See discussions, stats, and author profiles for this publication at: https://www.researchgate.net/publication/323322766

The Perception of Information Literacy Skill among the Librarians: A Survey of University of Lagos Library

Article ·	January 2017	
CITATIONS	S	READS
0		19
1 autho	r:	
	Oluwole Durodolu University of Lagos 10 PUBLICATIONS 7 CITATIONS	
	SEE PROFILE	

Some of the authors of this publication are also working on these related projects:



Information Literacy, Self-Concept and Metacognitive Ability of Teacher-Librarians at the University of Zululand View project

The Perception of Information Literacy Skill among the Librarians: A Survey of University of Lagos Library

Durodolu, Oluwole Olumide
University Library
University of Lagos
odurodolu@unilag.edu.ng, woledurodolu@gmail.com

&
Adekanye, Elizabeth Adetoun
University Library
University of Lagos.

eadekanye@unilag.edu.ng, tounadekanye@gmail.com

Abstract

Information literacy is elemental to quality library services, the knowledge of which will improve the service delivery and attract the members of the academic community to the library. The study examined perception of information literacy skill among the librarians using University of Lagos library as a case study. The study focused on three research questions and hypotheses to elucidate the opinion of library on information literacy and how it has helped the effectiveness of librarians. The study adopted post-positivist research paradigm in which quantitative and qualitative research method were used, data was gathered through questionnaires and content analysis. The target population were librarians and library officers who are purposively selected from the University of Lagos Library. The study established that Librarian and Library Officers possessed advanced level of perception of the need for information literacy, used library resources effectively; age group has significant effect on information literacy, librarians with higher qualification use library resources more than librarians with lower qualification and the level of information literacy of librarians also determine the extent of use of library resources. Female librarians are significantly more than their male counterparts. The recommendations focused on how issues and challenges could be approached positively to lead to better service delivery for a cosmopolitan environment like Lagos.

Keywords: Information Literacy, Librarian, Library Office, Information Communication technology, ICT4D, Lagos.

Introduction

The avalanche of information that an average individual is showered with in recent time is stunning. The upsurge of technology driven accessible information has made knowledge sharing overwhelming. But in some cases the overwhelming amount of information does not always translate into quality and usable information. (White, 2009). Traditionally, accessing information can take a lot of effort, time and energy because it involves physically visiting information centres such as libraries, archives and museum. The library in the opinion of IFLA (2008) is a place and space for accessing dependable information where the library collection developments are guided by time-tested ideologies and standards. The modern information environment requires the knowledge of information literacy for adequate knowledge for access and use of resources especially those available on the internet which is a complex information space where self-publishing is now a common practice as observed by White (2009) who argues that many of

this self-publications have not gone though peer-review process and this could be a major source of misinformation and lowering reliability and dependability of information.

The role of teachers in disseminating knowledge and creating an atmosphere for lifelong learning has never been more crucial than it is now in an information and communication technology driven society. Hussain and Safdar (2008) pinpoint that the information age is an epoch renowned for provision of sound knowledge and matchless possibility for innovation, exchange of ideas, communication and discovery to strengthen the teaching learning process. In the opinion of Stasko (2013) information technologies facilitate promotion of opportunities of knowledge sharing worldwide, therefore in view of the above; the knowledge of information literacy is germane to modern teacher who desires effective teaching strategy befitting the modern learning environment. The available information in this modern time come from sources very difficult to verified and confirmed, these uncertainties have the capacity to cast shadow of doubt on the authenticity, validity, and reliability of information resources. Abubakar and Isyaku (2012) observed that doubtful quality and ever increasing quantity of information compounded the predicament of modern teachers who are supposed to guide students on how to expand the frontiers of knowledge that is anchored on fact and reality not fiction and speculation. The sheer large quantity of information does not automatically reflect the quality of information that is available to the citizenry. Consequently, the knowledge of information literacy becomes necessary for teachers who are eager to play a distinguished role in 21st century information usage.

In the observation of Leung (2010) posited that the new educational media has become a threshold for accessing and interacting with information, especially in the area of problem solving and critical thinking, these underscores the future prospect and importance of this innovative technology far above the knowledge of specific hardware or software, information literacy skill is an all encompassing ability that aid all forms of literacy in which researching and communicating information in a digital atmosphere are as imperative as reading and writing were in earlier decade. Leung (2010) further observed that the major challenge confronting the contemporary students is the over abundant information of frequently questionable quality, in the same vein, teachers have come to realise the fact that way out of this predicament will be inadequate if attention is focused on improving technology training, instead there is a progressively urgent steps needed for student to have the indispensable knowledge of information literacy skill, which will open doors of opportunity for them to be able to differentiate when information is required and have the capability to locate, evaluate, and effectively use information and apply those skills with the aid of modern technology.

Hussain and Safdar (2008) argue that the information flooded environment upholds new practices and ideas for education where the teachers are perceived as instructors who assist students in their studies rather than playing the typical role of giving instructions in the classrooms. This is so because students are now capable of independent access to information, they can collaborate and contribute to learning activities with their teachers and other learners in knowledge building and dissemination process even though they lack the ability to evaluate the sources of information properly. Since students can manipulate information constructively on

their own, modern teachers should be alive to their responsibility and requirement of modern learning by embracing the knowledge of information literacy.

In the view of Ferguson (2003) one of the foremost challenges inhibiting the direct definition of information literacy is the multifarious interconnected skills that is required without which it will be difficult to describe the concept in a single sentence, Regardless of this, it is important to find a suitable definition that will mirror the importance of the concept to modern education, therefore, the National Forum on Information Literacy, a body established at the instance of American Library Association described information literacy as the ability to realise when there is need for information and to be able to discover, locate, evaluate and effectively use information for the purpose of problem solving. With close examination of the definition, one can conclude that for modern teacher to perform at optimal level the skill of information literacy is of paramount importance.

In the opinion of SCONUL (2011) information literate person is expected to exhibit a responsiveness of how to gather, use, manage, synthesise and create information and data in an ethical conduct and will have the information skills to do so effectively. In the perspective of Teachers, this expertise entails the ability to know the relationship between information and practical application in the classroom environment, and the dexterity and understanding to locate, appraise and use the information to the benefit of learners.

The role and responsibility of 21st century teachers have undoubtedly changed; there has been a momentous change over the last century from manufacturing to emphasizing information and knowledge services, in the same vein, knowledge is increasing exponentially. Information and communication technology is at the heart of this development, how teachers become skilful and the nature of how work is conducted and the meaning of social relationships have changed. Collective decision-making, information sharing, collaboration, partnership, innovation, and speed are indispensable in today's endeavour. In view of the prevailing circumstances, students look forward to future that requires special skills, this position is accentuated by Pacific Policy Research Center, (2010) Nowadays, accomplishment is anchored on being able to communicate, contribute and utilise information to make sense out of complicated problems, and being able to adjust and improvise new innovation in reaction to new demands and changing circumstances, in being able to expand the power of technology to create new knowledge.

For teachers to play the pivotal role of educating facilitating and motivating students in the opinion of Gwen (2010) method applied must conform to 21st century technique of learning, teaching tools and resources must support learning strategies, that is teachers must adapt the curriculum and its requirements to instruct using digital tools.

Statement of problem

In the light of constant transformation in the information environment, information literacy skills have come to be recognised as a strategic tool for twenty-first century survival. Higher institutions, especially the university relies on the competence of librarian to expose them to quality information that can support teaching, learning and curriculum development. This study intends to investigate the perception of librarians about their awareness to their new

responsibility in information management, especially electronically based information sources and how to utilise it for better performance in the academic environment. What is the perception of modern librarian about information literacy? To what extent can librarian use modern facilities to access information? Even though varieties of studies have explored different aspect of information literacy in relation to librarian, but evidently however there is paucity of research on the subject matter in relation to Nigerian environment, for this reason this study is imperative.

Research Questions

- I. What is the perception of librarian on the need for information literacy?
- 2. What is the information literacy level of librarians in University of Lagos library?
- 3. Which library resources do you use effectively?

Research Hypotheses

 H_{01} : Age group has no significant effects on information literacy level of librarians in University of Lagos.

 H_{02} : There is no significant relationship between educational qualification of librarians and library resources' use.

 H_{03} : There is no significant relationship between information literacy level of librarians and their use of library resources.

Methodology

This study was carried out for over two months (July and August 2014) using questionnaire as a means of data collection. The population of the study includes all academic librarians and library officers working in the University of Lagos Library. The research is quantitative in nature in which questionnaires were used to get the response of the academic librarians and library officers. The quantitative survey method was used in the study to respond to research questions in which librarians and library officers were purposively chosen for the study. The research instrument was given to the 22 librarians and library officers and 14 were returned representing 63.6%, simple random sampling technique was used in the selection; the librarians on study leave based were not selected because they were not available. The Questionnaire was divided into 2 parts. Part A captures bio-data of the respondents which includes: age, gender and years of experience. Part B contains inquiries that require information about how they perceive information literacy. Statistical Package for Social Sciences (SPSS) was used for the data analysis.

Interpretation of data and discussion of findings

Demographic Characteristic of Respondents

Table 1: Distribution of respondents based on gender

Variables		Frequency	Percentage
Sex	Male	5	35.7
	Female	9	64.3
	Total	14	100.0%

Table 1 shows that there are more female as 9 (64.3%) than male 5(35.7%) among the librarians in University of Lagos library.

Table 2: Distribution of respondents based on age

Variables		Frequency	Percentage
Age Group	16-20	0	0.0
	21-25	0	0.0
	26-30	1	7.1
	31-35	2	14.3
	36 and above	11	78.6
Total	•	14	100.0%

Table 2 revealed the frequency distribution according to age group. The result shows that majority of the librarians in University of Lagos library are within the age range of 31 years and above with 13 or 92.9% response rate.

Table 3: Distribution of respondents based on years of experience

Variables		Frequency	Percentage
Years of Experience	1 to 5yrs	7	50.0
	6 to 10yrs	2	14.3
	11 to 15yrs	5	35.7
	16 to 20yrs	0	0.0
	21 to 25yrs	0	0.0
	26 to 30yrs	0	0.0
Total	•	14	100.0%

Table 3 presents information on the working experience of respondents and it showed that all of the librarians within University of Lagos library have worked for only a period of 1-15 years.

Table 4: Distribution of respondents based on academic qualification

Variables		Frequency	Percentage
Qualification	NCE/OND	0	0.0%
	BLS/B.Ed	5	35.7%
	MLS/M.Ed	7	50.0%
	Ph.D	2	14.3%
Total		14	100.0%

Table 4 revealed that majority of the respondents working within University of Lagos library (7 or 50.0%) holds a Master of Library Studies/Master of Education degree while only 2 representing 14.3% hold PhD degree. This implies that majority of the people working within the university library possess the requisite qualification for working in a university library.

Table 5: Distribution of respondents based on possession of computer literacy skill

Variables		Frequency	Percentage
Computer literate No		0	0.0%
	Yes	14	100.0%
Total		14	100.0%

Table 5 presents information on possession of computer literacy skill by the respondents and it revealed that all the respondents affirmed that they are computer literate. This implies that all the people working in University of Lagos library are computer literate.

Resolution of Research Questions

Research Question I: What is the perception of librarians on the need for information literacy?

Table 6: Librarians' perception of the need for information literacy

S/N	Variables	Agreed	Undecided	Disagree	$\overline{\chi}$	SD	Ranked
1	I need information literacy skill to effectively use search engine	13(92.9%)	0(0.0%)	1(7.1%)	4.4	0.85	1 st
2	I need training on how to use academic electronic databases	13(92.9%)	0(0.0%)	1(7.1%)	4.1	0.77	2 nd
3	I need information literacy skill to effectively use a library	12(85.7%)	0(0.0%)	2(14.3%)	3.8 6	0.86	3 rd
4	I need information literacy skill to be an effective teacher	10(71.4%)	0(0.0%)	4(28.6%)	3.5 7	1.74	4 th
5	I need information literacy skill to effectively retrieve information in any source	10(71.4%)	0(0.0%)	4(28.6%)	3.5	1.69	5 th
6	I need information literacy skills to avoid plagiarism	10(71.4%)	0(0.0%)	4(28.6%)	3.5 0	1.69	5 th
7	I need special training on how to effectively use internet	9(64.2%)	0(0.0%)	5(35.8%)	3.2 9	1.20	6 th
8	I need to be trained on the proper use of the library	7(50.0%)	0(0.0%)	7(50.0%)	3.0	1.41	7 th
9	There is no relationship between my level of information literacy skills and job performance	4(28.6%)	0(0.0%)	10(71.4%	2.1	1.61	8th
	Weighted Average Estimated Mean				3.4 9		

Table 6 presents information on the perception of librarians on the need for information literacy and it revealed the weighted average estimated mean of librarians' perception of librarians on the

need for information literacy in University of Lagos library is 3.49 which is greater than the expected mean of 3.00. This implies that the librarians have positive perception on the need for information literacy skills by librarians. The positive perception of librarians about the need for information literacy is revealed in the positive responses recorded for each of the statements on the scale for estimating the need for information literacy among the librarians.

Research question 2: What is the information literacy level of librarians in University of Lagos library?

Table 7: Information literacy skill of Librarians

S/N	Variables	Yes	No	$\overline{\chi}$	SD	Ranked
1	Ability to identify potential sources of information	14(100.0%)	0(0.0%)	1.00	0.00	1 st
1	Ability to determine when information is needed	13(92.9%)	1(7.1%)	0.93	0.26	2 nd
2	Ability to access the needed information effectively and efficiently	13(92.9%)	1(7.1%)	0.93	0.26	2 nd
3	Ability to use information effectively to accomplish a specific goal	13(92.9%)	1(7.1%)	0.93	0.26	2 nd
4	Ability to integrate new information to existing body of knowledge	13(92.9%)	1(7.1%)	0.93	0.26	2 nd
5	Ability to evaluate information needs	13(92.9%)	1(7.1%)	0.93	0.26	2 nd
6	Ability to evaluate information and its services critically	12(85.7%)	2(14.3%)	0.86	0.36	3 rd
7	Ability to understand the ethical use of information	12(85.7%)	2(14.3%)	0.86	0.36	3 rd
8	Ability to develop successful search strategy	10(71.4%)	4(28.6%)	0.71	0.46	5 th
6	Ability to retrieved information in any format from sources Weighted Average Estimated Mean	9(64.3%)	5(35.7%)	0.64	0.49	6th

Table 7 presents information on the information literacy skills possessed by the respondents. It revealed ability to identify potential sources of information (14 or 100.0%), ability to use information effectively to accomplish specific goals (13 or 92.9%), ability to access the needed information (13 or 92.9%), ability to determine when information is needed (13 or 92.9%), and ability to integrate new information to existing body of knowledge (13 or 92.9%) as topping the list of information literacy skills possessed by respondents. This may mean that librarians in

University of Lagos library possess the requisite information literacy skills hence they can be said to be information literate.

Research Question 3: Which library resources do you use effectively?

Table 8: Effective use of library resources by librarians

S/N	Variable	Yes	No	$\overline{\chi}$	SD	Ranked
1	(Online public	14(100.0%)	0(0.0%)	2.00	0.00	1 st
	access catalogue					
	(OPAC)					
	Internet resources	13(92.9%)	1(7.1%)	1.93	0.26	2 nd
2	Currents	11(78.6%)	3(21.4%)	1.79	0.42	2 nd
	Awareness					
	Bulletin					
3	Computer System	13(92.9%)	1(7.1%)	1.93	0.26	2 nd
4	Digital Library	12(85.7%)	2(14.3%)	1.86	0.36	3 rd
5	Electronic	11(78.6%)	3(21.4%)	1.79	0.42	4 th
	Databases					
6	Microsoft office	11(78.6%)	3(21.4%)	1.78	0.42	4 th
	tools					
7	CD-ROM Search	11(78.6%)	3(21.4%)	1.79	0.42	4 th
11	Web 2.0	6(42.9%)	8(57.1%)	1.43	0.51	6th
	Average Weighted			1.79		
	Estimated Mean					

Table 8 presents information on the effective use of library resources among the Librarians of University of Lagos and it revealed online public access catalogue 91.4 or 100.0%), internet resources (13 or 92.9%), computer system (13 or 92.9%), digital library (12 or 85.7%), electronic databases (11 or 78.6%), Microsoft office tools (11 or 78.6%), current awareness bulletin (11 or 78.6%), and CD-ROM (11 or 78.6%) as major library resources being used by the librarians in University of Lagos library. This implies that the effectiveness of librarians in the use of library resources was rated high. Also, the weighted average estimated mean of librarians' effective use of library resources is 1.79 which is greater than the expected mean of 1.78. This may mean that the librarians in University Lagos do make effective use of library resources.

Research Hypotheses

 H_{01} : Age group has no significant effects on information literacy level of librarians in University of Lagos

Table 9: ANOVA showing the effect of age group and information literacy skills of librarians

Age Range	N	Mean	Std	Sum of	df	Mean	F	Sig
			Deviation	Square		Square		
26 to 30	1	22.00	0.00	13.318	2	6.659	33.57	0.000
31 to 35	2	26.00	0.00	2.182	11	0.198	3	

36 and above	11	25.72	0.46	15.500	13		
Total	14	25.50	1.09				

Table 9 revealed that age group has significant effect of information literacy skills of librarians in University of Lagos ($F_{(2,11)} = 33.575$, P=0.000<0.05). This may mean that age is a significant factor that determines the information.

 H_{02} : There is no significant relationship between educational qualification of librarians and library resources' use.

Table 10: ANOVA showing relationship between educational qualification of librarians and library resources' use

Qualific	N	Mean	Std	Sum of	df	Mean	F	Sig
ation			Deviation	Square		Square		
BLS/B.	5	24.20	8.95	406.914	2	203.457	5.851	0.019
Ed								
MLS/M.	7	35.57	3.20	382.514	11	34.774		
Ed								
P.hD	2	35.00	0.00		13]		
Total	14	31.42	7.79					

Table 10 presents information on the relationship between educational qualification of respondents and their use of library resources. It showed that there is significant relationship between educational qualification of librarians and their use of library resources $F_{(2,11)} = 5.851$, Pro=0.019<0.05). This may mean that librarians with higher qualification (MLS/MEd and PhD) use library resources more than librarians with lower qualification (BLS/BEd).

 H_{03} : There is no significant relationship between information literacy level of librarians and their use of library resources

Table 11: Summary of regression analysis showing relationship between information literacy level of librarians and use of library resources

Model	Sum of Squares	df	Mean Square	F	Sig
Due to Regression	28.629	2	14.314	5.209	0.026
Due to Residual	30.229	11	2.748		
Total	58.857	13			

Table 11 presents the result of the analysis of the relationship between information literacy level of librarians and their use of library resources and it revealed a significant relationship between information literacy level and use of library resources by librarians in University of Lagos ($F_{(2,11)} = 5.209$, P=0.026<0.05). This implies that information literacy level of librarians does determine the extent of their use of library resources.

Discussions of the findings:

Looking at the demographic variables, the study assigned highest value to female gender in the University of Lagos, which mean there are more female than male in the library, this correspond

with the opinion of Nwezeh (2009) that says library is a profession popular among women in the UK and USA than men, but contradicts the opinion of Falaye (2004) that observed that librarian is a profession dominated by men.

Results of findings from the study are in consistent with the findings and conclusions by earlier writers and researchers of similar topics. According to Doyle (1994) an information literate person in 21st century needs to possess information skills, an ability to recognize the needs for information, locate required information, formulate question based on information needs, identify potential sources of information, develop successful search strategies and access sources of information including computers based and other technologies. The individual must be able to evaluate information for practical application, integrate new information into an existing knowledge, use information in critical thinking and problem solving and also use information ethically and legally.

Eisenberg (2008) noted that information literate services and instructions are essential components of every 21st century programme whether offering direct instructions to users, providing skills-based functions on websites, delving one-on-one assistance, every information and library situation requires helping users to succeed through improving their information skills or understanding.

From the conclusion of Aharony and Bronstein (2014), librarians are aware of the concept and value of information literacy and are capable of handling information literacy. What is needed is an enabling environment by government approved standards and policy for survival in the knowledge society. They also strongly felt that information literacy is the responsibility of librarians but not added burden and that librarians have skills to handle literacy training which will not rub on routinal duties of librarians.

This result is consistent with the findings of Arya (2014) and Karisiddappa and Rajgoli (2005) who reported that all the respondents in their studies have good understanding of the concept of information literacy and its importance in making user empowered in the information society. By the result of Anyaoku, et al (2015) respondents showed generally that they have a positive view of librarians' roles and capabilities in information literacy services. The respondents displayed this by scoring their skills highest on locating information by using library catalogues, encyclopaedia, indexes and abstracts to find information.

Conclusion

The study has been able to provide useful information on the perception of information literacy skill among librarians at the University of Lagos Library. The study has proved that information literacy (IL) is essential to the mission of any institution engaged in teaching, learning and research and that libraries have crucial role in this regard. In addition, IL programme in institutions would enhance librarians' knowledge in the building of a knowledge society. The study has also shown that the level of IL with librarians will determine the extent of use of library resources. Finally, the findings of the study would be described as a scholarly contribution on the perception of IL among librarians in Nigeria.

Recommendations

Based on the findings of the study, the following recommendations were made:

- 1 The study found that the level of perception of librarians on the need for information literacy was to a great extent high. It is recommended that library management should provide training opportunities for librarian in order to update knowledge of librarians which inadvertently enhance their level of perception.
- 2. Further, it was found that University of Lagos librarians possessed the requisite information literacy skills. This is a plausible result which is against the a priori expectation of the researcher. However, management should not relax on their oars but continually strive to raise the information literacy skills of librarians through workshops and in-service trainings from time to time.
- 3. More so, the study revealed that University Lagos make effective use of library resources. It is recommended that management should provide state of arts infrastructure that will encourage librarians' continual usage of library resources.
- 4. Also, the study found that demographic factors of age and educational qualifications of librarians significantly predicted information literacy skill of librarians. It is recommended that younger librarians and those with lower qualifications should emulate and understudy the older ones in information literacy skill acquisition.
- 5. Lastly, information literacy of librarians was strongly connected to their use library resources. So, it is advised that management should not relent but provide more incentives that will continually drive librarians towards using library resources to enhance their performance and productivity on the job.

References

- Abubakar, U. A. & Isyaku, A. A. (2012). Teaching Information Literacy Skills in Nigerian Universities: whose Responsibility? *Journal of Research in Education and Society*; 3(2), 21-30.
- Aharony, N. and Bronstein, J. (2014). Academic Librarians' perceptions on information literacy: The Israeli perspective. *Libraries and Academy*, 14 (1), 103-119.
- Anyaoku, E. (2016). Librarians conceptions of information literacy in three Federal Universities in South East, Nigeria. Implications of effective implementations of information literacy programmes. *Library Philosophy and Practice (e-journal)* page 1357
- Anyaoku, E.N.; Ezeani, C,N. & Osuigwe, N.E. (2015). Information literacy practices of librarians in universities in south east, Nigeria. *Academic Journal*, 7 (5), 96-100.
- Arya, S. (2014). Information literacy programmes and practices: A survey of selected Higher Institutions of Udaipur District. *Global Journal of Academic Librarianship*, 1 (1), 9-18.
- Doyle, C. S (1994). Information Literacy in an Information Society: A Concept for the Information Age. Information Resources Publications, Accessed on 07/03/2017, from https://eric.ed.gov/?id=ED372763
- Eisenberg, M.B. (22008). Information literacy: Essential skills for the information age. *DESIDOC Journal of Library and Information Technology*, 28 (2), 39-47.

- Falaiye, Z. M. (2004). Gender participation in academic libraries and information services in Nigeria. *Owena Journal of Library and Information Science*, 1(2), 21-30.
- Ferguson, B (2003). Information Literacy: a primer for Teachers, Librarians, and other Informed People. Accessed on 04/08/2014, from http://www.bibliotech.us/pdfs/InfoLit.pdf
- Gwen S (2010). Education for the 21st Century: the basics. Accessed on 05/08/14, from http://www.smlcs.org/publications/21stcenturyeducation.pdf
- Hussain, I. & Safdar, M (2008). Role of Information Technologies in Teaching Learning Process:

 Perception of the Faculty. Accessed on 02/08.2014, from https://tojde.anadolu.edu.tr/tojde30/pdf/notes_for_editor_5.pdf
- IFLA (2008). IFLA Library Statistics Manifesto. Accessed on 20/08/2014, from http://www.ifla.org/files/assets/statistics-and-evaluation/publications/library-statistics-manifesto-en.pdf
- Karisiddapa, C.R. & Rajgoli, I.U. (2005). In search of information literacy programmes and practices: Survey of selected institutions at Bangalore." *DESIDOC Journal of Library and Information Technology*, 28 (2), 28-38.
- KZN Department of Education (2012). School Library Strategy: Providing equitable access to good school libraries for all learners in KwaZulu-Natal. Accessed on 05/08/2014, from http://www.kzneducation.gov.za/Portals/0/ELITS%20website%20Homepage/ELITS%20Strategy.pdf
- Leung, L. (2010). Effects of Internet Connectedness and Information Literacy on Quality of Life. Social Indicators Research, Vol. 98, No. 2. Accessed on 29/08/2014, from http://www.jstor.org/stable/pdfplus/10.2307/40800972.pdf
- Nwezeh, C. M.T. (2009). Women Librarians in Nigerian Universities: Their Status, Occupational Characteristics, and Development. *Electronic Journal of Academic and Special Librarianship*. 10(3). Retrieved 20/03/2017, from http://southernlibrarianship.icaap.org/content/v10n03/nwezeh c01.html
- Osunde, A. U. & Omoruyi, F. E. O. (2004). An Evaluation of the National Teachers Institute's Manpower Training Program for Teaching Personnel in Mid-western Nigeria. Accessed on 20/08/2014, from http://ehlt.flinders.edu.au/education/iej/articles/v5n3/osunde/paper.pdf
- Pacific Policy Research Center, (2010). 21st Century Skills for Students and Teachers. Accessed on 04/08/2014, from http://www.ksbe.edu/spi/PDFS/21%20century%20skills%20full.pdf
- SCONUL (2011) The SCONUL seven pillars of information literacy core model for higher education. Accessed on 04/08/2014, from http://www.sconul.ac.uk/sites/default/files/documents/coremodel.pdf
- Stasko, J. (2013) overview of Information Visualization. Accessed on 20/08/2014, from http://www.cc.gatech.edu/~stasko/7450/Notes/overview.pdf
- White, J. P. (2009). the Effects of the Information Explosion on Information Literacy. Access on 02/08/2014, http://jacquelynpwhite.files.wordpress.com/2009/09/theeffectsoftheinformationexplosiononinformationliteracyedits-doc.pdf
- Zinn, S. E. (2012). Information literacy in the classroom: assessing the competency of Western Cape teachers in information literacy education. Access on 06/08/2014, from http://researchspace.ukzn.ac.za/xmlui/bitstream/handle/10413/8684/Zinn_Sandra_Edna_2012.pdf?sequence=1