
5. Achieve gender equality and empower all women and girls.
6. Ensure availability and sustainable management of water sanitation for all
7. Ensure access to of affordable, reliable, sustainable and modern energy for all
8. Promote sustainable inductive and sustainable economic growth, full and productive employment and decent work for all
9. Build resilient infrastructure, promote inclusive and sustainable industrialization foster innovation
10. Reduces inequality within and among countries
11. Make cities and human settlement inclusive, safe resilient and sustainable
12. Ensure sustainable consumption and production patterns
13. Take urgent action to combat change and its impact
14. Conserved and sustainably use the oceans, seas and marine resources for sustainable development
15. Protect, restore and promote sustainable use of tangential ecosystems, manage forests, combat desertification, and halt and reserve land degradation and halt biodiversity lose
16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels, and;
17. Strengthen the means of implementation and revitalized the global partnerships for sustainable development.

The sustainable development goals are about sustainable development common to all nations of the world. What makes them special is that they come with specific target

indicators for measuring achievements and dates for achieving these targets. Thus, development is a gradual or progressive enhancement of human, natural and material resources of community, nation and the entire society (Morton, 2017). A nation's development potential depends upon its ability to continuously educate its citizens as well as create an avenue of empowering her teachers

The SDGs are established objectives contained in a universal agreement to end poverty, protect all that makes the planet habitable, and ensure that everyone enjoys peace and prosperity, now and in the future (Morton, 2017). The global goals are the outcome of years of high-level global summits. Each of the 17 goals has a set of targets and each set has at least one target that deals with or implies learning, training, education or at very least raising awareness for one or more groups of adults. The goal 4 emphasized to 'ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. The emphasis under this goal has worldwide coverage of quality education from pre-school through at least secondary education and then to more advanced, skills training of teachers in particular. Particular emphasis is on equal access to all and lifelong education. It then means that the teachers who are the implementer of the curriculum must give attention to all forms of education, both formal and non-formal. While the goal 4 subset 4 also emphasized that by year 2030 every country should substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship (Beisheim, 2015)

Akubuilo et al. (2014) observed that all the SD goals cannot be achieved by formal education but can be achieved through substantial programmes of NFE. Each of the 17 goals is expected to be achieved by 2030 in every country around the world. Sustainable development goal 4 is on quality of education. Okebiorun (2014) explained the overall goals of any development should be to propel individual's attitudinal changes for an improved quality of work and life.

Convergence between Non-Formal Education and Vocational Subject Teachers' Empowerment

In every society, the role of teachers in development are crucial and whatever is required to increase their skills, competences and abilities to achieve any development should be of paramount concern. Recognizing the vocational subject teachers as an embodiment of knowledge and human capital through which a nation can be transformed into technological giant is a stepping stone or an alternative means to achieve sustainable development. Generally, the competence of all teachers are determined by knowledge, skills, proficiency and values in a specialized context.

This study proposes that NFE will make the vocational subject teachers acquire practical skills and knowledge, that can develop creativity in them which probably may not be acquired in formal education. It is the opinion of the authors that NFE will bridge and fill the gaps and the inadequacies of formal education, such that, NFE enables the vocational subject teachers to acquire necessary competencies and skills to become active teachers and improve their job performance. Throughout the world, vocational and technical education programmes have been recognised as that aspect of education which leads to

the acquisition of practical skills in solving the problems of unemployment and poverty level of any nation, consequently, it is believed that NFE can enhance the professional skills of the vocational subject teachers in making them to be more productive and enabling them to generate income and as well attain sustainable livelihoods.

Teachers are generally regarded as direct implementers of any educational programmes and their roles in nation building cannot be over emphasized. They are gratifiers who would in return give back to the nation the maximum of their intellectual capacity. Teachers are the mirror of the upcoming generations in the form of students and an effective agent of establishing all round development. A teacher's prime responsibility therefore is to make the students good citizens that the society will look up to, both in the present and future to fulfil their full potential not only for their own benefit but for the advancement of the society or nation at large. In actual fact, the destiny of a nation is shaped inside the four walls of a school. Thus, the vocational subject teacher has a greater responsibility in building or moulding a nation at an early stage. However, in a multi-religious and multi-ethnic nation like Nigeria, the vocational subject teachers' task in achieving development of any kind is enormous.

The globalized world is fighting a war that is not only of material weapons but of knowledge, creativity, skills and competence have become the major issues that determine the positioning of nation apart from their natural resources and military might. The more reasons why vocational subject teachers should possess sufficient knowledge, skills, qualities, attitudes, abilities or views and orientations that will enable their sustainability, equip them and as well make them competitive in labour market. The more needed and sustainable development may not be achieved without empowering the vocational subject teachers in NFE and its programmes. Gu, Gomes and Brizuela (2011) reiterated that training and manpower development are now recognised as highly important in career advancement of the vocational subject teachers while previously vocational education was seen as a 'secondary- class education when comparing it with university education'. Okebiorun (2019) emphasised that NFE focuses on meeting the educational needs of people both young and old adults. It aims at fostering self-confidence of the people, raising their level of consciousness and helping them gain skills that will enable them promote their own well-being, the community and society at large. Okebiorun (2019) reiterates further that NFE is the surest means of providing people with the orientation that would promote the understanding of themselves, their circumstances and how best to live a fulfilling life. In a nutshell, NFE is a purposeful education for life empowerment and for achieving sustainable development

Methodology

This study adopted descriptive survey research design. The design was considered because it allows for objective description of a set of phenomenon and determines whether the phenomena can be controlled through certain intervention programmes (Okebiorun, 2014). Vocational subject teachers' responses were collected in order to identify the role of NFE programmes in empowering them to actualise SD in Nigeria.

Population
The population of the study comprised all the public vocational subject teachers in the six education districts in Lagos State, Nigeria.

Sample and Sampling Technique
There are 699 public secondary schools in Lagos State. The schools comprised junior and senior secondary schools made up of 347 juniors and 322 seniors. The 699 schools are located in the six educational districts that were created to supervise the activities of the schools in each district and serve as a link to the ministry of education. In selecting the respondents for the study, a multi- stage sampling procedure was employed. It was a combination of the simple random and proportionate stratified sampling techniques. The researchers used the simple random technique of hat and draw to select three (3) education districts from the six (6) educational districts in Lagos State, Nigeria. The selected districts are: Districts 1, 3, and 6. In selecting the schools, proportionate stratified random sampling was used to select 164 from 334 schools (both juniors and seniors) schools in the selected districts. The school comprises 87 junior secondary schools and 77 senior secondary schools. To select respondents for the study, a purposive random sampling technique was employed to select two vocational subject teachers each from a school. In all 328, vocational subject teachers formed the sample size for the study.

Research Instrument
Structured questionnaire tagged 'Empowering Vocational subject teachers through non-formal education for sustainable development Questionnaire' (EVSTNFESDQ) was developed by the researchers. The questionnaire consisted of two sections. Section A elicited information on respondents' characteristics such as name of school, sex, age and years of service. Section B contained items on the purpose of the study as well as on the research questions and hypotheses respectively. The mode of responses on the questionnaire was based on the four point modified Likert scale with assigned values ranging from 4 to 1 from strongly agree, agree, disagree and strongly disagree. The researchers with the help of six (6) research assistants (two in each district) administered copies of the questionnaire to the respondents.

Validity and Reliability of the Instruments
To ensure that the questionnaire would elicit the correct responses from the respondents, draft copies were given to two lecturers: one in the Department Of Adult Education and the other in Science And Technology Education from the Faculty of Education, University of Lagos to ascertain both face and content construct validity. The reliability of the instrument was determined through split-half method. The researchers administered it on 85 Vocational subject teachers in the district 2 which did not form part of the study. The scores obtained from the responses of the subjects were subjected to Cronbach's Alpha reliability coefficient test. The analysis yielded a reliability coefficient of 0.72.

Method of Data Analysis

The data collected was subjected to descriptive analysis of percentage, mean and standard deviation and inferential statistics of Pearson Moment of correlation coefficients and ANOVA. The criterion of 2.5 was used to determine the accepted mean

Results

Research questions 1

1. What is the perception of the Vocational subject teachers regarding the contribution of NFE in empowering them with life skills needed in teaching and learning process in schools in Lagos State, Nigeria?

Table 1: Descriptive Statistics on the Perception of the Vocational subject Teachers Regarding the Contribution of NFE in empowering them with Life Skills Needed in Teaching and Learning Process

	N Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Error	Std. Deviation Statistic
PERCEPTION	328	13.00	52.00	46.6372	3.83673	.035463
Valid N (listwise)	328					

Table 1 indicated that the estimated mean (13 + 52)/2 = 32.5 while the calculated mean is 46.6372. The calculated mean is greater than the estimated mean. This implies that the perception of the Vocational subject teachers regarding the contribution of NFE in empowering them with life skills needed in teaching and learning process in schools in Lagos State, Nigeria is favourable.

Research questions 2

2. How will NFE contributes to achieving sustainable development goal 4 in Lagos State, Nigeria?

Table 2: Descriptive Statistics on NFE Contributes to Achieving Sustainable Development

S/N	Items	SA		A		D		SD	
		F	%	F	%	F	%	F	%
1.	To achieve sustainable development in Nigeria reforming and refreshing teachers are not necessary.	**_**	**_**	**10**	**3.28**	**18**	**5.49**	**300**	**91.46**
2.	NFE is necessary for getting sustainable development in Nigeria	**164**	**50.00**	**160**	**48.78**	**-**	**-**	**4**	**1.21**
3.	NFE is not enough for my professional development	**4**	**1.22**	**5**	**1.52**	**161**	**49.08**	**158**	**48.17**

Table 2 shows that 91.46 of the respondents agreed that to achieve sustainable development in Nigeria reforming and refreshing Vocational subject teachers are necessary, 98.78 agreed that NFE is necessary for getting sustainable development in Nigeria, and 97.9 agreed that NFE is enough for my professional development. Hence, NFE contributes to achieving sustainable development goal 4 in Lagos State, Nigeria.

Research questions 3

3. What are the ways NFE will enhance career development of Vocational subject teachers in Lagos state, Nigeria?

Table 3: Descriptive Statistics on NFE Contributes to Achieving Sustainable Development

S/N	Items	SA		A		D		SD	
		F	%	F	%	F	%	F	%
1.	NFE is not adequate enough to enhance my teaching and learning process.	**29**	**8.84**	**30**	**9.15**	**157**	**47.87**	**112**	**34.15**
2.	I can communicate effectively if I avail myself in NFE processing.	**300**	**91.46**	**10**	**3.28**	**18**	**5.49**	**-**	**-**
3.	The impact of NFE will go a long way to take responsibility for myself and not to blame others.	**164**	**50.00**	**160**	**48.78**	**-**	**-**	**4**	**1.21**
4.	I can make decision for myself without attending NFE programmes.	**200**	**60.98**	**110**	**33.54**	**9**	**2.74**	**9**	**2.74**
5.	Vocational training will be enhancing my efficiency and give me opportunity to do my work better	**310**	**94.51**	**18**	**5.49**	**-**	**-**	**-**	**-**
6.	NFE will not add to my competencies in teaching and learning process	**10**	**3.28**	**10**	**3.28**	**178**	**54.27**	**130**	**39.63**
7.	I can change my method of teaching	**188**	**57.31**	**112**	**34.14**	**12**	**3.66**	**16**	**4.88**
8.	I can develop myself through in-service or the job and off the job training programme	**200**	**60.98**	**100**	**32.8**	**18**	**5.49**	**10**	**3.28**
9.	With non-formal education I am self-fulfilled and self - actualized	**5**	**1.14**	**5**	**1.14**	**318**	**97.22**	**-**	**-**
10.	NFE can neither liberate or make me to be self-fulfilled	**80**	**24.39**	**88**	**26.82**	**87**	**26.52**	**73**	**22.25**

Table 3 shows that 82.02% of the respondents agreed that NFE is adequate enough to enhance my teaching and learning process, 94.51% of the respondents agreed that they can communicate effectively if they avail themself in NFE processing, 98.78% of the respondents agreed that the impact of NFE will go a long way to take responsibility for myself and not to blame others, 94.52 % of the respondents agreed that they can make decision for themself without attending NFE programmes, and 100% agreed that vocational training will be enhancing their efficiency and give them opportunity to do their work better. Hence, vocational training, self-development, in-service training among others are ways NFE enhanced career development of Vocational subject teachers in Lagos state. The figure 2 below further shows the ways NFE enhances career development of vocational subject teachers in Lagos State.

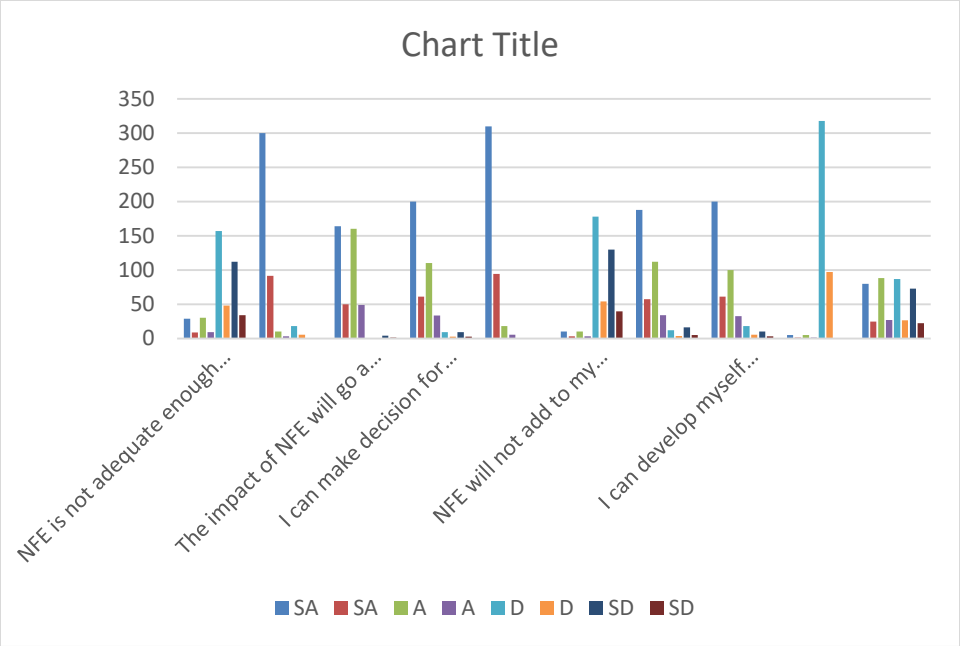

Figure 3: Bar Chart on Ways NFE will Enhance Career Development of Vocational subject Teachers in Lagos State, Nigeria

Research Hypotheses

Ho1: There is no significant contribution of NFE in empowering the Vocational subject teachers with life skills needed in teaching and learning process in schools in Lagos state, Nigeria.

Table 4: ANOVA Statistics on the Contribution of NFE in Empowering the Vocational subject Teachers with Life Skills Needed in Teaching and Learning Process

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	701.325	1	701.325	46.536	<.001[b]
	Residual	1267.555	326	3.888		
	Total	1,968.88	327			

a. Dependent Variable: Life Skills

b. Predictors: (Constant), NFE

Table 4 shows that $F_{(1,328)} = 46.536$ which is significant at 0.05 level of significance. This implies that there is significant contribution of NFE in empowering the vocational subject teachers with life skills needed in teaching and learning process in schools in Lagos state, Nigeria. Hence, reject Ho1.

Ho2: There is no significant relationship between NFE and achieving sustainable goal 4 in Lagos State, Nigeria.

Table 5: Correlation Statistics on NFE and Achieving Sustainable Goal

		NFE	ACHIEVING SUSTAINABLE GOAL
NFE	Pearson Correlation	1	.877**
	Sig. (2-tailed)		.000
	N	328	328

ACHIEVING SUSTAINABLE GOAL	Pearson Correlation	877**	1
	Sig. (2-tailed)	.000	
	N	328	328

** 0.05 level of significance.

Table 5 show that the Pearson correlation value between NFE and achieving sustainable goal is 0.877 which is significance at 0.05 level of significance. This implies that there is a positive and significance relationship between NFE and achieving sustainable goal 4 in Lagos State, Nigeria. Hence, reject Ho2.

Ho3: There is no significant relationship between NFE and career development of Vocational subject teachers in Lagos State, Nigeria

Table 6: Correlation Statistics on NFE and Career Development of Vocational subject Teachers

		NFE	CAREER DEVELOPMENT
NFE	Pearson Correlation	1	.731**
	Sig. (2-tailed)		.000
	N	328	328
CAREER DEVELOPMENT	Pearson Correlation	731**	1
	Sig. (2-tailed)	.000	
	N	328	328

** 0.05 level of significance.

Table 6 shows that the Pearson correlation value between NFE and career development of vocational subject teachers is 0.877 which is significance at 0.05 level of significance. This implies that there is a positive and significance relationship between NFE and career development of vocational subject teachers in Lagos State, Nigeria. Hence, reject Ho3.

Discussion of Findings

The results of this study showed that vocational subject teachers had a strong believe in the contribution of NFE in empowering them with life skills needed in teaching and learning process. These findings are explainable by the assertion of Akubuilo et al. (2014) that the imperative of NFE is expressed in the fact that it serve as a tool to enrich and empower an individual's knowledge and develop his potentials as well as his competencies. This is because, NFE unlike the theoretical formal education is practical and vocational based. Its relevance in empowering the Vocational subject teachers cannot be over emphasised.

The study also revealed that NFE contributes to achieving sustainable development goal 4 in Lagos State, Nigeria. This finding corroborates Okebukola (2013) who explained the contributory role of NFE in educational sustainability in strengthening the economy of a nation as including; developing skills and knowledge for growing the economy and spawning new industries, promoting creativity, stimulating research for innovative discoveries, alleviating poverty, enhancing gender equality and improving health. This is the focus of SDG 4, and is critical to all of the other SDGs. The finding is also in agreement with Buckler and Creech (2014) and Hanachor and Wordu (2021) that, SDG 4 is a wise decision because education will bring out individuals from the shackle of

unemployment and poverty, reduces societal inequalities and provide the knowledge and skills needed to live supportive lifestyles.

The findings further reveal the Pearson correlation value between NFE and career development of Vocational subject teachers as presented in table 3 as 0.877 which is significance at 0.05 level of significance. The result implies that there is a positive and significance relationship between NFE and career development of Vocational subject teachers in Lagos State, Nigeria. This finding is supported by the earlier findings of Macleans and Park (2009) that the skills necessary in this new century, especially those in new processes and services, are not yet available in universities most especially in developing countries. Embedding the vocational subject teachers with NFE practices will improve their job performance. Training and manpower development are the important tools to develop human resources and facilitate the transmission to a more sustainable world. In a nutshell, NFE is a purposeful education for career development.

Conclusion

This study investigated the impact of NFE in empowering the vocational subject teachers and its relevance in achieving sustainable development in Nigeria. The study's aim was to find relative complimentary relationship of the independent variables on providing life skills, achieving SD goal and specifically goal 4 and lastly, to enhance career development of vocational subject teachers in Lagos state, Nigeria. This study has clearly shown that non-formal education is an effective tool for updating and broadening the knowledge the vocational subject teachers had acquired at the initial teacher education and/or providing and empowering them with new skills and knowledge for both personal and professional development. The study showed that NFE will empower the vocational subjects teachers by providing them with life skills needed in their profession at the same time enhance them professionally, while NFE positively contributed to achieving SD goal 4. Based on the findings of this study, it becomes imperative to the government, policymakers and the stakeholders in education sector to give priority to NFE and remove all impediments to actualisation of NFE policy in Nigeria. Areas such as educational administration, entrepreneurship, leadership, use of software packages and information and communication technology for 21st century teaching and many others, should be incorporated in NFE schemes. Active participation should be at its core in any scheme for empowering the Vocational subject teachers through non-formal education. The vocational subject teachers have to be engaged at every stage of the non-formal education scheme, as this does not only motivate them but also makes it easier for the learning-teaching process to take place effectively. By actively participating in the scheme, the vocational subject teachers will be able to take responsibility for his/her own learning.

Recommendations

Based on the findings and conclusion of this study, it is recommended that;

1. Attention must be given to all forms of education (formal, informal and non-formal) since education is the catalyst for achieving sustainable development world wide
2. Fostering of adequate manpower development and training to improving the life skills and enhance the career development of the Vocational subject teachers is

important in achieving sustainable development goals. Specifically, goal 4 that specified quality education is required and mandatory in the present education situation in the country.

3. Government at all levels, Federal, State and Local as stakeholders of education must have a special interest in NFE and its programmes. They must be willing to implement NFE policy as stated in National policy of education (2004) as well as putting more fund in NFE programmes
4. Teachers must also avail themselves the opportunity in NFE and its programmes

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ENTREPRENEURSHIP EDUCATION FOR RESHAPING THE MINDSET OF NIGERIAN YOUTHS AGAINST YAHOO PRACTICES FOR SUSTAINABLE DEVELOPMENT IN POST-COVID -19 ERA: IMPLICATIONS FOR COUNSELLING

[1]Rebecca Eyiuche Aghadinazu, [2]Obi, Osorochi Patricia &
[3]Nwachukwu, Ifeoma Catherine

[1,2&3]Department of Psychology and Counselling,
College of Education (COED),
Micheal Okpara University of Agriculture, Umudike, Umuahia
Abia State, Nigeria

Abstract
This study investigated the place of Entrepreneurship Education in for reshaping the mindset of Nigerian undergraduate youths against yahoo practices for sustainable development in post covid 19 era and counselling implications. The population of the study comprised two thousand (2000) graduates who are members of the National Youth Service Corps (NYSC) in Idemili North, Anambra State. A sample of four hundred (400) NYSC members, which is twenty percent (20%) of the population, were purposively sampled to reflect gender sensitivity and used for the study. The design of the study was descriptive survey research. The authors developed an instrument titled Entrepreneurship Education for Reshaping Undergraduate Youths Mindset against Yahoo Practices (EERUYMAYP) for data collection. The instrument was arranged based on a 4- point rating scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) respectively with the criterion of 4, 3, 2, and 1. This is equal to 10= 2.50, which gave the benchmark for decision-making. The instrument was face validated by two experts in the fields of Psychology and Counselling and one from the Measurement and Evaluation Departments of Michael Okpara University of Agriculture, Umudike, Abia State. The instrument was subjected to reliability analysis using Cronbach Alpha to determine the internal consistency, and a reliability index of 0.68 was obtained. Mean and standard deviation were used to answer the research questions. The findings revealed that many Nigerian undergraduate youths have a positive mindset against yahoo practices in post covid- 19 era. It was recommended that entrepreneurship education be included in the educational curriculum from basic education and made compulsory from secondary to tertiary levels, among others.

Keywords: Entrepreneurship, Education, Entrepreneurship education, Yahoo practices, and Counselling.

Introduction

Generally, education is a vital tool necessary for human and national development in every society. It becomes more relevant when individuals and society can fully benefit from its outcomes in terms of the skills that they are able to acquire for self-reliant and, consequently, sustainable development. According to Ejere and Tende in Adekunle and David (2014), a major defect in the Nigerian educational system, inclusive of the universities, is its theoretical inclination. For one instance, most Nigerian universities

produce graduates who are at best only suited for white-collar jobs and have little or no basic skills of any other vocational relevance, which does not augur well for sustainable development.

Following the above, Okeke *et al*. (2020) maintains that in Nigeria, education is more about inculcating theoretical knowledge rather than practical knowledge and skills, which is pivotal for the world of work. Little or no emphasis is laid on acquiring basic skills necessary for critical thinking, problem-solving, curiosity, and imagination. According to National Planning Commission (2005), globalisation and economic crisis necessitate that Nigeria as a nation rethinks her education delivery and policies to produce graduate youths who can be self-reliant and self-sustaining. The curriculum should be tailored towards entrepreneurship education to ensure the adequate acquisition of entrepreneurial skills and drive undergraduate youths' empowerment towards sustainable development. For any country to successfully meet the challenges of job creation for its undergraduate youths, entrepreneurship education is paramount (Bhorat, 2006). The Federal Government of Nigeria in 2006, mandated Nigeria Higher Education Institutions (HEIs) to include Entrepreneurship Education (EEd) as a compulsory course for all students with effect from the 2007/2008 academic session (Aliu, 2008), which led to the inclusion of EEd in the curriculum of all universities and other tertiary institutions.

Despite the above effort, unemployment still plaque the nation like cancer. Youth unemployment in Nigeria has jumped from 13.72% cent (2018) to 13.96% (2019), 14.17% (2020), and for an estimated 32.5% cent in 2021, there is cause for serious alarm. Worrisome too is that 62% of such youth population fall into the under 25 years bracket (www. Statista. Com). This is because Nigerian undergraduate youths are not adequately exposed to entrepreneurship education necessary to equip them with the necessary skills to become self-reliant for sustainable development upon graduation from the university.

Although entrepreneurship education has been made compulsory in our universities, the implementation level is still questionable, especially in state and federal government-owned institutions. Due to lack of infrastructure and poor funding, the theoretical aspect rather than the practical skills is what the undergraduate youths are mainly exposed to. This is one of the numerous reasons the Academic Staff Union of Universities (ASUU) in Nigeria usually embarks on strike action. There is an urgent need to revitalise both state and federal government-owned institutions in Nigeria. However, looking at the dilapidating nature of our institutions, it appears as if the Nigerian government, especially the present ones, is not concerned about the education of its citizenry. Findings from a three-week large-scale, rapid national survey in 2004 jointly sponsored by NUC and the Education Trust Fund (ETF) to determine the labour market needs which Nigerian university graduates are failing to meet are shocking. Of the 100 individuals and 20 organizations visited, 44% rated Nigerian science graduates as average in competence, 56% rated them as average in innovation, 50% rated them average in rational judgment, 63% as average in leadership skills, while 44% as average in creativity. However, 60% of the respondents rated the graduate as very poor in the needed skills such as literacy, oral communication, information technology, entrepreneurial, analytical, problem-solving, and decision-making. Such findings explain why there has been an obvious increase in the unemployment rate impedes sustainable development (Oviawe, 2010). Nigeria, as a

nation, is experiencing a lot of ugly issues, which include corruption, insecurity, delinquency, poverty, hunger, social disorder, kidnapping, high crime rate, and political disorder, which can be attributed to lack of financial empowerment among the youth owing to unemployment (Nwinyinya, 2016). Lack of financial independence among the youth is like a disease capable of wrecking any society. This is because some youths may be lured into joining bad gangs and channel their human resources into deviant activities, negatively impacting sustainable development (Aghadinazu et al., 2017). This lack of financial power is due to our undergraduate youths' inadequate exposure to entrepreneurship education in our educational systems.

Thus, the problem of unemployment and fear of the future negatively impacted the mindsets of most Nigerian undergraduates, especially in the post-COVID-19 era. Post-COVID-19 era is the epoch after covid-19 pandemic crisis. It is a period marked by global health and socioeconomic challenges that opened up new channels of deviant activities among Nigerian youths, of which "yahoo" practices are in the lead. Many Nigerian undergraduate youths channelled their attention towards cyber fraud (*yahoo-practices*) during this era. Cyber fraud in Nigeria's cybercrime law, is the illicit business of defrauding others. It is an offshoot of the so-called '419' business of the 1980s and 1990s (Akinboyo, 2016). Yahoo practice is a criminal exploit that has posed a serious problem in Nigeria and other space users worldwide (Ojedokun & Eraye, 2012).

The speed with which most undergraduate youths engage yahoo practices in our institutions is alarming. Many of them pay little or no attention to their studies. Daily, their interest in yahoo practices increases as they have grossly embraced it. Their rich lifestyles on campus motivate their mates to join the bandwagon, which gives credence to the number of undergraduate youths today, who are either experts or still new in the act. To become a renowned *yahoo boy* or *girl*, they undergo a form of apprenticeship under older fraudsters. The essence of this training is to acquire the basic principles of internet fraud, learn how to evade police, and scam successfully without getting caught. The more experienced *yahoo boys/girls* act as mentors to the aspiring yahoo boys. Thus, the rate of undergraduate youths' involvement in yahoo practices in Nigeria and other parts of the world is of a high magnitude owing to their belief system (Ayoku, 2005; Aghatise, 2006; Adeniran, 2008; Longe & Chiemeke, 2008; Longe, Ngwa, Wada & Mbarika, 2009). Following the above, Adebusiyi (2008) reports that many Nigerian undergraduate youths have embraced yahoo practices as a way of life. Following the above, the researchers assert that it can be attributed to their mindset. They develop the mindset that yahoo is an authentic way out of poverty, unemployment, and fear of the future. Hence, they devote precious time to developing strategies to defraud, hoodwink, manipulate or dupe other people without blinking their eyelids.

According to Adeniran (2008), structural inequality, weak sanctioning system, and wide gap between the lower, middle, and high class are the push buttons that motivate the undergraduate youths to the act. Nwachukwu and Nwanmuo (2010) pointed out that undergraduate youths become very vulnerable to criminalities such as yahoo practices due to fear of gainful employment and inadequate exposure to entrepreneurship education necessary for acquiring skills to become self-reliant upon graduation from the university.

In the same vein, Ewumi and Owoyale (2012) noted that one of the major challenges facing Nigerian undergraduate youths, which pushes them to the boundary of yahoo practices and other social vices, is fear of unemployment owing to lack of exposure to entrepreneurship education thus, hindering sustainable development. Also, Akanle *et al*. (2016) opines that unemployment, lack of social support, and failed leadership are among the major reasons many Nigerian undergraduates' youths opt for yahoo practices. Also, a study by Tade (2016) revealed that many undergraduates youths in Nigeria are deeply involved in yahoo practices owing to the proliferation of internet service providers and celebration of wealth without questioning the source, particularly among politicians. Other causal factors which predispose youths to yahoo practices include: the showy lifestyle of rich individuals, crazy display of wealth by musicians and some religious leaders, lyrics contained in music by some music idols; prosperity preaching, Nollywood films; poor parenting and lack of parental control in most homes (*This Day*, 2022). Supporting the above, the researchers opine that most Nigeria youths dabble into yahoo practices as a means to an end due to the mindset of making it quick through a shortcut, laziness, impatience, lack of discipline, lack of contentment, life of competition, fake lifestyles, peer influence, greed and desire to live flamboyant and ostentatious lifestyles at all cost, among others.

At its inception, yahoo practice was carried out by scammers (yahoo boys) through different schemes, which include sending fraudulent messages to online dating websites and social network sites, polishing lies in a pitiable manner in order to convince their victims; transmitting misleading information online for people to forward their bank details; standing at ATM galleries to feign assistance to vulnerable users (illiterates, old and physically challenged) only to swap cards to defraud them later; they usually operate over the weekends and outside the states the accounts are domiciled (Tade, 2016). Recently, yahoo practices have metamorphosed into a new and more deadly aspect which involves the use of charms in getting victims known as "yahoo plus". According to Okino (2022), "yahoo plus" involves rituals and the use of metaphysical purposes, engendering the harvesting of human organs. Undergraduate youths who practice yahoo plus use mystical powers to cast spells on their victims, kill and use their body parts for sacrifices in a bid to accumulate wealth. Many of these youths make such human sacrifices with their loved ones, and ironically, they die useless deaths without living to enjoy the wealth they amassed. Some go to the extent of abandoning their education to pursue wealth with vigour through yahoo practices.

Going by the rate many undergraduate youths engage in yahoo practices, achieving sustainable development in our society is still farfetched. Thus, to achieve sustainable development, entrepreneurship education becomes paramount towards reshaping their mindset against yahoo practices. This is because entrepreneurship education creates opportunities for financial empowerment, which fosters sustainable development. According to Emmanuel (2008), entrepreneurship education aims to generate employment, create wealth, and reduce poverty. Entrepreneurship education is a key driver of any economy. It promotes social wealth through creating new markets, technology, industries, institutional forms, jobs, and net increases in real productivity necessary for sustainable development (Adenuga, 2012). Also, Ediaghonye (2013)

maintains that entrepreneurship education can create more jobs in the country and redirect the undergraduate youths' focus from deviant to worthwhile activities and reshaping their mindset. Following the above reports, Uwe (2015) opines that entrepreneurship education will expose, encourage and mobilize the undergraduate youths into a network of business opportunities that stimulate the economy with attendant rewards marked with sustainable development in the nation. Through entrepreneurship education, youths imbibe vital skills such as communication, creativity, critical thinking, leadership, negotiation, problem-solving, social networking, and time management (Brockhaus et al, 2015). Other skills youths can acquire through entrepreneurship education include teamwork, ability to create wealth, budgeting, self-motivation and dedication, hard work, discipline, patience, persistence, communication, strategic thinking, planning skills, and analytical skills. All these skills, which are enshrined into entrepreneurship education, would empower undergraduate youths towards self-reliance and sustainable development.

In the light of the above discussions, entrepreneurship education is pivotal towards reshaping the mindset of Nigerian youths against yahoo practices that hinders the sustainable development of the nation. According to a report by Ehigiator (2019), there is need to work on the mindset of Nigerian youth in this age and time when they are exposed to different societal vices. Yahoo practices are among these societal vices that many undergraduate youths embrace with the notion that it is a shortcut to success, only to realise late that such success is not sustainable. Undergraduate youths are the bridge between our today and tomorrow. Thus, the need to reshape their mindset against yahoo practices is paramount. This can be achieved through adequate exposure to entrepreneurship education in other to empower them with lifelong skills necessary for sustainable development in the nation.

Statement of the Problem

Currently, unemployment plaques the nation like cancer because Nigerian undergraduate youths are not adequately exposed to entrepreneurship education necessary to equip them with the necessary skills to become self-reliant upon their graduation from the universities. This problem of unemployment and fear of the future negatively impact our undergraduate youths. It became the push button that motivated them to develop a positive mindset towards criminal activities, of which yahoo practices is the lead. They dabble into yahoo practices as a means to an end out of poverty, shortcut to success, and luxurious lifestyles. Many undergraduate youths have been arrested and imprisoned due to yahoo practices. A typical example is the case of Imonina Kingsley, of the University of Ilorin, who was set to 20 years' imprisonment on June 5, 2012, by a Federal High Court in Kaduna State by claiming the identity of the Republic of Benin and defrauding an Australian of US$1,000. He was charged with impersonation, possession of fraudulent documents, and attempting to obtain money by false pretences (Tade, 2016).

Considering the current spate of yahoo practices among our youths, especially in the post-COVID-19 era, achieving sustainable development in our nation is in jeopardy. Despite the government clampdown on yahoo practices, the evil still thrives as many youths see it as their last bus stop towards making it fast in life. Though there are a lot of

studies as it concerns the youths, there is dearth literature on reshaping their mindsets against yahoo practices through entrepreneurship education which is the gap this present study attempts to fill by exploring entrepreneurship education for reshaping the mindset of Nigerian youths against yahoo practices in post-COVID-19 era. Hence, the problem of this study put in question form is: how does entrepreneurship education reshape the mindset of Nigerian youths against yahoo practices in the post-COVID-19 era?

Purpose of the Study

This study aims to investigate entrepreneurship education for reshaping the mindset of Nigerian youth against yahoo practices for sustainable development in post-COVID-19 era in Nigeria. Specifically, the study sought to:

1. Determine the mindset of undergraduate youths against yahoo practices in post covid 19- era
2. Identify the skills undergraduate youths acquired through entrepreneurship education for sustainable development in Nigeria.

Research Questions

The following research questions were raised to guide the study:

1. What is the mindset of undergraduate youths against yahoo practices in post covid 19-era?
2. What skills do undergraduate youths acquire through entrepreneurship education for sustainable development in Nigeria?

Methodology

The population of the study comprised two thousand (2000) graduates who are members of the National Youth Service Corps (NYSC) in Idemili North, Anambra State. A sample of four hundred (400) NYSC members, which is twenty percent (20%) of the population, were purposively sampled to reflect gender sensitivity and used for the study. The design of the study was descriptive survey research. The researchers developed is instrument for for data collection, a questionnaire titled Entrepreneurship Education for Reshaping Undergraduate Youths Mindset against Yahoo Practices (EERUYMAYP). The instrument was arranged based on a 4- point rating scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (DS) respectively with the criterion of 4, 3, 2, and 1. These equal to 10= 2.50, which gave us the baseline for decision making. The instrument was face validated by two experts in the fields of Psychology and Counselling and one from the Measurement and Evaluation Departments of Michael Okpara University of Agriculture, Umudike, Abia State. The instrument was subjected to reliability analysis using Cronbach Alpha to determine the internal consistency and a reliability index of 0.68 was obtained. Mean and standard deviation were used to answer the research questions.

Results

Research Question 1: What is the mindset of undergraduate youths against yahoo practices in post covid 19-era?

Table 1: Mean rating and Standard Deviation of Respondents on the mindset of undergraduate youths against yahoo practices in post-COVID-19-era

S/No	Mean	Std. Deviation
Item 1: Yahoo is a fast way of making cool money without educational qualifications	2.8700	.92595
Item 2: To be financially independent can only be easily achieved through yahoo practice	2.71501	.13588
Item 3: Yahoo practice is a sure way out of poverty and unemployment without stress	2.94001	.11922
Item 4: Yahoo practice is the only way out of financial bondage because with little effort, you achieve big result	2.53001	.09778
Item 5: Yahoo makes one live like a millionaire with no money	2.7700	.99096
Item 6: With yahoo one does not need to worry about securing jobs	2.7900	.88306
Item 7: Yahoo is the easiest way to run away from Nigeria in two seconds	2.51001	.05139
Item 8: You do not need to complete university education to make money if you practice yahoo	2.79001	.04468
Item 9: With yahoo, fear of the future becomes history	2.70501	.08344
Item 10: To live flamboyant lifestyle can only be achieved easily through yahoo practice	2.9300	.87115

Valid N (Listwise) 200

Table 1 above shows the scores of the respondents on the mindsets of undergraduate youths against yahoo practices in post-COVID-19 era. The mean ratings are above 2.50 which is the baseline for decision making. The implication is that the respondents agreed to the items, which is evident by the respondents' mean and standard deviation ratings. It was observed that all the mean scores in the items were above the baseline of 2.50, which implies acceptance of the items. Also, their standard deviation ratings showed that the responses of the respondents were not widely spread. It showed that the respondents were not far from the mean and opinion of one another in their responses.

Research Question 2: What are the skills undergraduate youths acquired through entrepreneurship education for sustainable development in Nigeria?

Table 2: Mean rating and Standard Deviation of Respondents on the skills undergraduate youths acquired through entrepreneurship education for sustainable development in Nigeria

S/No	Mean	Std. Deviation
Item 11: Ability to design a programme of work	2.19501	.04038
Item 12: Ability to develop the strategy for overcoming problem situations	2.3300	.97769
Item 13: Ability to manipulate resources	2.47001	.06053
Item 14: Ability to create objects	2.68501	.03495
Item 15: Ability to create new ideas	2.7300	.94422
Item 16: Ability to take correct decisions alone	2.6100	.84348
Item 17: Ability to show humour	2.6650	.86864
Item 18: Ability to be receptive to other people's ideas	2.6531	.84855
Item 19: Ability to handle difficult or unexpected situations	2.57501	.02451
Item 20: Ability to calmly handle complex business challenges	2.32001	.07955
Item 21: Ability to analyze situations well	2.4400	.90025

Item 22: Ability to communicate problems to others	2.6250	.95863
Item 23: Ability to work efficiently as scheduled	2.7400	.97321
Item 24: Ability to avoid distraction while at work	2.70001	.03215
Item 25: Ability to disengage me from unnecessary discussions with others	2.7800	.94662
Item 26: Ability to prioritize according to their importance	2.7650	.91869
Item 27: Ability to brainstorm options	2.53001	.03171
Item 28: Ability to address misunderstanding	2.2900	.93287
Item 29: Ability to draw consensus	2.19501	.04038
Item 30: Ability to avoid ultimatum and proactive language	2.5050	.98224
Item 31: Ability to give attention to details	2.3450	.89441
Item 32: Ability to execute projects	2.3100	.91547
Item 33: Ability to collaborate and team work	2.4300	.81758
Item 34: Leadership qualities	2.1950	.86645
Item 35: Ability to set goals	2.27001	.01104
Item 36: Ability to audit budget	2.1000	.91333
Item 37: Ability to keep accounting records	2.1500	.96548
Item 38: Ability to manage resources	2.2150	.91814

In Table 2 above, 28 entrepreneurship skills were listed. The mean scores of the respondents on 13 of the items were up to the baseline of 2.50 which indicated that the items were accepted while 15 of the items (11, 12, 14, 20, 21, 28, 29, 31, 32, 33, 34, 35, 36, 37, and 38) were below the baseline which is an indication that the items were not accepted. Also, the corresponding standard deviation of the 15 items were not widely spread. This showed that the respondents were not too far from the mean and opinion of one another in their responses.

Discussion of Findings

Findings based on research question one highlighted that the undergraduate youths have a positive mindset against yahoo practices in post covid- 19 era. This is shown in the mean ratings of the items which were above the baseline of 2.50. Secondly, the standard deviation ratings showed that the respondents' responses were not widely spread. It is an indication that the respondents were not far from the mean and opinion of one another in their responses. This gives direction to the reason for the increase in the rate of their involvement in yahoo practices. This finding is supported by the view of Adebusiyi (2008), that many Nigerian undergraduate youths have embraced yahoo practices as a way of life. In line with the above, Ayoku (2005), Aghatise, (2006), Adeniran (2008), Longe & Chiemeke (2008); Adebusiyi, (2008) and Longe et al. (2009) pointed out that the rate of undergraduate youths' involvement in yahoo practices in Nigeria and other parts of the world is of a high magnitude. Following the above, the current researchers believe that since mindset is a set of beliefs that shape the way an individual makes sense of the world as well as him or herself, which inadvertently exerts a great influence on ones thinking, feeling and behaviour. Therefore, undergraduate youths developed a positive mindset towards yahoo practices because, they see it as a worthwhile activity, important, something to be valued and emulated by others. The development of a positive mindset by many Nigerian undergraduate youths against yahoo practices today, can be attributed to varying reasons bordering on socioeconomic or financial empowerment. They believe that engaging in the act is an answer to a secured future hence, the fear of the future is extinguished. According to Nwinyinya (2016), Nigeria as a nation is experiencing a lot of ugly issues which include corruption, insecurity, delinquency,

poverty, hunger, social disorder, kidnapping, high crime rate and political disorder which can be attributed to lack of financial empowerment among the youth owing to unemployment. Similarly, Aghadinazu et al. (2017) maintain that lack of financial independence among the youth is like a disease capable of wrecking any society. This is because some of the youths may be lured into joining bad gangs and channelling their human resources into deviant activities, negatively impacting sustainable development.

Also, finding based on research question two revealed that the undergraduate youths do not acquire all the entrepreneurship education skills outlined thereof, through entrepreneurship education. This is shown in the mean scores of 15 of the items in table 2 above which were below the baseline of 2.50. This finding is supported by the findings from a three-week large-scale, a rapid national survey in 2004 jointly sponsored by NUC and the Education Trust Fund (ETF) to determine the needs of the labour market which Nigerian university graduates are failing to meet. These needs include innovation, rational judgment, leadership skills, creativity entrepreneurial, analytical, problem-solving, and decision-making competencies (Oviawe, 2010). Thus, , many undergraduate youths become very vulnerable to criminalities such as yahoo practices (Nwachukwu & Nwanmuo, 2010). In line with the above findings, the researchers opine that although, entrepreneurship education has been made compulsory in our universities, the level of implementation is still questionable especially, in state and federal government-owned institutions. Undergraduate youths graduate from the universities to search for jobs which, unfortunately, are not available and they lack the entrepreneurial skills necessary for self-reliance hence, they still rely on their parents for upkeeps. Thus, to avoid the scenario of unemployment and related problems, they develop a positive mindset against yahoo practices and embrace it with the notion that it is a shortcut to financial empowerment and success in life.

Conclusion

Based on the findings of this study, it was concluded that Nigerian undergraduate youths have a positive mindset against yahoo practices which gives direction to the reason for the increase in the rate of their involvement in the act. Also, they do not acquire all the entrepreneurship education skills required for sustainable development.

Recommendations

Based on the findings of this study, the following recommendations were made:

1. Entrepreneurship education should be included in the educational curriculum from basic education and made compulsory from secondary to tertiary levels. By so doing, the era of job hunting would be eradicated in the society.
2. First year undergraduate youths should be exposed to adequate and well packaged orientation programme tailored towards entrepreneurship education and the danger involved in yahoo practices. This will enable them to be actively involved in entrepreneurship education and by implication reshape their mindset against yahoo practices early in their academic pursuits.
3. Guidance counsellors should disseminate well packaged career guidance information tailored towards entrepreneurship education for undergraduate youths through their different programmes.

4. Entrepreneurship educators should collaborate with Guidance counsellors to teach undergraduate youths the different dimensions of entrepreneurship mindset. This will go a long way towards helping to boost their interest in entrepreneurship education.
5. Guidance counsellors in collaboration with other school personnel should organize enlightenment programmes in the form of group counselling from time to time to sensitize the youth against yahoo practices.

Implications for Counselling Practice

1. Counsellors should organize well-packaged career counselling bordering on sensitizing the undergraduate youths on the pivotal role of entrepreneurship education and the dangers associated with yahoo practices.
2. Counsellors to advocate for proper implementation of entrepreneurship education in our institutions through seminars, workshops, journal publications and postings on the net.

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POLITICAL EDUCATION THROUGH THE UNIVERSITY IN POST-APARTHEID SOUTH AFRICA: AN EYE ON SUSTAINABLE DEMOCRACY

Badaru K.A.
University of Fort Hare
South Africa
kbadaru@ufh.ac.za

Abstract

Citizens' political knowledge and participation are essential for democracy to be deepened and sustained in South Africa. This article is a report on the qualitative component of the mixed-methods study titled, "Political education as a determinant of university students' political participation in the Eastern Cape Province of South Africa". The study was underpinned by the absolute education model of political literacy. The qualitative data were collected through semi-structured interviews, which were supported by some secondary data extracted from relevant documents. The interviews were conducted among five (5) purposively selected members of the Student Representative Council (SRC) from a rural-based university in the Eastern Cape Province. The data from both interviews and documents were thematically analysed and interpreted. The results revealed students' understanding of political education as a kind of general education or knowledge delivered through a formal curriculum dubbed "Life, Knowledge, and Action." Informally, political knowledge is garnered through campus-based political organisations. The participants also stated how their participation in campus political organisations was an eye-opener to a lot of political issues such as demanding social justice and accountability from political officeholders; knowledge of democracy, African citizenship, and human rights. Although they acknowledged that political knowledge acquired from the LKA classes was insufficient, it bolstered their political consciousness and active participation in democratic processes at the campus and national levels. The study concluded that students needed to be provided sufficient political education to provoke and stimulate their interests in political activities in and outside of the university. The study recommended that political education has to be taught as a standalone module and as a piece of general knowledge to all students regardless of their disciplines in the university.

Keywords: Political education, democracy, democratic governance, political knowledge.

Introduction

Political education refers to the deliberate teaching and learning about politics, leading to students acquiring knowledge of a country's political system; participating in the political processes, and sustenance of democracy. Research has shown that South Africans have minimal support for democracy resulting from their understanding of democratic governance. Similarly, South African citizens have also been reportedly exhibiting low levels of political efficacy and actual participation in the political processes. The citizens have been reported to have "the lowest levels of conventional political participation in Africa" (Mattes & Richmond, 2015, p. 2). Badaru (2019) has argued that political education is capable of sufficiently increasing individuals' political awareness, charging their sense of political judgement, and stimulating political interest. There is, therefore, the justification to believe that political education can positively influence the likelihood that young South Africans will become politically engaged and participative (Badaru, 2019).

Political education is an essential element of a national education system. All countries across the globe, democratic or not, have consistently put in place patterns of political education that aim to promote the values and ethos of their governments among young ones in schools (Kennedy & Li, 2014). In general terms, scholars agree in their submissions that political education is regarded as the teaching and learning about political awareness, political articulation, political involvement, political judgement, political participation, citizenship rights, duties, and other democratic practices to impart to citizens knowledge, skills, and values making them responsible and functional in their societies (Nwankwo, 2012; Nilgun et al, 2015; Frazer, 2010; Adelabu & Akinsolu, 2009).

Democracy should not just be seen as a system of government guaranteeing the rights of the citizenry. It should also require citizen participation in its processes such as voting during elections to strengthen and sustain it (Lues, 2014). In this regard, the university

has a role to play in encouraging active citizenry and participation of students in democratic processes. Akinboye and Eesuola (2015) disclose that the first attempt at conceptualizing the notion of 'university' was done by John Henry Newman in his 1854 classic work. However, Ker (2011) describes Newman's notion of a university as an institution for liberal education and commitment to the teaching of universal knowledge. By liberal education, Newman conceives of education that forms and develops the whole mind of man with a philosophical habit characterized by knowledge, wisdom, freedom, equity, equality, calmness, moderation, and activeness as against passiveness and teachers' imperialism. The universality of knowledge being taught in the university presupposes the ability of students to learn and acquire certain skills and knowledge in other fields of study and as much as they learn and acquire from their respective chosen study fields. Therefore, it is possible to find students of Economics, Science, Agriculture, and the like to be much more interested in politics even more than political science students.

University, in Newman's view, should offer universal opportunities in terms of what can be learned and achieved by students without any restrictions. This is the reason why universities also permit their students to take general courses in Science, Social Science, Agriculture, and Humanities, to develop the wholeness of the students' minds (Ker, 2011). For Newman, the primary objective of the university is generational transmission and an increase of skills, values, and dispositions for the cultivation of intellect and ability to think clearly and logically as well as make normative judgement and assessments of the process of education (Ker, 2011). Thus, a university is one institution that must be made open and accessible to accommodate all forms of human knowledge aimed at growing and producing a functional and not merely educated man. By implication, a student who passes through the university should have the freedom to participate in all areas of learning (be it, academic, social, or political life) within the system during his studies. Newman's notion of university states that this is how the student will gain a 'liberal education' and there will be avoidance of teachers being academic imperialists (Ker, 2011).

To this end, university education is concerned with the civic responsibility to ensure that societal shared values are perpetually transmitted and citizens are ultimately prepared for political participation (Boyle as cited in Akinboye & Eesuola, 2015). As SASCO puts it:

> *"…a university by its very origins and nature is a social institution comprised of social human beings who are engaged in an educational and intellectual inquiry to find suitable solutions to challenges facing humankind including the freedom to reason about the very nature of these challenges. Education acquired for the sake of it, is like education never received because; it is inactive and therefore useless. It is a waste to study to do nothing, rather do nothing at all or choose to study nothing as a discipline, if that is practically possible"* (SASCO, 2006, p. 20).

Much of the concern in the above quote, as credited to SASCO, regarding the responsibility of the university is in line with the thought of Newman as rightly discussed. The attention is on the need for freedom of individuals to be able to think as clearly as possible towards solving their challenges as well as the need to relate socially with one another. Again, the essence of education is being pointed out too. Education is meant to make citizens become actively involved in civic or political activities to ensure the sustainability of the country's democracy which would help solve a myriad of socio-political and economic problems confronting the country. Hence, the researcher's interest in undergraduate students as well as others, especially those serving as members of the Student Representative Council (SRC) as the participants in this study gives a clear picture of how ready they are; and to what extent they have been influenced by the university's political education for engagement with political activities in and off-campus.

Historically, universities have played various roles in their contribution to political, social, and economic development. The university system is expected to play multiple roles which include elements of political socialization. Universities play a crucial role in high-level skills training needed to run the complex institutions of modern society such as the institutions of modern democracy, other state institutions, and civil society organizations (Castells, 2009). Universities and other higher education institutions have been recognized for the delivery of the knowledge required for the political development

of the country, operation, and improvement of its essential democratic institutions as a modern system of government. The universities are also relied upon for the supply of the manpower requirements of the government for the effective running of the executive, legislature, judiciary, and other bureaucratic institutions of any democratic society.

Be that as it may, education has a special role to play in political development, democratization, and the consolidation and sustainability of democracy. No doubt, universities have been instrumental in the process of shaping civic values, constructing a new basis of belonging and citizenship, and educating citizens about leadership responsibilities (Pascarella & Terenzini, 2005). Political stability and the promotion of democratic values are in the best interest of the nation and the role of youth participation in this process is critical. Forbig (2005) suggests that democratic institutions should be open to youth concerns, and interests and their participation depends on whether they feel like important actors in the political process. Expectedly, democracy demands an acceptance, comprehension, and development of democratic institutions through the youth's participation even if circumstances do not favour interests. Hence, sustained engagement from youth and permanent accessibility from institutions of higher learning especially universities are imperative for youth political participation.

The post-apartheid policy-based conception of higher education in South Africa illustrates the roles that education for citizenship (political) education can be ascribed to in the transformation and democratization of society. The South African statutory advisory body to the Minister of Higher Education and Training states that:

> *"Higher education is charged with developing a citizenry capable of participating effectively in democratic processes, and thus enhancing the project of democracy; with producing intellectuals who can engage with the most intractable problems of society and so develop more generally the ability of citizens to participate politically, economically and socially; and with producing high-level skilled graduates and of knowledge to drive economic and social development, and to enhance the overall levels of intellectual and cultural development"* (CHE, 2004, p. 14)

In other words, universities and other higher education institutions in South Africa have the academic responsibility of producing graduates in terms of the upbringing of citizens who can participate actively and politically by engaging in the democratic processes of the country. However, the question stands; how well have the universities been discharging these responsibilities in South Africa?

Similarly, Badat (2009) emphasizes the university's role in democracy and democratic citizenship as follows:

> *"…our societies require graduates who are not just capable professionals, but also sensitive intellectuals and critical citizens. Our academic programmes together with our institutional culture and practices must therefore ensure that we keep ethical questions in sharp focus and that we advance a democratic ethos and a culture of human rights conducive to critical discourse, cultural tolerance, and a common commitment to a humane, just non-racist and non-sexist social order"* (Badat, 2009, p. 8).

Accordingly, our universities have the statutory duty not to produce half-baked or ill-trained graduates and professionals that will be too timid and feeble to engage the democratic structures and institutions of government to help society achieve the overall aims of its education. Furthermore, our universities should be institutions with such practices and culture that will instill a sense of human rights and commitment to living in a society that will be just and fair in terms of social order without any form of discrimination. To this end, academic programmes of the universities must accommodate curriculum including political education and other related disciplines having political contents in nature. The authors of the student governance study conducted in the universities of Botswana, Cape Town, Dar es Salaam and Nairobi, affirm that African university is an important training centre where students' political knowledge, skills, and competencies are nurtured and developed for them to be able to make meaningful contributions to the nation's democratic processes (Luescher-Mamashela, 2011).

Higher education institutions play a critical role in influencing students' political participation in various ways. Unfortunately, these institutions have not always prioritized undergraduate political learning (Colby et al., 2010). Despite the provision of

policy documents indicating a commitment to citizenship education, Godinho (2016) still contends that there is little evidence that a supportive democratic political culture has ever evolved and this currently underscores causes for concern over the political attitudes and behaviour of South African youth. Against the above-given background, the present study aimed to explore undergraduate students' understanding of political education and how they were taught political education at a rural-based university in post-apartheid South Africa.

Research Questions:

1. What is political education based on the student's understanding at a rural-based South African university?
2. How are students taught political education at a rural-based university in South Africa?

Theoretical Framework and Literature Review

The Absolute Education Model (AEM) is one of the theories which argue about the relationship between education and political participation in the literature. AEM argues that education is capable of increasing political knowledge, political awareness, and other civic skills in individuals. The model also argues that such skills should cause them to become politically conscious and active, and choose to participate effectively in all sorts of political activities such as voting in elections, taking part in protests or demonstrations, political campaigns, and party meetings (Persson, 2013). In an earlier study, Hylligus (2005) described Absolute Education Model as a civic education theory that explains the relationship between education and political participation. According to Hillygus' civic education theory, education inculcates the skills, knowledge, and understanding of politics in the citizens with which they develop the capacity to make political choices and preferences and pursue their political interests. The model has been criticized, however, for its failure to put into consideration other factors that promote political participation, but are developed in the pre-adulthood stage within the family and home environment (Kam & Palmer, 2008; Berinsky & Lenz, 2011; Persson, 2014).

The choice of this theoretical model was motivated by the fact that this study is only concerned with the aspect of general education that has political contents (Political education) in whatever forms; politics, civics, citizenship studies that could bolster political participation of university students as indicated in figure 1 below. Several studies have challenged the conventional wisdom of the stimulating impact of education on political participation (Kam & Palmer, 2008; Berinsky & Lenz, 2011; Persson, 2014). These studies have challenged previous research showing an impact of education on political participation over its failure to consider the fact that people who attain higher levels of education differ systematically in various unobserved manners from others who perhaps do not have. Related manners include early-life socialization within the family and fundamental psychological traits, for example, cognitive abilities or personality traits that are partly innate or environmentally conditioned early on in life.

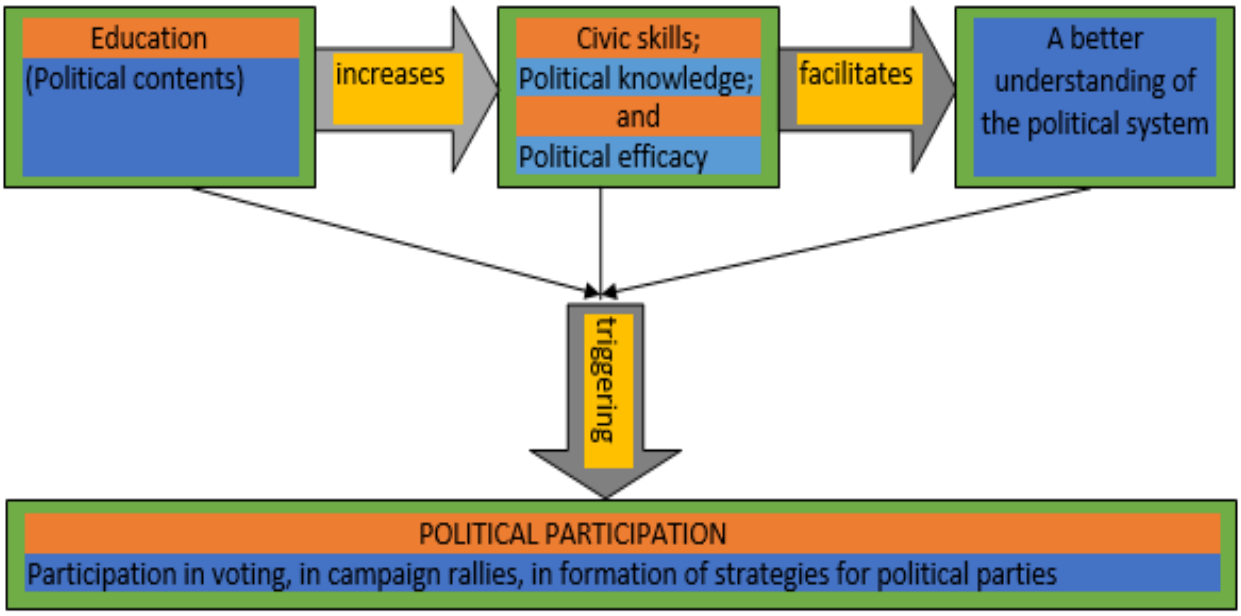

Figure 1: Absolute [Political] Education Model (Badaru, 2019)

Other studies have hitherto shown that the causal impact of education on participation has consistently been there even when the unobservable family and personality traits are considered in various ways (Badaru, 2019). Thus, political education is a desideratum that must be taken very seriously as a part of the higher education curriculum of

democratic societies to foster active political participation among the students who will in turn be motivated to become active, responsible, and dutiful citizens (Onuigbo et al., 2018). This is critical and essential for the survival of the nation's democracy. According to Colby et al. (2010), courses with political content and other extracurricular programmes having the objectives of political education have been able to increase political participation even among students with no active interest in politics before.

Academically, higher education institutions influence their students to become more politically active and responsible citizens through civic instruction, deliberative course-based discussion, community service, and service-learning (Einfeld & Collins, 2008; Finlay & Flanagan, 2009). Civic instruction deals with the acquisition of knowledge about political systems, governmental functions, structures, and democratic processes through courses on politics. Nonetheless, there are still controversies regarding the extent to which political education received formally at the level of higher institutions has been able to influence students' interest in politics and their political participation (Galston, 2007). Students' understanding of politics is crucial for the inculcation of the principles of being truthful and faithful in them.

Pacho (2014) contends that politics are moral and it is important to emphasize this as far as the students' understanding of politics is concerned. He argues that knowledge of politics is essential for curbing the growing monster of corruption which has become pervasive in the governance of several nations of the world, especially in Africa. Students have to be taught about the principles, culture, and tenets of genuine democracy to return African democratic institutions to sanity. Political education would inculcate in the students the democratic practice of voting and not fighting, and as such there would be a reduction in political thuggery and violence during the electioneering periods. Civic instruction through political education at the university level would also help in addressing the erroneous belief and negative perceptions about politics especially in those students who might think that politics is a 'dirty game'. Students would be made to understand that politics can only remain dirty and violent when dirty and violent people are left to play the game. They would be encouraged and inspired to go into politics as

future leaders and also perform their civic responsibilities as periodically required under the law (Pacho, 2014).

Deliberative course-based discussion is concerned with the student directly engaging in political discussions on national and international events. Discussions of political issues allow students to develop their critical thinking skills by making their voices heard and learning how to contribute to the discourse on national issues. Regardless of the discipline of students, political education can enable deliberation on political issues provided that the instructors encourage an open debate on various topics in the classrooms. Through this approach, students learn to have an understanding and tolerance concerning other people's views (Pritzker et al., 2012). Compared with counterparts who lack such an experience, students who experience classroom-based deliberative discussion are more likely to exhibit political interest, whether through attention to the news or sharing political opinions in conversation and to report intent to engage in the civic activity (Pritzker et al., 2012).

Community service learning is typically offered outside of the classroom and is not directly linked to classroom content. Volunteer opportunities may be arranged formally by university staff or student political organizations but also may occur informally with other students. Community service is central to the construction of youth's civic and moral identity. It increases students' ties to their communities and is expected to have long-term impacts on their political behaviour (Pritzker et al., 2012). It is expected that students who learn civic duties and obligations through community service would end up being selfless and volunteer community leaders. Service learning is a form of experiential education where students take something they have learned in class and apply it to a real-world situation. Service learning is defined as "a teaching strategy wherein students learn important curricular objectives by providing service that meets community needs" (Billig et al., 2005, p. 3). Many studies have provided some evidence of the positive effects of service-learning courses including effects on political engagement, political efficacy, and political apathy (Evans, 2015). Service learning can enable students to transfer knowledge and experiences between the classroom and a real-world setting. Through it,

students can develop habits of participating in community life. Compared to their counterparts not involved, undergraduate students involved in long-term service learning exhibit greater participation in such civic activities as raising awareness about social and political issues via the internet, solving community problems, and engaging in consumer political issues (Keen & Hall, 2009; Pritzker et al., 2012). Some studies have found that community service (whether required in a course or completely voluntary) has a positive impact on voter turnout and political engagement (Billig et al., 2005; Levine 2007; Hart et al., 2007), while other studies find that service learning does not always promote political engagement (McAdam & Brandt, 2009).

Political education has two important learning objectives in higher education institutions:

> *"First, students need to learn how democracy works through participation in student organizations and university decision-making bodies, and by developing a conceptual understanding of democracy. Second, they need to learn that democracy works by experience and that they can influence events and their living conditions through participation"* (as cited in Luescher-Mamashela, 2011, p. 10).

The university, as one of the educational institutions, expectedly grooms the students with the knowledge and functionality of democracy and its institutions. Political education and volunteer service are capable of increasing political participation among university students (Flanagan, 2009; Flanagan & Levine, 2010; Wattenberg, 2008). Politics has a way of influencing everyone. Political education, therefore, deserves to be given attention as a general course of study in higher institutions of learning. The study of political education will avail students of various opportunities for political participation and help them build a positive attitude toward politics and democracy in general.

Research Methods

A convergent concurrent design (Creswell, 2014) was used in the broader study to investigate the extent to which political education was a determinant of university students' political participation in the Province of the Eastern Cape, South Africa. Quantitative and qualitative methods were used.

The qualitative data were collected through semi-structured interviews and were supported by some secondary data extracted from relevant documents such as the

university's LKA/GP for year-one undergraduates at the university. "The LKA/GP is a first-year-16-credit-semester programme being described as a transdisciplinary learning experience based on a just, humanizing and collaborative pedagogy that builds on student's knowledge as a way of developing compassionate, socially-engaged, critical and responsible citizens" (Badaru, 2019, p. 279-280).

The interview guide was drafted by the researcher and validated by colleagues who were experts in social sciences and educational research. The interviews were conducted among five (5) members of the Student Representative Council (SRC) who were purposively selected from a rural-based university in the Eastern Cape Province. The profiles of the participants were detailed in Table 1 below. The criteria for establishing qualitative data trustworthiness such as those provided by Lincoln and Guba (as cited in Loh, 2013 and Anney, 2014) were religiously followed. These criteria included credibility (internal validity), transferability (external validity), dependability (reliability), and confirmability (objectivity) (Badaru, 2019). The data from both interview transcriptions and documents between February and May 2018 were thematically analysed and interpreted to provide valid and appropriate answers to the study's research questions. Regarding the ethical considerations, the researcher obtained ethical clearance from their university's research ethics committee and an approval letter from the registrar of the university where the study was conducted. There was also compliance with other ethics such as voluntary participation, informed consent, and confidentiality.

Table 1: Profiles of the Participants

Participants	Department	Sex	Age	No of terms in Office
Interviewee 1	Applied Communication Management	Male	31	2
Interviewee 2	Law	Male	24	2

Interviewee 3	Public Administration	Male	26	2
Interviewee 4	Economics	Male	27	1
Interviewee 5	Accounting	Female	33	1

Source: Badaru (2019)

Table 1 shows that three of the interview participants (coded as 1, 2 & 3 respectively) had served for two different terms in various capacities as members of the SRC in the university where the study was conducted, while others (interviewees 4 & 5) had just served for one term. The interviewees were aged between 24 to 33 years. Only one of the participants was a female while the remaining four were all males. Their departments cut across social sciences, humanities, and management.

Results and Discussion

This section presents and discusses analyses of the qualitative data as a part of the broader mixed-methods research which investigated political education and university students' political participation in the Eastern Cape Province of South Africa. Again, it is imperative to reiterate that the bigger study collected the quantitative data through the administration of a validated questionnaire on 375 undergraduates randomly selected from one rural-based university. For the qualitative data, five (5) SRC members were purposively chosen and granted semi-structured interviews from the same university. The interviews were conducted over two months.

Research Question 1: What is the understanding of students about political education at a rural-based university in South Africa?

The researchers were poised to find out the understanding of the participants about political education in the context of South African universities. Thus, we asked the participants: "What is your understanding of political education?".

Political education facilitates ideological orientation

Commenting on the concept of political education, 80% of the participants described political education as a facilitation of subjective ideological orientation by political

organizations aimed at influencing their members toward politics. One of the participants succinctly put it as follows:

> *Political education, I… [sic] I'm of the view that it does not necessarily take place at a formal level, because eh, political education…eh normally is delivered and facilitated by political organizations for their subjective ideological orientation to influence its people towards eh… [sic]* (Interviewee 1, 31 years old).

The above understanding of the participant (interview 1) was in tune with the view of Kennedy and Li (2004) that political education is globally by various countries, whether democratic or otherwise, to instill in young citizens the practices of governments' values and ethos through the schools.

Political education conscientises students

All the participants unanimously believed that political education entails the act of conscientising members and citizens by various political organisations about their principles, ideologies, and programmes; acquiring knowledge and understanding through a formal curriculum about political ideologies, day-to-day political activities, political history, and political economy as a focus. The opinions of two of the participants are reported as follows:

> *…in conscientizing them [people] based on their political principles, political ideologies, and so forth. So, anything that is educational or barely political is always at the level of …of one thing to impart certain ideologies towards those that you are educating. So, political ideologies are the focus of political education through the delivery of a formal curriculum* (Interviewee 1, 31 years old).

> *My understanding of political education is more or less of people being…being[sic] able to understand the day-to-day politics, the history of politics and what politics entails, eh…being taught,[sic] they are conscientized towards politics and that each and everything in our society is politics, even the economy itself is politics* (Interviewee 2, 24 years old).

Previous studies have also stated that the ideologies espoused by regimes and governments can be taught and imparted to citizens through political education to make citizens functional and responsible in society (Adelabu & Akinsolu, 2009; Frazer, 2010; Nwankwo, 2012; Nilgun et al, 2015).

Political education is learning about society and its governance

The participants unanimously agreed that political education provides a ground for them to learn about society and governance. The response of one of the participants aptly captures it, thus:

> *...so, political education could be viewed as a tool for learning about society and its governance (Interviewee 2, 24 years old).*

For the participants, political education is a process through which people are consciously taught about the political history, political economy, and political system of a given society. This finding is in agreement with the AEM's argument that [political] education inculcates in the citizens' political understanding and capacity to make informed decisions regarding political choices or preferences as well as the pursuit of political interests (Hylligus, 2005; Persson, 2013). The citizens' curiosity about society and how it is governed can be provoked when exposed to sufficient political education.

Research Question 2: How are students taught political education at a rural-based university in South Africa?

Moving forward, the researcher also sought to know how political education was being taught in the university where this study was conducted by asking the question, "How is political education taught at your university?"

Political education as a general knowledge

All the participants agreed that the university formally teaches political education only as a part of a general course introduced to year-one students in 2009, which is known as "Life, Knowledge, and Action (LKA)". However, they unanimously confirmed that the few political topics taught as part of the LKA were not sufficient at all for any student to learn and become politically knowledgeable to participate in politics.

One of the participants remarked as follows:

> *…But the university tried to come up with a course for first-year students, which is called LKA. But even the purpose of LKA, the basis or focus is not mainly on politics but during class, the discussion may divert to national issues or important political matters of national concern. To answer your question correctly, the university does not necessarily accommodate the discussion of politics* (Interviewee 2, 24 years old).

By implication, political education is taught only as a form of general knowledge in terms of themes in the general module of LKA for year one students, but the university has a political science department where students are equally trained in the discipline of politics both at undergraduate and postgraduate levels. The only female among the participants added that:

> *The knowledge of politics acquired from the LKA classes was not enough for students to become politically conscious and active because students were only briefed eh…eh…[sic] about democracy, principles of democracy, citizenship, rights and obligations of citizens as well as human rights* (Interviewee 5, 33 years old).

This implies that political education must be broad in scope and should expose students to more political knowledge beyond issues of democracy, citizenship, and human rights.

Political education as a specialized field of politics

The participants also thought that political education was taught as a specialized field of politics by their university's department of political science at the faculty of social sciences and humanities. One of the participants indicated as follows:

> *There is a department of political science in the faculty of social sciences and humanities (Interviewee 2, 24 years old).*

It is imperative to declare here that some of the political science students did participate in the quantitative component of this study; the results of the mixed-methods research were extensively reported in the researcher's doctoral thesis (see, Badaru, 2019).

Document Analysis: The University's Prospectus and LKA/Grounding Programme (GP)

The analysis of the two documents (prospectus and LKA/GP) indicates that the university intends to provide some form of general knowledge and learning experiences useful to students across the faculties and departments. This is to be achieved by employing an integrative and holistic approach to solving most of the common challenges facing higher institutions of learning and communities based on the principles of Africanization, ubuntu (humanity), dialogue, community service, critical thinking, and social engagement (see, Figure 1).

<table>
<tr><th>Core Notions</th><th colspan="3">Knowledge Streams</th><th>Skills Streams</th></tr>
<tr><td rowspan="4">Society

Democracy

Non-discrimination

Loving, Living and Learning (including HIV/AIDS)

Transdiciplinarity

Social engagement

Humanising pedagogy/

Student participation

Life/ Knowledge/ Action/ Expression

Africanisation

Taking a thoughtful stand</td><td>Citizenship, Society and Democracy</td><td>Science, Technology and Environment</td><td>Economics, Education and Development</td><td rowspan="2">Social Inquiry, Scientific Inquiry

Reading and Writing

Political, electoral, social, cultural and environmental literacy

Information and Financial literacy

Building an argument

Communication

Cooperative learning

Emotional intelligence

Critical Thinking and Dialogue</td></tr>
<tr><td>U1: Life, Law, regulation and society</td><td>U3: Science and Technology</td><td>U5: Education and Globalization</td></tr>
<tr><td>U2: Citizenship, Democracy and Human Rights</td><td>U4: Environment and Society</td><td>U6: Economics and Development</td><td></td></tr>
<tr><td colspan="3">Values and Principles

Equality; Healthy Lifestyle; Commitment to self-development; Honesty; Accuracy; Hospitality; Integrity; Reliability; Trust; Vitality; Playfulness; Curiosity; Integrity; Authenticity; Compassion; Efficiency; Enthusiasm; Agency; Responsibility; Love; Optimism; Rights choices; and Respect</td><td></td></tr>
</table>

Figure 2: The university's LKA/GP curriculum with political education elements
Source: (Badaru, 2019)

Put differently, the Life, Knowledge, and Action: Grounding Programme (LKA/GP) provides students with the opportunities to study a combination of disciplines including political knowledge and democracy in such a way that they can become conscious, critical, and socially responsible global citizens. Figure 2 above shows the university's

LKA/GP curriculum framework in summary. The programme was a commendable effort at promoting and building the students' political awareness, political judgment, political interest, and participation in politics. It is generally divided into four streams namely; core notions, knowledge streams, skills streams, and values. Each of these streams has some political education elements. As indicated in Figure 2, the core notions are concerned with topics such as society, democracy, non-discrimination, social engagement, student participation, and Africanization of thoughts; the knowledge streams are topics that include African citizenship, society, democracy, human rights, education, and globalization; the skills streams consist of political literacy, electoral system, critical thinking, and dialogue while the values include equality, respect, honesty, integrity, reliability, and trust. All these taken together are considered important elements of political education/literacy.

However, the LKA/GP lacks sufficient provision in terms of political education that is needed to provoke and stimulate students' political awareness, and political interest and is capable of developing their sense of political judgment which might ultimately translate into encouragement to participate in politics within and outside the university.

Informal Political Education

All the participants revealed how they had learned about political activism before becoming student leaders. Their involvement in the activities of the various student political organizations and the way and manner some of their lecturers who were politically conscious used to discuss politics and other issues of national importance during classes contributed to raising their political awareness and consciousness. All the participants also recounted how they started playing leadership roles by holding executive positions in their various student political organizations before contesting the SRC elections. This was the response of one of them:

> *I started as a student activist in DASO. That is my political organization on campus. The organization opened our eyes to a lot of political issues and how we should demand justice and accountability from the government. We became politically aware and conscious even in class. Some of our lecturers are politically conscious too. We participated in the #Data-must-fall protest.*

> *Then, getting internet data was very expensive. Most of us are from poor homes. No doubt, our political awareness, and participation have been very high since we got into the university* (Interviewee 4, 27 years old).

The participant quoted above confirmed that his level of political awareness was raised as a university student having been exposed to various teachings in different courses, by being involved in the activities of student political organizations and the various students' protests seeking improved well-being and interest of students. He, therefore, submitted that he had a high level of political awareness at the university. In the same vein, another SRC member added as follows:

> *First, I served in some sub-committees of the SRC before joining the SRC as an elected member. I served in an advisory capacity to the SRC on the way forward. I also participated in the #Fees-Must-Fall protests and I got arrested by the police. It was nothing but one's level of political awareness was high to that effect to have known when to react to issues that affect our welfare as students* (Interviewee 3, 26 years old).

According to the 26-year-old-interviewee 3, his political learnings were accentuated by his involvement in the activities of the SRC-inaugurated committees and as an elected SRC leader. He also disclosed that his participation in student protests had increased his level of political awareness and understanding of student activism on campus.

Conclusion

The broader study, which investigated political education as a determinant of university students' political participation in the Province of the Eastern Cape, South Africa", was a relevant contribution to the body of literature on the imperatives for sustaining democracy in the rainbow nation. The principal researcher's career as a professional teacher of the subjects of 'Government' and 'Civic Education' at the secondary school level motivated him to undertake this study at the doctorate level. The researcher's engagement with the literature revealed that South African youth's participation in conventional politics was rather too low. The study became necessary to find out how

universities in South Africa have been educating their students for the acquisition of political knowledge and participation in the political processes.

The participants demonstrated a good understanding of political education. Our findings show that the contents of political education as enshrined in the LKA/GP module were inadequate to address the need to foster the participation of students in the country's democratic processes. This study has however yielded significant insights for scholars and students of education, politics, and political education, particularly those who are interested in the study of political education and efforts at strengthening and deepening South Africa's democracy. Nonetheless, the study has a few limitations. The selection of the study's participants did not cut across all the provinces in South Africa and therefore not representative of the university students in the entire nine provinces in the country. Also, the study's sample was drawn from only one of the four universities in the Eastern Cape Province and the results may not be appropriate for generalization to the entire university student population of the whole province.

Recommendations

In light of the study's findings, the following recommendations are imperative to provide sufficient political education for the students and sustainable democracy in South Africa:

1. There is a need for teaching and learning political literacy as a separate module and as a general module for all students regardless of their disciplines in the university.
2. The responsibility of cultivating active, responsible, and politically engaging citizenry in the young people should not be left to the higher institutions alone. High school teachers in South Africa should be motivated to join hands in the promotion of effective and efficient delivery of the teaching and learning of political education as a crucial part of the school curriculum for students in Grades 1 to 12.
3. More importantly, students should be encouraged to participate in politics right from the primary school level, through the high school level, and to the tertiary education level. It is expected that learning about the political system, and civic duties and becoming politically conscious at the primary and high school levels would go a long

way in the sensitization of young people about the significance of political education for the sustenance of democracy in South Africa as they move to the university level.

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