TITLE PAGE

A PATH-ANALYTIC STUDY OF SOCIO-PSYCHOLOGICAL VARIABLES AND ACADEMIC PERFORMANCE OF DISTANCE LEARNERS IN NIGERIAN UNIVERSITIES

MARUFF AKINWALE OLADEJO

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BY

MARUFF AKINWALE OLADEJO
B. Ed (Edu. Mgt/Economics); M. Ed (Edu. Planning & Policy) (Ibadan)
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ABSTRACT

The level of academic performance of distance learners in Nigerian universities has generated concern among stakeholders owing to the vital roles which distance learning programmes play in the overall educational development of the country. Several studies have been carried out on conventional students' academic performance, but not much on distance learning students. This study, therefore, provided a causal explanation of distance learners' academic performance through the analysis of the direct and the indirect effects of some students' socio-psychological variables such as age, gender, disability status, employment status, marital status, self-efficacy, self-regulations, study habits, self-concept and attitude.

The study adopted descriptive survey research design of the "*ex-post facto"* type. Four Universities approved by the National Universities Commission to run distance learning programmes were used for the study. Two thousand and three hundred participants were selected through purposive sampling technique. Five hundred and seventy-five respondents were selected from each of the four universities. Five instruments: Students' Attitudes Towards Distance Learning Questionnaire (r =0.86), Distance Learners' Self Efficacy Scale (r =0.75), Distance Learners' Self Regulation Skills Scale (r = 0.68), Distance Learners' Study Habits Inventory (r=0.65) and Distance Learners' Self Concept Scale (r =0.75) were used to collect data. Five research questions were answered and five hypotheses tested at 0.05 level of significance. Path analysis was employed.

The ten factors combined accounted for 3% of the total variance in distance learners' academic performance. Out of this total effect, 2.98% was direct, while 0.02% was indirect. Factors that demonstrated direct effects were age (β=.14), attitudes (β=.07), self-regulations (β=.06) and disability status (β=.06). On the other hand, self-concept (β=.01), employment status (β=.02), gender (β=.02), study habits (β=.02), marital status (β=.03) and self-efficacy (β=.04) demonstrated indirect effects. Also, there were 23 significant and meaningful pathways (P<0.05) to distance learners' academic performance: P_{111} (.144), P_{113} (.056), P_{117} (.062), P_{11110} (.070), P_{103} (.086), P_{107} (.158), P_{109} (.273), P_{93}(.065), P_{96}(.062), P_{98}(.481), P_{81} (.140), P_{83} (.111), P_{84} (.054), P_{85} (.091), P_{86} (.211), P_{87}(.247), P_{76}(.382), P_{63}(.085), P_{51}(.525), P_{52}(.061), P_{54}(.127), P_{41}(.411), and P_{43}(.069). Furthermore, there were significant differences between disability status (t=2.39, df= 2298, P <0.05), marital status (t=2.31, df=2298, P <0.05) and mode of delivery (t=3.06, df=2298, P <0.05) on students' academic performance.

However, academic performance was not significantly different on the basis of gender and employment status.

Age, attitudes towards distance learning, self-regulation skills and disability status predicted distance learners' academic performance in Nigerian universities. Distance learning institutions should device a mechanism for keeping the students highly motivated throughout their programmes. Adequate facilities should also be provided for students with special needs who may be disadvantaged in the inclusive distance education system.

Key words: Socio-psychological variables, Distance learners, Academic performance, Path analysis

Word count: 430 words.

DEDICATION

This Doctoral Thesis is Wholeheartedly Dedicated To:

ABDUL-MALIK AKINWALE AJIBOLA BABATUNDE AJADI
My first seed whose birthday coincides with my Ph. D Graduation Ceremony
(November 17)

&

ALL MY TEACHERS

CERTIFICATION

I certify that this doctoral research work was carried out by **MARUFF AKINWALE OLADEJO** in the Department of Educational Management, University of Ibadan, Ibadan, Nigeria under my supervision and guidance.

Supervisor
'SEGUN OLUGBENGA ADEDEJI
Ph. D; M. Ed; B. Ed (Ibadan),
Department of Educational Management,
University of Ibadan, Ibadan,
Nigeria.

Date

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LIST OF ABBREVIATIONS

ABU: Ahmadu Bello University.

AP: Academic Performance.

CDL & CE: Centre for Distance Learning and Continuing Education.

CES: Centre for External Studies.

COL: Commonwealth of Learning.

COSIT: Correspondence Open Studies Institute.

COSU: Correspondence Open Studies Unit.

DS: Disability Status.

DLC: Distance Learning Centre.

DLI: Distance Learning Institute.

ES: Employment Status.

FME: Federal Ministry of Education.

GPA: Grade Point Average

ICDE: International Council for Distance Education.

IGNOU: Indra Ghandi National Open University

MS: Marital Status.

NOUN: National Open University of Nigeria,

NTI: National Teachers' Institute.

NCE: Nigeria Certificate in Education.

OU: Open University.

ODL: Open and Distance Learning.

SC: Self-Concept.

SEB: Self-Efficacy Beliefs.

SRS: Self-Regulations Skills.

SH: Study Habits.

TISEP: Teacher In-Service Education Programme.

UNIABUJA: University of Abuja.

UI: University of Ibadan.

UNILAG: University of Lagos.

UNN: University of Nigeria, Nsukka.

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CHAPTER 1

INTRODUCTION

Background to the Study

Until recently, the main mode of educational delivery to the people all over the world has essentially been the conventional system. In fact, most of the African Universities have been providing university education through various conventional methods such as residential or on-campus teaching. Unfortunately, due to limited spaces, financial and human resources, as well as physical facilities on campus, conventional methods of providing higher education have not been able to admit the large number of people seeking University education. Besides, this system is also faced with two major constraints according to Kumar (2001). One is spatial whereby education takes place within the classrooms. The other is temporal in which education is confined to the earlier period of one's life, specifically from 6-25 years of age.

However, in the modern era of continuing and lifelong education, there emerged a new class of learners, mostly adult workers, who had previously missed out of the conventional formal education system probably because they could not afford to enroll on a full-time basis due to work schedule, family responsibilities, religious obligations, social activities and business commitments. They also have children to feed, clothe and send to school (Dlamini, 1998). They, therefore, need to coordinate these different areas of their lives- their families, jobs, spare time and studies which also influence one another. Nevertheless, education according to these working adults does not terminate at the end of formal schooling. Rather, it is a life long process, which covers the entire life span of an individual.

Thus, we need today, a system that will not only help transcend these and other shortcomings of conventional formal education system but also, satisfy the learners' immediate and long-term educational needs. Distance education, now globally known as

Open and Distance Learning (ODL) by the International Council for Distance Education (ICDE), provides the answers to such situations (Ojokheta, 2000; Aderinoye, 2002).

In essence, the need to overcome the seemin shortcomings of conventional formal education system, especially in widening educational access to those who were not earlier served, paved the way for the emergence and acceptance of distance learning system in most parts of the world including Nigeria. Aderinoye (2002) remarked that the emergence and acceptance of distance learning as a medium of instruction marked a turning point in the provision of educational opportunities for millions of people that have been left out of the conventional system all over the world.

Distance learning system, as an emerging mode of educational delivery and study according to Perraton (2000), does not only widen educational opportunities, but also reduces inequality and cost, stimulates curriculum change and helps to meet manpower needs. It has in fact, helped to extend market for education to clientele who have not been previously served (Calvert, 1986), and also removed many of the traditional barriers to working adults' participation in educational programme (Ojokheta, 2000). However, according to Brindley (Ojokheta, 2000), the results achieved so far by this mode of study vis-à-vis distance learners' academic performance are not as successful and impressive as originally hoped. Tables 1.1 to 1.8 presented lend credence to Brindley's assertion.

Table 1.1: Analysis of Distance Learners' Grade Point Average (GPA), Centre for Distance Learning & Continuing Education, University of Abuja, 2004/05.

GPA Classifications	200 Level	% Share	300 Level	% Share	400 Level	% Share
1st Class	-	00.00	-	00.00	01	00.09
2nd Class Upper	256	19.09	264	21.91	202	18.13
2nd Class Lower	1040	77.55	931	77.26	904	81.15
3rd Class	45	03.36	10	00.83	05	00.45
Pass	-	00.00	-	00.00	02	00.18
Total	**1341**		**1205**		**1114**	

Source: MIS Office, CDLCE, University of Abuja.

The analysis of distance learners' grade point average at the Centre for Distance Learning and Continuing Education, University of Abuja during the 2004/2005 session lends credence to Brindley's (1987) assertion of the unimpressive academic performance of students in distance learning programme. For instance, as at 2004/2005, only one student was on the first class honour list across the 200, 300 and 400 levels. This is 00.09%. The table also revealed that 202 and 904 students were on the second class upper and lower honours list, which are 18.13% and 81.15% respectively. Only five students, that is, 00.45% were on third class honour list, while two students, which constituted 0.18%, were on the pass list.

Table 1.2: Analysis of Regular Students' Grade Point Average (GPA), University of Abuja, 2004/05.

GPA Classifications	200 Level	% Share	300 Level	% Share	400 Level	% Share
1st Class	03	0.2	-	-	01	0.07
2nd Class Upper	78	5.32	63	4.24	52	3.91
2nd Class Lower	1380	94.13	1357	95.30	1276	95.87
3rd Class	05	0.34	03	0.21	02	0.15
Pass	-	-	01	0.07	-	-
Total	**1466**		**1424**		**1331**	

Source: Records Office, University of Abuja.

Table 1.2 showed the analysis of regular students' academic performance in terms of grade point average at the Faculty of Education, University of Abuja during the 2004/2005 session. It was shown from the Table that 3 students in two hundred level were on first class

honour list, which constituted .2%. Seventy-eight students were on second class upper list, which is 5.32%. While 94.13%, which was 1380 students were on second class lower list. Also, 5 students, which is 0.34% had third class honour. Out of one thousand, four hundred and twenty-four students in 300 level, sixty-three students had second class upper, while one thousand, three hundred and fifty-seven students were on the second class lower honour list. These constituted 4.24% and 95.30% respectively.

In addition, 3 students (0.21%) were on the third class and 1 students (0.07%) was on the pass lists respectively. Further analysis of 400 level students' results showed that 1 student had first class honour, which is 0.07%, while fifty-two students, that is 3.91% were on the second class honour list. One thousand, two hundred and seventy-six students were on the second class lower honour list. This constituted 95.87%. Also, 2 students had third class honour, which is 0.15%. The Table revealed better performance of regular students than distance learners during 2004/2005 academic session at the University of Abuja.

Similar situation was discovered at the Distance Learning Centre of the University of Ibadan, Ibadan during the years 1997, 1998, 1999, 2000, 2004, 2005, and 2006. This was shown in Table 1.3.

Table 1.3: Analysis of the Summary of Distance Learners' Graduation Results in Selected Years at the Distance Learning Centre, University of Ibadan.

Grade	1997	1998	1999	2000	2004	2005	2006	Total	%Share
1st Class	-	-	-	-	01	-	-	01	**0.03**
2nd Class Upper	98	62	37	29	73	-	201	512	**19.82**
2nd Class Lower	470	275	204	155	327	12	562	1993	**77.18**
3rd Class	5	1	2	1	12	-	16	43	**1.66**
Pass	-	-	-	-	15	6	19	34	**1.31**
Failed	14	17	13	8	10	8	15	85	**3.18**
Total	**586**	**355**	**256**	**193**	**438**	**26**	**813**	**2667**	

Source: Records Office, University Of Ibadan, Ibadan.

The analysis of the summary of distance learners' graduation results revealed that the number of those in the pass list and third class honours list were 34 and 43, that is, 1.31% and 1.66% respectively, while the majority, that is, 77.18%, which was 1993 are in the second class lower honour list. Those in the second class upper honour list constituted 19.82%, that is, 512 and 0.03%, which was 01 distance learners was in the first class honour list. It was also revealed from the table that since the inception of the programme twenty years ago, the centre has succeeded in producing only one first class honour student.

The reverse however was the case when compared with the graduation results of the regular full time students in the same Faculty of Education at the University of Ibadan, Ibadan during the years 2000, 2004, 2005 and 2006.

Table 1.4: Analysis of the Summary of Regular Students' Graduation Results in Selected Years at the Faculty of Education, University of Ibadan.

	2000	2004	2005	2006	Total	%Share
1st Class Honour	01	03	02	02	08	**0.4**
2nd Class Upper	95	80	80	65	320	**19.08**
2nd Class Lower	356	397	287	150	1190	**70.96**
3rd Class	04	55	48	22	129	**07.69**
Pass	-	03	14	13	30	**1.78**
Failed	03	05	14	10	32	**1.87**
Total	**459**	**543**	**445**	**262**	**1709**	

Source: Records Office, University of Ibadan, Ibadan.

For instance, a total number of eight regular full time students graduated with first class honours, this is, 0.4%. Three hundred and twenty students, which was 19.08%, had second class upper division while 1190 students, about 71% fell within the second class lower division. Also, 7.69%, that is, 129 students were in third class list while 1.78%, that is, 30 students had pass. This is a better performance than that of the distance learners.

Table 1.5: Analysis of Distance Learners' Grade Point Average (GPA), Distance Learning Institute, University of Lagos, 2003/04.

GPA Classifications	200 Level	% Share	300 Level	% Share	400 Level	% Share
1st Class	-	-	-	-	02	0.15
2nd Class Upper	106	7.20	117	8.05	98	7.12
2nd Class Lower	1314	89.21	1271	87.68	1204	87.5
3rd Class	53	3.59	61	4.20	72	5.23
Pass	-	-	01	0.07	-	-
Total	**1473**		**1453**		**1376**	

Source: DLI, University of Lagos.

Table 1.5 showed the analysis of distance learners' academic performance at the Distance Learning Institute, University of Lagos during 2003/2004 session. Out of one thousand, four hundred and seventy-three students in 200 level, no student was on the first class list. One hundred and six students, which is 7.20%, had second class upper honour,

while one thousand, three hundred and fourteen students were on the second class lower list. This is 89.21%. Also, fifty-three students were on the third class list and this is 3.59%. In 300 level, one hundred and seventeen students, that was 8.05% were on the second class upper list while one thousand, two hundred and seventy-one students were on the second class lower list This constituted 87.68% of the total number of students. A total number of sixty-one students, which was 4.20% had third class, while I student was on the pass list, and this is .07%. Furthermore, the analysis of 400 level students indicated that 2 students, that is, 0.15% were on the first class list, while ninety-eight students had second class upper, which made up 7.12%. One thousand, two hundred and four students were on the second class lower honour list, and this constituted 87.5%. In addition, seventy-tow students were on the third class list, which gave 5.23%.

However, the reverse appeared to be the case, when the academic performance of distance learners was compared with that of the regular students in the Faculty of Education, University of Lagos, Akoka during the same 2003/2004 session. Table 1.6 revealed a better performance on the parts of the regular students.

Table 1.6: Analysis of Regular Students' Grade Point Average (GPA), University of Lagos, 2003/04.

GPA Classifications	200 Level	% Share	300 Level	% Share	400 Level	% Share
1st Class	-	-	01	0.05	-	-
2nd Class Upper	1603	65.94	1410	66.01	1385	67.43
2nd Class Lower	810	33.32	716	35.52	665	32.38
3rd Class	16	0.66	08	0.37	03	0.15
Pass	02	0.08	01	0.05	01	0.05
Total	**2431**		**2136**		**2054**	

Source: Records Office, University of Lagos.

From the Table 1.6, it was shown that in 200 level, one thousand, six hundred and three students were on the second class upper list. This was 65.94%. About 33.32%, that is, eight hundred and ten students had second class lower honour, while sixteen students, which

is .066% were on the third class list. Also, 2 students, which gave 0.08% had pass. Furthermore, 1 student in 300 level was on the first class list, and this was 0.05%, while one thousand, four hundred and ten, which constituted 66.01% were on the second class upper list.

The Table further indicated that seven hundred and sixteen students had second class lower. This was 35.52% of the total number of students in 300 level. About 0.37% and 0.05% that represented 8 and 1 students were on the third class and pass lists respectively. In 400 level, one thousand, three hundred and eight-five students were on the second class list. This gave 67.43%. Also, 32.38%, that is, six hundred and sixty-five students were on the second class lower list, while 3 students had third class and I student was on the pass list. This represented 0.15% and 0.05% respectively.

Table 1.7: Analysis of Distance Learners' Grade Point Average (GPA), National Open University of Nigeria (Southwest), 2004/2005.

GPA Classifications	200 Level	% Share
1st Class	-	-
2nd Class Upper	234	5.40
2nd Class Lower	4025	92.81
3rd Class	78	1.80
Pass	-	-
Total	**4337**	

Source: MIS Unit, NOUN, Southwest.

Table 1.7 presented the analysis of distance learners' academic performance at the National Open University of Nigeria, Southwest as at 2004/2005 session. Out of the total number of four thousand, three and thirty-seven students in 200 level, two hundred and thiry-four students were on the second class honour list. This made up of 5.40% of the total number of students. In addition, four thousand and twenty-five students, that is, 92.81% were on the second class lower list, while seventy-eight students had third class, and this was 1.80%. From the foregoing analyses so far, it could be deduced that there appeared to be better academic performance on the part of the regular students than the distance learners.

A further comparison of distance learners' academic performance vis-à-vis graduation results with external degree students of the Faculty of Arts of the University of Ibadan, Ibadan

who share almost similar characteristics with distance learners revealed better performance on the parts of the Faculty of Arts external degree students. It was discovered that 19 external students, that is, 1.43% had pass while 0.75%, that was, 10 students graduated with third class honour list. About 64%, which is 847 students were in second class lower division while those in second class upper division were 428, which was 32.26%. Twenty-three external students graduated with first class honours, and this constituted 1.73%. Furthermore, Table 1.8 presented the distance learners' enrolment figures at the Distance Learning Centre, University of Ibadan.

Table 1.8: Enrolment Figures at the Distance Learning Centre, University of Ibadan

Year of Admission	Enrolment Figures
1988/89	1,122
1989/90	625
1990/91	1,100
1991/92	732
1992/93	265
1993/94	182

Source: Admission Office, DLC, University of Ibadan, Ibadan.

It was shown on the Table that during the 1990/91 academic session, a total number of 1,101 distance learners were admitted. However, 572 distance learners graduated in 1997/98. This was even two years behind schedule since the programme was of five-year duration and is not prone to any union's strike action. In essence, among the distance learners that eventually graduated were those that were unable to graduate from previous sessions. This simply means that there were less than 572, that is, 51.95% distance learners that actually graduated from the 1990/91 set.

It can therefore be inferred that either a significant proportion of distance learners dropped out of programme in–between the years of their admission and graduation or many of them could not graduate as and when due. It therefore appears that the academic performance

of distance learners is not as successful and impressive as originally hoped in line with Brindley's observation (Ojokheta, 2000). Barker and Wendel (Bolton, 2004) remarked that students perform better if they are matured, psychologically stable, economically independent and self-motivated. It appears that these are some of the characteristics of distance learners that can make them perform better in any academic endeavour. The question therefore is why is it that distance learners who are known to be more matured, psychologically stable, economically independent and self-motivated are performing lower than the regular students? Issues bordering on distance learners' unimpressive academic performance have become both theoretically and practically important as distance learning now moves from a marginal to an integral role in overall educational provision (Ergul, 2004).

In moving from marginal to integral role in overall educational provisions, distance learning demands much on the part of the distance learners. This is because in distance learning system, learning is more personal and responsibility is more on the shoulders of the students. Therefore, it is expected of distance learners to have positive self-efficacy beliefs, determine and control their own learning, regulate themselves, inculcate good study habits, have positive self-concept and attitudes towards distance learning and their programmes for them to be able to perform well in their academic pursuit. For this reason, determining these types of characteristics of distance education students is extremely important to be able to assist them in their academic work. In fact, a combination of cognitive style, personality characteristics and self expectations is asserted to be able to predict student performance in distance education (McIsaac & Gunawerdena, 1996).

This dissertation therefore, strongly contends that the search for the roles of these psychological variables as predictors of distance learners' academic performance be sustained until a lasting solution is found in order to ameliorate the distance learners' unimpressive academic performance. Psychological variables are important in distance learning system because for the performing students, researchers agree on the necessity of being

psychologically stable (Sewart, Keegan & Holmberg, 1983; Murphy, 1989; Suciat, 1990; Chan, Yum, Fan, Jegede & Taplin, 1999; Ojokheta, 2000; & Ergul, 2004). In fact, Schwittman (Ojokheta, 2000) considered motivation as a critical predictor of success in distance learning. Some of the socio-psychological variables identified by scholars as motivating distance learners include self-efficacy beliefs, locus of control, self esteem, goal achievement (Pintrich & De Groot, 1990; Abdul-Raham, 1994; Pajares & Miller, 1994; Sheets, 1995; Lim, 2000), goal satisfaction, self-worth, self-acceptance, study habits (Sweet, 1986; Strein, 1995), self-concept, self-regulation skills (Bandura & Martinez-Pons, 1990; Pajares & Kranzer, 1995; Lim, 2001; Wang & Newlin, 2002). However, for the purpose of this study, the researcher investigated self-efficacy beliefs, self-regulation skills, study habits and self-concept as psychological predictors of academic performance in distance learning programmes in Nigerian Universities.

Studies have in fact shown that self-efficacy beliefs about distance learning have positive effects on students' academic performance (Pintrich & De Groot, 1990; Pajares & Miller, 1994; Pajares & Kranzer, 1995; Lim, 2001; Wang & Newlin, 2002; Ergul, 2004). For instance, Pajares and Kranzer's (1995) study has demonstrated a direct effect of self-efficacy on performance especially in Mathematics. In his own study, Lim (2001) reported that self-efficacy especially in computer knowledge was the only statistically significant variable that can help predict performance. Furthermore, Wang and Newlin (2002) found that measures of self-efficacy were predictive of final examinations grades. According to Ergul (2004), self-efficacy of distance learning significantly and positively predicted students' academic performance. The general consensus therefore is that there is positive correlation between self-efficacy beliefs and academic performance.

The need for distance learners to determine, control and regulate their learning implies that effective self-regulation skills are also *sine qua non* to their academic performance. According to Miltiadou (1999), distance education requires students to monitor and regulate

their learning. They are to control their own educational experience and pace. Researches have also established positive correlation between self-regulation and academic performance (Pintrich & De Groot, 1990; Zimmerman, Bandura & Martinez-Pons, 1990; Rovai, 2003; Lynch & Dembo, 2004). For instance, Rovai (2003) argued that distance learners that persist and succeed in Open and Distance Learning are by their nature– more independent and self regulating. This is however contrary to the study conducted by Ergul (2004) who did not find positive relationship between self-regulation skill and academic performance.

Furthermore, study habits have been identified as another predictive variable of distance learners' academic performance (Powell, Conway & Ross, 1990). For instance, Powell, et al. (1990) reported that study habits were found to have contributed significantly to students' academic performance. In Nigeria, Akinboye, (1974) established positive relationship between study habits and academic performance in converse to the work of Owolabi (1988) that reported negative relationship between study habits and academic performance. Raja, Mouli and Rao (1993) also observed that distance learners do keep a time schedule for studying while on the other hand, Villi (1999:204) reported that studying only "when they get time" has been the habits of the post graduate distance learners at the Madras University, India".

Students' academic performance can also be determined by the way students view themselves. In other words, students' self-concept equally plays prominent roles in students' academic performance. This is because the way a student perceives or conceives personal abilities, capabilities and potentialities often affect such students' academic work. Phillips and John (Olaleye, 2003) observed that self-concept is currently gaining prominence in educational research and evaluation studies, both as an outcome sought for its own value and as a variable moderating other relationships. Researches have therefore confirmed that there is positive relationship between student's academic self-concept and performance (Bryne, 1984; Marsh, 1992; Olaleye, 2003).

The unique nature of distance learners makes their social characteristics worthy of investigation. Researchers have reported various social variables as having predicted students' academic performance in distance learning. These include level of educational attainment, number of children in the family, full-time work experience, family income level (Abdul-Rahaman, 1994; Parker, 1994; Whittigton, 1997), age, marital status, employment status (Woodley & Parlett, 1983; Chacon-Duque, 1985; Powell et al., 1990), number of hour employed per week, distance traveled to study centre, learners' previous educational level (Wang & Newlin, 2002).

Studies have also been carried out on these characteristics in relation to students' academic performance. For instance, Woodley and Parlett (1983) reported that socio-psychological variables such as previous educational level, gender, age and occupation are associated with persistence and academic performance. Similarly, Powell et al. (1990) established that marital status, gender and financial stability contributed significantly to distance learners' academic performance. Conversely, Chacon-Duque (1985), Wang and Newlin (2002) and Ergul (2004) found that educational level, age, gender, employment status and number of children in the family were not significant determinants of academic performance.

The need to investigate the attitudes of students in distance learning system is paramount. This is because attitude has also been found to be associated with students' academic performance. It is therefore taken as another dispositional explanatory variable of importance in this study. Shannon (Olaoye, 2005), described attitude as a mental state that exerts influence on a person's response to people, objects and situations. Peoples' attitudes therefore, mean a set of complex collection of feelings, beliefs and expectations, regarding other people, organizations and things we encounter. In view of this, the study is inclined to investigate the attitudes of distance learners towards distance learning programme with respect to their academic performance.

Researchers with bias in distance learning programme have explored distance learners' attitudes toward distance learning programme. They have therefore, established diverse empirical evidence with respect to relationship between the attitudes of distance learners and their academic performance. For instance, Powell et al (1990) reported that distance learners' attitude toward studying in distance learning system was not significant in predicting their academic performance. On the other hand, Kumar (1996) established a positive, though, low correlation between distance learners' attitude and their academic performance.

Statement of the Problem

All over the world, students' academic performance appears to be one of the major criteria for judging educational standard and quality. From the background information however, it seems that distance learners' academic performance in the last one and half decades was unimpressive. There is the need for concerted efforts to explore some of the factors that might be responsible for this dismal academic performance. The need for these concerted efforts is not unconnected with the fact that unimpressive academic performance of distance learners has serious implications for the programme, nation's educational development, employers of labour as well as distance learners themselves. For instance, distance learning programmes may run aground and its desirability and relevance in the Nigerian educational system may be questionable, if distance learners' poor academic performance persists, the desired quality instruction is not improved upon and the high drop out rate is not arrested. These can make the programme quite unproductive as an alternative channel for providing standard and quality education to the people.

Also, employers of labour may not be willing to release their staff to further education in distance learning programme if the desired objectives in terms of better productivity are not guaranteed. Finally, the yearnings, hopes and aspirations of the students may not be met, which may subsequently bring frustrations, untold hardships and disappointments.

This study therefore, provided a causal explanation of distance learners' academic performance. It built and tested an eleven-variable model consisted of some students' socio-psychological variables namely age, gender, disability status, employment status, marital status, self-efficacy, self-regulation, study habits, self-concept, attitude towards distance learning and academic performance in Nigerian Universities.

Research Questions

Based on the stated problem above, the following research questions were raised to pilot the study:

1 To what extent would the selected factors namely age, gender, disability status, employment status, marital status, self-efficacy beliefs, self-regulation skills, study habits, self-concept, students' attitude, when taken together, predict the academic performance of distance learners in Nigerian Universities?

2 What are the relative contributions of each of the factors to the prediction of the academic performance of distance learners in Nigerian Universities?

3 What is the most meaningful causal model (involving students' socio- psychological variables) for the academic performance of distance learners in Nigerian Universities?

4 What are the direct and the indirect effects of the independent variables on the academic performance of distance learners in Nigerian Universities as would be predicted by the causal model?

5 What proportions (in percentage) of the total effects are:

   a. direct; and

   b. indirect?

Purpose of the Study

In line with the title of this work, the broad purpose of the research was to carry out a path-analytic study of some students' socio-psychological variables and academic performance of distance learners in Nigerian Universities. Specifically, the objectives of the study were to:

1. determine the extent to which the selected factors, when taken together, would predict the academic performance of distance learners in Nigerian Universities.
2. find out the relative contributions of each of the factors to the prediction of the academic performance of distance learners in Nigerian Universities.
3. investigate the most meaningful causal model (involving students' socio-psychological variables) for the academic performance of distance learners in Nigerian Universities.
4. determine the direct and the indirect effects of the independent variables on the academic performance of distance learners in Nigerian Universities that are predicted by the causal model.
5. estimate the proportions in percentage of the total effects that are direct and indirect.

Scope of the Study

This study employed path analysis technique to establish and estimate the paths of causal linkages (direct and indirect) between some socio-psychological variables and academic performance of distance learners in Nigerian Universities. Participants in this study were 21, 151 distance learners selected from 200, 300 and 400 levels in Nigerian Universities. The selected factors included in the study as predicting academic performance are students' socio-psychological variables namely age, gender, disability status, employment status, marital status, self-efficacy beliefs, self-regulation skills, study habits, self-concept and attitude towards distance learning.

The study also covered the only four Universities approved by the National Universities Commission to operate distance learning programmes as at December 2006, when the researcher collected data. These are the Universities of Ibadan, Ibadan; Abuja, Abuja; Lagos, Akoka and the National Open University of Nigeria (NOUN).

Significance of the Study

This study is significant to different categories of stakeholders especially in the field of distance learning in Nigeria. To a very large extent, findings from this study would provide a sound basis for informing distance learners themselves about the effects of their own socio-psychological characteristics on their academic performance. This would enable them pay serious attention to these characteristics. Also, findings would enable the participating academic staff to appreciate the more, the influence of certain socio-psychological constructs on distance learners' academic performance thereby pay adequate attention to such areas as a way of assisting the students further.

Findings from the study revealed the causal linkages among the variables and how they determine students' academic performance in distance learning programmes in Nigerian Universities. Based on this fact, distance teaching institutions would be adequately informed on the need for periodic arrangement of orientation programme whereby positive causal linkage of students' socio-psychological characteristics on academic performance would be conveyed to the students for their attention and necessary adjustment. Government would be equally sensitized on the need to promote distance learning programmes as a veritable way of increasing access to higher education in Nigeria.

Government, institutional providers, policy makers, administrators, guidance and counsellors, parents and other stakeholders would be in vantage position as regards how to enhance students' academic performance, thus, making the programme more enticing, productive and successful. It would also provide the prospective distance learners, pre-

admission guidance and counseling information for proper selection of the programme. Finally, the study would serve as database for interested researchers in the field of distance learning in terms of its societal relevance in developing countries like ours.

Operational Definition of Terms

For the purpose of the present study, the following terms were operationally defined in order to convey their meanings based on their usage within the context of this study:

Academic Performance: This refers to distance learners' scores in distance learning programme from the combination of their departmental, teaching subject area, education and general studies courses as reflected by their classifications in terms of Grade Point Average (GPA).

Conventional Education Students: These are registered students studying accredited courses in formal classroom-based instruction in a Nigerian University, that will lead to the award of University's first degree. They were used interchangeably as regular students.

Conventional Education System: This refers to formal classroom-based instruction in a School, College or University setting, where teachers and students are physically present at the same time; at the same place.

Disability Status: This implies distance learners' status in terms of abled or non-abled. The nature and types of disabilities considered for the purpose of the study were hearing and visual impairments.

Distance Learning Programme: This refers to an educational programme whereby teaching–learning activities are carried out through printed and non-printed media due to physical separation between the teacher and the learners. It was used interchangeably as Distance Education Programme or Open and Distance Learning Programme in this study.

Distance Learning Students: These are registered students studying accredited courses in distance learning programme of a Nigerian University, that will lead to the award of

University‘s first degree. They were used interchangeably as distance learners or distance education students.

Distance Teaching Institutions: These are the Nigerian Universities offering courses that lead to the award of degrees through distance learning system.

Dual Mode University: This is the University that provides university education through both regular and distance learning system.

External Students: These are registered students studying accredited courses that lead to the award of first degree especially in theological studies in the programme that is ‘external to’ but not ‘separated’ from the faculty of art of the University of Ibadan, Ibadan.

Predictive Factors: These are the explanatory variables used to measure the extent to which they help to influence distance learners’ academic performance. The selected predictive factors for this study are students’ socio-psychological variables namely age, gender, disability status, employment status, marital status, self-efficacy, self-regulation, study habits, self-concept, and attitude.

Psychological Variables: These are the characteristic behavioural features of distance learners towards their academic endeavours. They are also known as motivational characteristics. The selected ones for the purpose of this study are self-efficacy beliefs, self-regulatory skills, study habits, self-concept and students’ attitudes.

Self-Concept: This is an orderly and consistent way by which distance learners think, feel, view and react about themselves in relation to learning in distance learning programme.

Self-Efficacy Beliefs: These are distance learners’ individual expectancy in their capacity to organize and execute the behaviour needed to complete their academic works successfully.

Self-Regulation Skills: These are distance learners’ skills in such strong abilities as setting goals for developing knowledge and choosing balancing strategies against unwanted situations by determining goals.

Social Variables: These are the demographical features of distance learners capable of influencing their academic endeavours. The selected ones for the purpose of this study are age, gender, disability status, employment status and marital status.

Single Mode University: This refers to a full fledged open and distance teaching Nigerian University. The only one in the country is the National Open University of Nigeria (NOUN).

Students' Attitudes: These are distance learners' dispositions such as their reactions during lectures, behaviours towards distance learning system and so on.

Study Habits: These are the various systematic patterns of behaviours formed by distance learners as regards learning so as to pass and obtain good grades in distance learning programme.

CHAPTER 2

REVIEW OF LITERATURE

This chapter brings to the fore, a detailed theoretical and empirical review of some existing literature that is relevant to the present study. A literature review is "a critical summary of the range of existing materials dealing with knowledge and understanding in a given field… Its purpose is to locate the research project, to form its context or background, and to provide insights into previous work" (Blaxter, 1998: 110).

This becomes necessary so as to have a thorough understanding of the major variables identified in this study. In order to identify books, book chapters, dissertations, and articles from research journals about all the major constructs of the study, the researcher conducted computerized literature searches in four electronic databases namely: Educational Resources Information Center (ERIC), Education Abstracts, PsycINFO, and EBSCOHost 3.0 respectively. The Faculty of Education, University of Ibadan's Abstracts (2000-2002) was also consulted. The review of related literature was carried out under the following sub-headings:

1. Social Variables and Academic Performance.
2. Psychological Variables and Academic Performance.
3. Theoretical Framework.
4. Appraisal of Reviewed Literature.
5. Hypotheses.

Social Variables and Academic Performance

Academic performance is one of the most vital indicators in which policy and other educational stakeholders are interested in. Adedeji (1998), while stressing the importance of academic performance in the educational system, stated that academic performance is very

important because it appears to be one of the major criteria upon which the effectiveness and success of any educational institutions could be judged. Corroborating Adedeji's (1998) assertion, Aremu (2001) further argued that academic performance is the fundamental criterion by which all teaching-learning activities are measured, using some standards of excellence. The acquisition of particular grades on examinations indicate candidates ability, mastery of the content, skills in applying learned knowledge to particular situations. A student's success is generally judged on examination performance. Success on examinations is a crucial indicator that a student has benefited from a course of study (Wiseman, 2001).

According to Aremu (2001), researchers with bias in the academic performance of students have continued to examine diverse phenomena, which have been found to significantly predict scholastic performance. Social variables such as age, gender, and employment/income related factors, number of children at home, marital status, disability status and so on have often been identified as possible predictors of both persistence and academic performance in distance learning (Woodley & Parlett, 1983; Powell et al 1990; Abdul-Rahman, 1994; Parker, 1994; Sheets, 1995). For instance, Woodley and Parlett (1983) reported that social variables such as previous educational level, gender, age and occupation are associated with persistence and academic performance. Similarly, Powell et al (1990) established that marital status, gender and financial stability, contributed significantly to distance learners' academic performance.

Conversely, Chacon-Dugue (1985), Wang and Newlin (2002) and Ergul (2004) found that educational level, age, employment status and number of children in the family were not significant predictors of distance learners' academic performance. By and large, the inconclusive findings indicated that social variables such as age, gender, and employment status have very little or no influence on performance. This is not surprising because "according to one estimate, it is possible that less than 10% of the variance regarding

persistence and performance was accounted for by psychological variables" Gibson (Sheets, 1995:134).

Social factors such as romantic relationships, organizations and clubs, and sports activities, according to Umar, Shaib, Aituisi, Yakubu and Bada (2010), have been found to have effects on students' academic performance. These social factors affect academic performance in terms of time demanded and the psychological state they may cause. Also, Danesy and Okediran (2002) remarked that street hawking among young school students have psychologically imposed other problems, like sex networking behaviour, juvenile delinquent behaviour, which takes much of the student school time that necessitated the poor academic performance and drop out syndrome noticed among young school students.

Some researchers have suggested that the most important element to success and retention in the first year is student involvement (Austin, 1984). The development of interpersonal relationships with peers is critically important for student success (Upcraft, 1982; 1985). In fact, studies have found that both Grade Point Average (GPA) (Boyer & Sedlacek, 1988; Brooks & DuBois, 1995) and retention (Upcraft & Gardner, 1989) are predicted by social support. Specifically, Tinto (1987:57) stated that "incongruence with one's student peers proves to be a particularly important element in voluntary departure". Students with good support from friends and family (Tobey, 1997) and favorable impressions of other students (McGrath & Braunstein, 1997) have higher retention rates.

The present study however, looked into the predictive power of such social factors as age, gender, disability status, employment status and marital status respectively on distance learners' academic performance in view of their importance in open and distance learning system.

Age and Academic Performance

Age can be defined as a time in life in terms of years at which some particular qualifications or powers arise. Findings on the influence of age of the learner as a predictor of academic performance are inconsistent. Abdul-Rahman's (1994) and Parker's (1994) studies found that age is not a significant predictor of performance. Parker's (1994) non-significant results for age may have been due to the narrow differences between ages of the distance education completers and non-completers which was fewer than five months; likewise the narrow age range in Abdul-Rahman's (1994) study with almost 90% between the ages of 25-35 may have accounted for the insignificant association of age with performance. In contrast, Sheets (1995) indicated that older ages were positively related to performance. Also, Whittington's (1997) finding moderately supports age as a factor in the completion of courses that leads to better performance. However, the study of Whittington (1997) argued that younger adults performed better than older adults.

Hamori's (2010) study estimated the effect of school starting age on academic performance for Hungarian grade four students using the "Progress in International Reading Literacy Study" (PIRLS) and the "Trends in Mathematics and Science Study" (TIMMS). The study used the control function approach, exploiting the exogenous variation in school starting age driven by the children's month of birth and the cut-off date regulation for enrolment. The results indicated a positive age effect on Reading, Mathematics and Science performance.

Furthermore, Charapatanapong, McCormick and Rascati (2010) compared the academic performances of some students based on their demographic characteristics and established two different findings. Only two studies included demographic variables in their prediction equations. In one study, no significant relationships existed between either age or gender and pharmacy students' academic performance, whereas in the other study, age was found to be a significant predictor of pharmacy students' academic performance.

Gender and Academic Performance

The term 'gender' is often used to classify the anatomy of a person's reproductive system as either male or female. It also refers to the culturally and socially structured and constructed behaviours and attitudes designated as male or female in any particular society. It is thus, regarded as an organized principle of human social life. Gender affects many aspects of life, including access to resources, methods of coping with stress, styles of interacting with others, self-evaluation, spirituality, and expectations of others. According to Arends (1994), gender bias has been a major problem in the classroom. He asserted further that complicating matters have been the controversy in recent years as to whether or not, gender differences exist in verbal and academic abilities and also, that whether or not, these differences are the results of differential socialization and education processes provided for boys as compared to girls.

Researches have been conducted on this social variable though, as expected, with diverse findings (Hills, 1980; Woodley & Parlett, 1983; Chacon-Dugue, 1985; Aghoghoroma, 1999; Aremu, 1999; Ogbebor, 1999; Wang & Newlin, 2002; Ergual, 2004). For instance, researchers (Woodley and Parlett, 1983; Obioma, 1988; Powell, et al. 1990; Aremu, 1999; and Bakare, 2000) established a significant relationship between gender and academic performance. Also, Akinsola and Tijani (1999) examined the relationship between Mathematics self-concept and achievement in Mathematics. The participants for the study were 200 students (100 boys and 100 girls) randomly selected through stratified random sampling technique from 10 selected secondary schools within Ilorin metropolis of Kwara State. The results of the findings showed that there was a high positive relationship between gender and achievement in Mathematic.

However, some studies (Chacon-Dugue, 1985; Abdul-Rahman, 1994; Parker, 1994; Obodo, 1996; Adesoji, 1999; Lim, 2000; Adeyemi & Osunde, 2002; Wang & Newlin, 2002; Ergul, 2004) reported insignificant correlations between the two constructs.

There is vast literature on gender differences in academic performance especially in Mathematics and the sciences (Lin & Songer, 1991; Robinson, Abbot, Bernizer & Basse, 1996). While some researchers believe this difference in performance in Mathematics is big enough to cause concern (Benbow & Stanley, 1980; Benbow, 1982, 1983), others observe that the distribution of scores for boys and girls on test of mathematical ability overlap extensively (Low & Over, 1993). Others have also noticed that even when the mean scores of boys and girls differ statistically, the magnitude of this difference is generally small in comparison to extent within-gender variability in scores (Hyde, 1981; Hyde, Fennema & Lawn, 1990).

In addition, Tsui (2007) examined the relationship between gender and achievement in Mathematics among students in China and United State. The emphasis was on the gender gap among Mathematically talented students. The results indicated that there was no gender difference in the 8th grade Mathematics-achievement test scores. More also, the mean SAT – math's score among male high school students was found to be consistently higher than those of their female counterparts. The findings also established that in both China and United States, there were gender differences among the top Mathematics performers in College entrance examinations.

One of the reasons for the tenacious interest in gender differences in mathematical ability is the possible relationship between performance in Mathematics and academic or career opportunities and performance (Sells, 1980). Research results suggest that gender differences in mathematical ability may be related to mathematics attitude (Armstrong, 1985; Fox, Brody & Tobin, 1985), course choices (Benbow & Stanley, 1983) persistence in mathematics discipline (Casserly & Rock, 1985) and career choice (Subotnik, Duschll & Selmon, 1991). It has also been suggested that gender differences in ability, combined with gender differences in a variety of other variables (including interests, values and cognitive style), may represent a particularly persistent constant in equal representation of men and women across a variety of disciplines (Lubinski & Benbow, 1992; Mills, 1992).

Several explanations have been put forward for gender differences in Mathematics. For example, Benbow (1990; 1998) explains that biological differences are responsible for gender differences in Mathematics. Fennema and Sherma (1977) were of the opinion that gender difference is ascribable to differences in spatial abilities of males and females. According to them, these abilities are believed to result from innate difference in the nature of degree to which males and females use the right and left hemispheres of the brain for spatial reasoning. Spatial ability is related to the development of the right hemisphere of the brain. The males are known to use right hemisphere more than the left. The females use the left the more. These differences according to Inomesia (1989) are not observable until adolescence and perhaps at age 16 years.

Some researchers have however queried the question of whether and also to what extent, gender differences are caused by biological differences between the two groups (Halpern, 1986). Smart (Olowojaiye, 2004) argued that there are no innate biological reasons why girls should not perform as well as boys, if adequate motivation is provided. The argument was that gender difference seem not to surface until age ten Callahan and Clements (984); Dossey, Mulis, Lindquist and Chambers (1988) suggested that the decline of female achievement is the result of a strong pattern of socialization to Mathematics success or failure, rather than gender differences in innate ability.

Similarly, Okebukola (Onosode, 2004) believed that all students, irrespective of sex, can perform equally in any given task. Okebukola (1993) asserts that when students have opportunities to interact among themselves, the teacher and the materials, knowledge and skills are acquired and learning is real for both sexes. It is not likely, therefore that if Mathematics instructions are made relevant and interesting through appropriate access strategies, females would perform as well as their male counterpart.

Sjobard (1988), also giving a socio-cultural explanation for gender differences, noted that under-representation of girls in the natural sciences has to be interpreted in terms of

culture. Historically, the adage, "math is not for girls" and belief that girls should not reveal their intelligence lest it compromises their sexual desirability and, thus, their social role as wife/mother, have combined to squelch girls' interest in advanced Mathematics. The Spartan and the Aristocrats of the medieval era taught the males military subjects and females were exposed to domestic subjects. These subjects were meant to prepare each sex for their different roles in the society (Osokoya, 1995).

Equally, Powers (1992) recommended domestic sciences like Home economics for females, whereas he expects males to study sciences, Mathematics and Applied Sciences. Aremu (1999) opines that the culturally defined role given to female, that is, mothers, cooks, helpers and so on, which are not generally challenging could be the reason for females not been motivated to learn Mathematics and not achieving as males. The belief that Mathematics is male domain is communicated in many subtle ways to young girls. Much of the society, including media, parents and teachers are involved in this indoctrination and this is influencing females against studying Mathematics. At home, parents may consciously fail to provide support for their daughter's interest in Mathematics, either by directing their interests elsewhere or by giving all their support for education to their sons. The attitudes of teachers and male students usually reinforce parents' message.

Multon (Ebeh, 2000) attributed female deficiency in Mathematics to sex role stereotype. Leach (1994) opined that males are more often exposed to praise for accomplishments while female receive praise for behaviour. Males are encouraged to be more independent, have problem-solving behaviour, while females are not encouraged to be more independent. This differential treatment of the two sexes gives males more confidence than females and consequently, enhances their performances.

Evidence exists that males and females tend to approach learning from different perspectives, although the reasons for the differences has been a subject of debate. In the classroom, females prefer to use a conversational style that fosters group consensus and builds

ideas on top of each other; the interrelationship of thoughts and actions is paramount. Males, conversely, learn through argument and individual activity. Most classroom discourse is organized to accommodate male learning patterns (Ong, 1981). In addition, females are not likely to believe that Mathematics has utility in their lives (Fennema & Sherma, 1978), they see Mathematics as unconnected to a relationship model of thinking. Even if they persist in taking Mathematics courses, girls are apt to find that they do not like them, and liking a subject is a key to succeeding at it (Lockhead, Thorpe, brooks – Gunn, Casserly, & McAloon, 1985.

The absence of role models for the females particularly in mathematics is a major reason for their inhibiting nature towards Mathematics achievement. The presence of role models, help males feel that success in Mathematics and science is both possible and legitimate. Girls often are not given information about career possibilities requiring competence in advanced Mathematics. In general, role models can be an important factor in elevating a young person's aspiration. At home, parents may unconsciously fail to provide support for their daughter's interest in math, either by directing their interests elsewhere or by giving all their support for the education of their sons. The attitudes of teachers and male students usually reinforce parents' message.

Carr and Jessup (1997) posited that gender difference in the development of Mathematics skills and knowledge is believed to emerge as a function of different experiences of both sexes in group setting and under peer influence in the classroom neighbourhood. In a classroom setting, boys by their nature tend to dominate as a function of their interactions with classmates and teachers. Males demand more attention, complain more that they are not receiving enough and their teachers and female peers expect them to get it. Men dominate discussions even more as they get older, and in some cases, they speak as much as 12 times longer than women (Krupnick, 1985). Even when females do participate in classroom talk, their approach may suggest to teachers they have less command over the subject matter than

males (Wendy & Katherine, 1992). The dominance makes their approaches to Mathematics become the preferred strategies in the classroom. Carr and Jessup (1997) remark may push boys to acquire more complex strategies and meta-cognition. Girls are believed to be more concerned with pleasing and depending on teachers. This dependence leads to rote approach to Mathematics.

Boli, Jack and Shat (Obasola, 2000) reported that the difference between boys and girls with respect to |Mathematics lie on the affective domain, that is, in their attitude. According to Wood (Aremu, 1999), if we have a conformist attitude, it might be difficult to deviate from laid down rules and procedures. However, boys exhibit greater independence and activity, so they can challenge traditional procedures, find reasons for performing an activity differentially.

Enukoha (Adeniran, 1991) remarked that girls are fast in displaying their dislike for Mathematics because they believed that mathematics is not relevant to their career aspiration. Also, Lonsdale (Inomesia, 1989) argued that the feeling about women's role and marriage scare girls away from science and engineering which they regarded as masculine fields. These feelings inhibit girls' aspirations and higher achievement in science and Mathematics.

Some emotional responses to achievement outcome can be linked to some attributions, such as pride and shame (Weiner, 1988; Stipick & Gralinks, 1991). Pride and shame are said to be associated with perception of internal causes (e.g. effort or stability) rather than perception of external causes (e.g. luck, another's help, or interference, task difficulty). It is glaring that females are more likely to attribute success to external causes and to attribute failure to internal causes than males, thereby feeling less pride in their success and more shame in their failure (Gallahan & Clements, 1984; Dossey, Mulis, Lindquist, & Chambers, 1988).

The implication of these for gender difference is that they affect future expectation and behaviour. Stipick and Gralinks (1991) suggested that attributing Mathematics success to high ability is associated with expectations for future success and a willingness to approach new Mathematics achievement situation. On the other hand, attributing failure to low ability is predicted to be associated with low expectation for future success and a desire to avoid future Mathematics achievement situation. Therefore, for females attributing failure to low ability and not at the same time attributing success to high ability (but luck, assistance etc), will result in their low future expectations and a higher tendency to avoid Mathematics than for males who are attribution bias, whether past outcomes were positive or negative.

Maccoby and Jacklin (1974) posited that the aggressiveness of males is one of the best established and most pervasive of all psychological gender differences. The males are more aggressive than the females, both verbally and non-verbally. Males would tend to excel in situation that require aggressiveness and are never quick to give up. When the going gets tougher, they employ what Maccoby and Jacklin (1974) called the "killer instinct" to achieve success. This trait explains why males do not easily give up in attempt to solve problems,. But females do give up easily.

In addition, Olaleye (2003) argued that early findings such as those of Carpenter (1981) and Leder (1990), showed that children did not differ in their academic performance on gender basis during elementary school, rather differences began to appear in middle school and increased with time and schooling. Afemikhe (1985) and Osafehinti (1995) reported that gender stereotyping is one of the problems associated with poor performance in the senior school certificate examinations. While adducing reason for differences in academic performance of males and females, Jungwirth (1991) contended that boys' performance is generally ascribed to natural ability whereas, girls' performance is ascribed to their hardworking nature.

Furthermore, studies that reported significant correlation between gender and academic performance revealed inconsistent outcomes, with some favouring males and other, females. Studies (Benbow & Stanley, 1980; Marshall & Smith, 1982; Osafehinti, 1986; Aremu, 1999) are those that favoured males. According to Osafehinti (1986), gender differences, especially in Mathematics achievement, is "huge and remarkable", with boys showing superior ability to girls. Aremu (1999), while reporting gender factor in academic performance, found that the male students performed better than the females in academics.

As regards those studies that favoured the females, the works of Ezewu, (1980); Debboer (1986) and Ajadi (2001) are quite revealing. For instance, Ezewu (1980) compared the performance of boys and girls in English and Mathematics in ten classes of ten secondary schools. He found that generally, girls performed better in English than boys in all the ten classes, but only two of the differences were statistically significant. The influence of gender on the academic performance is generally inconclusive (Oxford et al, 1993; Ory, Bullock & Burnaska, 1997; Lim, 2001).

Gender difference in achievement has also been linked to the role of teachers in learning (Yinyinola, 2008). This is because, in a classroom, teachers set the standard for discourse. Their reliance on teaching methods that adhere to traditional norms and beliefs about gender differences that benefit only male students can create a "chilly climate" for girls (Kramaerar & Treichler, 1990; Sandler, 1982).

Teachers, believing that participation is an indicator of learning, are likely to ignore females because they participate less than males. Moreover, teachers are often unaware that they are concentrating more on teaching males than females because the process of classroom interaction is unconscious, and they respond automatically to students' demands for attention. Males demand more attention, complain more that they are not receiving enough, and their teachers and female peers expect them to get it. Analyses of classroom discussion involving children between the ages of 9 and 11 in different settings revealed that boys took three times

as many turns as girls speaking (Redpath & Claire, 1989). A study of college-age students demonstrates that men dominate discussions even more as they get older, in some classes speaking as much as 12 times longer than women (Krupnick, 1985).

Even when females do participate in classroom talk, their approach may suggest to teachers they have less command over the subject matter than males. Girls are more likely to ask questions, acknowledge the comments of previous speakers and refrain from interruption exchanges in progress. In other words, their classroom conduct is in consonance with accepted sex role behaviour that compromises women's assertiveness (Hendrick & Strange, 1989). In comparing the participation pattern of males and females, teachers are apt to treat females' contributions with less respect because girls exhibit less authority. In allowing classroom discourse to parallel sex role differences in society, teachers unconsciously pass on negative expectations for girls.

Marital Status and Academic Performance

Studies conducted by Chacon-Dugue (1985), Wang and Newlin (2002) and Ergul (2004) established a negative correlation between marital status of distance learners and their academic performance. This is however, contrary to those of Woodley and Parllet (1993) and Powell et al, (1990) that found a significant relationship between marital status and academic performance of distance learners. Furthermore, Li-Chen and Wooster (2008) examined the effect of marital status of college students on their academic performance. Data based on a sample of 374 students indicated married students made higher grades than unmarried students; however married students with children did not achieve higher GPA's than those without children.

Yess (2005) carried out a research on the influence of marriage on community college student achievement in specific programmes of study. This study reveals and confirms earlier work regarding the positive influence of marriage on the scholastic achievement of

community college students. It was found that marital status was an important predictor of community college graduating students' G. P. A. in the following programmes of study: Business Administration General, Business Administration Transfer, Executive Secretarial, and Nursing Education. Specifically, being a married woman appeared to place students in these programmes at an academic advantage. It is suggested that researchers should look more closely at what marriage does to enhance a student's performance at the community college level. The above assertion motivated the present researcher to look into the effects of marital status on distance learners' academic performance.

Employment Status and Academic Performance

Employment factors had inconclusive results. Some studies showed that employment issues like nature of occupation (Parker, 1994), full-time work experience (Sheets, 1995), and number of hours employed (Whittington, 1997) were related to performance. Also, Woodley and Parllet (1983) and Powell et al (1990) established a significant relationship between the employment status of distance learners and their academic performance. However, the studies of Chacon-Dugue (1985), Wang & Newlin (2002) and Ergul (2004) established insignificant correlation. Similarly, Abdul-Rahman's (1994) finding showed that family income was not related to programme completion and performance. Also, Dutton et al (2002) reported that student employment had a negative impact on performance.

According to Collings (2000), predicting academic performance on the basis of employment status is also an important issue because educators envisage that black matriculants in particular will not find work and will be unprepared for entry to higher education institutions. The literature makes it clear that predicting academic performance is not simply a matter of investigating the cognitive abilities of potential students. For example, in a study of psychosocial factors and academic performance among African women studying at a predominantly white University in South Africa, Malefo (2000) found that variation in

students' academic performance could be attributed more to background variables than to cognitive factors.

Similarly, in an investigation of the academic achievement of 452 educationally disadvantaged students, Van Rooyen (2001) found that "together the biographical variables accounted for 30.49% of the variance in the bridging year ... All cognitive variables, however, could together only accounted for 4.44% ... " (p. 180). Predicting academic success is crucial in a society where education is seen as the way to escape unemployment and the poverty that results from unemployment. Möller (1992) reported on surveys which indicated that unemployed black people living in the townships of South Africa felt that education offered them an opportunity to become employed. Möller (1992) found that, compared with unemployed persons who were more highly qualified, unemployed persons whose qualifications were low felt that their chances of finding a job were less.

There appear to be two groups of unemployed persons who experience a high level of risk in terms of education. The first group consists of individuals whose self-identities appear to present a risk. Such persons are mature and have a low standard of education. Individuals in the second group are generally young men. Their greatest frustration arises from boredom emanating from an inability to make a meaningful contribution to the community and so realise their potential.

Employers who hire such "qualified" persons need the assurance that these persons will prove cost-effective in terms of what their qualifications have to offer (Yorke, 1998). It seems that cooperative education may provide an answer to meeting the demand for such persons. Welman (2003) reported his study on the academic success of 13, 590 distance education students and the importance of their "work status" (employed/unemployed). The data were collected by means of the students' registration records, and analysed using a CHAID-analysis. The results indicated that the variable "work status" featured second last on the list of nine successful variables for predicting academic performance. Generally, it would

appear that the employment practice for distance education students is not as important a requirement for academic success as the co-operative education philosophy would like it to be.

Disability Status and Academic Performance

Students with disabilities had often been identified as non-traditional and they constituted distinct populations with needs that were different from mature and returning non-traditional learners Hughes (Octernaud, 1990). In view of this fact, the academic performance of non-abled distance learners has also been a source of concern to researchers in the field of distance education (Pamela, 2006). However, the researcher of the present study observes that this has not received much attention in distance education especially in developing countries like Nigeria.

Moisey (2004) first observed that students with disabilities took courses at a much higher rate than their non-disabled counterparts: an average of four courses over the three-year period of the study compared with two courses for the general undergraduate population. She further reported that these students with disabilities experienced somewhat less success in these courses. Their overall course completion rate (including early withdrawals) of 45.9% was lower than that of the general Athabasca University population (52.5% when early withdrawals were included; 59.5% when early withdrawals were excluded). Moreover, completion and performance rates ranged from 40% for students with psychological disabilities to more than 65% for students with sensory disabilities.

In addition, Hampton and Mason (2003) examined the impact of gender, disability status, and sources of efficacy on self-efficacy beliefs and academic achievement in the concept of Bandura's self-efficacy theory. Two hundred and seventy-eight high school students participated in the study. Structural equation modeling was used. The results revealed that disability status had indirect influence on self-efficacy via the source variable; gender did not have direct or indirect influences on self-efficacy; sources of efficacy had direct impact on

self-efficacy, which in turn affected academic performance. The structural model fit the data well and explained 55% of the variance in academic achievement.

In a study conducted by Benz and Fabian (1996), the participants for the study consisted of 25 learning disabled students from a southern high school. The participants were exposed to training in study skills, which focused on organization skills, study habits, note taking and test taking strategies. The result of the study showed that there were therapeutic gains as the participants performed better in the posttest.

Research and data collection with respect to the academic success of students with disabilities is sparse. Canadian studies are largely theoretical and tend to examine single variables and employ cross-sectional rather than longitudinal designs (Outcomes Group, 1998; Taillon & Paju, 1999; Moisey, 2004). For example, the Outcomes Group examined the grade point averages (GPAs) of former students with disabilities from 21 British Columbia public junior/community colleges and institutes. Students were surveyed nine months after they had completed all, or a significant part, of their programme. The results showed that the GPAs of students with and without disabilities were virtually identical, regardless of programme of study. The study also found that women with and without disabilities had higher GPAs than men, and this was true regardless of programme.

However, the sample was heterogeneous, except for gender and programme type, and did not take into consideration other background variables. Moisey (2004) examined the course completion rates of students with disabilities in distance education at a Canadian university, and found that their completion rates were lower than the general University population (45.9% versus 52.5%). Taillon and Paju (1999) examined the labour market outcomes of 300,000 Canadians who graduated in 1995. The study reported that 6% of graduates in vocational and career programmes and 4% of university graduates in Bachelor's, Master's, and Doctorate programmes were persons with a disability. These percentages were lower than the 7% of persons with disabilities who reportedly participate in post-secondary

education in Canada (Canadian Association of Disability Service Providers in Post-Secondary Education [CADSPPE], 1999), suggesting a lower graduation rate. None of these studies examined graduation or retention rates based on a longitudinal tracking of students.

American studies have provided conflicting results with respect to the academic outcomes of students with disabilities. For example, a study from Gavilan College (2002) showed that students with "learning disabilities" and "other disabilities" performed as well as students without disabilities in Mathematics and English courses, and that students with learning disabilities were more likely to obtain an award. Horn and Berktold (1999), on the other hand, reported that students with disabilities who enrolled in post-secondary education for the first time in 1989–90 were less likely than students without disabilities to have stayed enrolled or earn a post-secondary degree or credential within five years. Vogel and Adelman (1992) found that graduation rates for college students with a learning disability were not significantly different from those of a group without disabilities, although they undertook a lighter course load and took longer to graduate. This contradicts the findings of an earlier study (Adelman, 1990), which found that the time taken to graduate for students with a learning disability did not differ from those without a disability.

In Britain, Richardson (2001) and Richardson & Roy (2002) carried out a series of large-scale studies on the academic outcomes of university students with and without disabilities. Richardson and Roy (2002) compared a large group of students with visual impairments to students with no reported disabilities. In a cross-sectional analysis, the relative proportion of students with visual impairment in a group of students who had completed their studies (completed group, n = 363,631) was compared to a group who were enrolled and were still progressing toward their qualifications (continuing group, n = 1,183,285). The representation of students with a visual impairment was lower in the "completed group" (.09%) than in the continuing group (.13%).

This difference, which remained significant even when background variables (age, gender, ethnicity, entrance qualifications, and programme-related variables) were taken into consideration, suggested that students with a visual impairment were less likely to complete their programs of study. However, in another study (Richardson, 2004), it was found that hearing loss had no effect on the academic measures examined (number of courses passed, credit points gained, and final workload)

Further study on academic performance rates is however required, particularly with regard to the differential success rates that appear to exist among students with varying types of disabilities. Certain types of disabilities appear to be more amendable to assistance (Moisey, 2004). For example, nearly all students with learning disabilities who received assistance in technology completed their courses compared and performed better with about half of students with other types of disabilities who received this type of service. It was observed, according to Moisey (2004), that there is little doubt that distance education can enhance access to students with disabilities and that disability specific support services can enhance success. The next step is to ensure that students with disabilities are findings our doors and getting success when they arrive.

Psychological Variables and Academic Performance

Psychological variables, also known as motivational characteristics, are very important in the literature of distance learning. Equating psychological variables as motivational is better understood in the definition of motivation by Mitchell (1982:81) that "Motivation represents those psychological processes that cause arousal, direction, and persistence of voluntary actions that are goal directed". Steers and Porter (1987, pp. 5-6) believed that "When we discuss motivation, we are primarily concerned with (1) what energizes human behaviour; (2) what directs or channels such behaviour; and (3) how this behaviour is maintained or sustained." Understanding what motivates distance learners has therefore, been a topic of much research over the past quarter of a century (Mitchell, 1982). This is because

for the performing students, researchers agree on the necessity of being psychologically stable (Sewart, Keegan & Holmberg, 1983).

In fact, in the studies carried out on motivation in distance learning, it is often stated that motivation has a great significance in student performance and continuity (Murphy, 1989; Oxford et al., 1993; Chan et al., 1999). Motivation, a force that energizes and directs behaviour toward a goal, according to Eggen & Kanchak (1994), could certainly be perceived as one of the most important psychological concepts.

According to Bandura (1991:158) "Motivation is a multidimensional phenomenon indexed in terms of the determinants and intervening mechanisms that govern the selection, activation, and sustained direction of behaviour." In the Motivational Systems Theory, motivation is defined as "the organized patterning of three psychological functions that serve to direct, energize, and regulate goal-directed activity: personal goals, emotional arousal processes, and personal agency beliefs" (Ford, 1992:3). Symbolically, this definition of motivation can be represented as a formula of three interacting components:

Motivation = Goals x Emotions x Personal Agency Beliefs

Motivation therefore, is an interactive construct representing the direction a person is going, the emotional energy and affective experience supporting or inhibiting movement in that direction, and the expectancies that a person has about reaching their destination or achieving their goals. MST does not prefer or rank any one of the three components, it views all three components as functioning in an interdependent triumvirate process. If any one of the components is absent in a particular episode, then the subject will not be motivated to initiate activity even though the other two components are firmly in place (Ford, 1992).

There has been a great deal of disagreement among researchers about the nature of motivation and the operation of motivational processes. However, most professionals agree that the presence of motivation was inferred from the behavioral indicators, choice of tasks, effort, persistence, and achievement. Although the index *choice of task* may sound appealing,

it is usually not a useful index in the academic setting as students typically have few choices in that environment. In the academic setting, students who are motivated to learn usually expend *effort*, the second index, to succeed. Students that are motivated to learn usually expend greater mental effort during instruction, organizing, and rehearsing information, monitoring level of understanding, and relating new material to prior knowledge (Pinrich & De Groot, 1990). Some researchers, like Albert Bandura, Paul Pintrich, and Dale Schunk, have all assessed students' mental effort and found a relationship to self-efficacy. Self-efficacy, on the other hand, correlated positively with effort and achievement (Schunk, 1983).

Educational problems go beyond declining performance scores; most schools today face a crisis in student motivation (Meece, 1993). Student motivation is therefore, critical for learning, and several researchers have found a positive and robust correlation between motivation and academic performance (Urugoghi & Walberg 1979; Vellerand & Serecal, 1993). The concept of motivation is one of the most important psychological variables of learning in any educational environment (Maehr, 1984). Questions of why students engage, pursue, and accomplish certain goals or tasks, or why they avoid others, have been the subjects of scholarly inquiry since the writings of Socrates, Plato, and Aristotle.

Motivation, especially within the distance education context, provides the fuel for student engagement. This is because, without motivation, students will neither think about nor organize their knowledge due to the separation of students and the instructor by time and place. There are many constructs of motivation that have emerged from different theoretical approaches during the last quarter of the twentieth century. Social-cognitive learning theory defines motivation in terms of the students':

(a) self-efficacy beliefs about their abilities to engage, persist, and accomplish specific tasks (Bandura, 1986; Stipek, 1988);

(b) goal-setting activities (Dweck & Leggett, 1988); and

(c) learning strategies and cognitive and meta-cognitive processes (Pajares & Kranzler, 1995; Schunk, 1995).

Since the beginning of the twentieth century, the concept of motivation has been studied according to a variety of perspectives (Overton, 1984; Weiner, 1992). In the last thirty years, many models, approaches and theories have inspired researchers studying motivation and education. According to Pintrich & Schunk (1996), many are the results of modern conceptions of human beings and of the way in which they learn.

Motivation as earlier asserted by Bandura (1991), is multi-dimensional. It measures impulsive and deliberate action; it is concerned with the internal and external factors; and also observes causes for behaviour (Halawah, 2006). It can therefore, be defined as a general tendency to interact with and to express influence over environment. Student's motivation for learning is generally regarded as one of the critical determinants, if not the most important determinant of the success and quality of learning outcome (Mitchell, 1992).

From available research on motivation and academic performance, it became quite evident that motivational constructs do in fact, impact the academic performance of students. There are studies documenting the correlation of the Scholastic Aptitude Test, American College Testing (Ward, 1993), Mathematics (Carpenter, 1993; Ward, 1993; Gist, 1996), High School Grade Point Average (Price & Kim, 1976; Carpenter, 1993) and College Entrance Examination (Price & Kim, 1976) scores and the performance of College students. Also well documented are studies in the areas of arts and sciences, psychology, philosophy, and natural sciences.

Many psychological variables predict college GPA, that is, academic performance, and retention. Brooks and DuBois (1995) found that emotional variables exerted a strong influence on how well students adjusted to their first year of college, which is a strong predictor of academic success (Heyningen, 1997). It has further been reported that the possession of high self-confidence (Boyer & Sedlacek, 1988; Foster, 1998), self-control

(Wolfe & Johnson, 1995), and having an achievement-oriented personality (Foster, 1998) are associated with a higher academic performance. In addition, students who are adaptive perfectionists tend to adjust better to college and as a result, have higher rates of retention and performance (Rice & Mirzadeh, 2000). It has been suggested that personality variables may be useful predictors of future college performance and attrition (Cross, Harper, Osher & Kneidinger, 2000).

Furthermore, Gottfried (1990) found positive correlations between psychological variables and performance. Specifically, she reported that young students with higher academic intrinsic motivation had significantly higher performance. She also found that early intrinsic motivation correlates with later motivation and performance, and that later motivation is predictable from early performance. It was also reported that perceived academic competence was positively related to intrinsic motivation.

In addition, Halawah (2006) in his study on the effect of motivation, family environment and student characteristics on academic performance, established a positive correlation ($r= 0.7$) between performance and motivation. It therefore, appears that students who feel competent and self-determined in the school context develop an autonomous academic motivation which in turn, had a positive impact on school performance (Fortier, Vallerand & Guay, 1995).

However, some studies have found little or no significant relationship between psychological variables and academic performance. A study conducted by Niebuhr (1995) examined relationships between seven psychological variables and students' academic performance specifically, focused on individual motivation and its effects on academic performance. Findings show that student motivation had no significant effect on the relationship with academic performance. Another earlier study of Boggiano, Main & Katz (1991) regarding differences on gender in motivation found that females were significantly

more extrinsic than males, thus, female students' performance is less associated with their interests than male students' academic performance (Shiefele, Krapp & Winteler, 1992). Also, Stipek & Ryan (1997) reported that few studies that have examined motivation in young children established that it is a weak predictor of academic performance.

The present study examines such motivational characteristics, that is, psychological variables as self-efficacy beliefs for distance education, self-regulation skills, study habits and self-concept with respect to academic performance of distance learners in Nigerian Universities.

Self-Efficacy and Academic Performance

Of all the thoughts that affect human functioning, and standing at the very core of social cognitive theory, are self-efficacy beliefs. By self-efficacy, Bandura (1977) and Schunk (1991) meant an individual's expectancy in his or her capability to organize and execute the behaviours needed to successfully complete a task. They further pointed out that in the basic of self-efficacy, there lies a mechanism of changing, continuing and generalizing behaviour. Bandura (1986; p. 391) defined self-efficacy as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performance". Also, self-efficacy refers to people's beliefs about their capability to perform certain actions in a specific domain (Bandura, 1993). Bandura (1993; p. 144) further affirmed that individuals with high self-efficacy "heighten and sustain their efforts in the face of failure".

Locke and Latham (1990) stated that self-efficacy is a significant determinant of performance, operating independently of the individuals' underlying skills in a specific context (Schunk, 1984). Schunk (1991) maintained that self-efficacy is the major determinant of ability to control one's own learning. He referred to the importance of self-concept and the belief or lack of belief in one's ability as a major influence on student success. Those with a

high sense of self-efficacy will work harder and persist longer when they experience difficulties. Those with low self-efficacy will not only do worse at tasks, they will also tend to avoid difficult ones altogether. He also believes that motivation is enhanced when a person believes that they are doing better. Perceived control, expectations and values, attributions and self-concept are all influences of a person's self-efficacy.

Self-efficacy beliefs therefore, determine how people feel, think, motivate themselves and act (Ergul, 2004). Self-efficacy refers to people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances (Pajares, 2002: p.391). According to Turner and Shallert (2001), self-efficacy beliefs affect choices of persons about whether will they be in similar occupational activities in the future or not. These beliefs however, do not only affect the choice of activities, but also help persons in determining how much they will strive for achievement, how long they will exert themselves against difficulties, and how they will handle troubles and maintain their course (Bandura, 1977; Pajares, 2002). Self-efficacy beliefs provide the foundation for human motivation, well-being, and personal accomplishment. This is because unless people believe that their actions can produce the outcomes they desire, they have little incentive to act or to persevere in the face of difficulties.

Much empirical evidence now support Bandura's (1986) contention that self-efficacy beliefs touch virtually every aspect of people's lives- whether they think productively, self-debilitatingly, pessimistically or optimistically: how well they motivate themselves and prepare in the face of adversities; their vulnerability to stress and depression, and the life choices they make. A strong sense of efficacy enhances human accomplishment and personal well-being in many ways. People with high assurance in their capabilities approach difficult tasks as challenges to be mastered rather than as threats to be avoided. Such an efficacious outlook fosters intrinsic interest and deep engrossment in activities. They set themselves, challenging goals and maintain strong commitments to achieving them.

They heighten and sustain their efforts in the face of failure. They quickly recover their sense of efficacy after failures or setbacks. They attribute failure to insufficient effort or deficient knowledge and skills which are acquirable. They approach threatening situations with assurance that they can exercise control over them. Such an efficacious outlook produces personal accomplishments, reduces stress and lowers vulnerability to depression. In contrast, people who doubt their capabilities, shy away from difficult tasks which they view as personal threats. They have low aspirations and weak commitments to the goals they choose to pursue. When faced with difficult tasks, they dwell on their personal deficiencies, the obstacles they will encounter, and all kinds of adverse outcomes rather than concentrate on how to perform successfully. They slacken their efforts and give up quickly in the face of difficulties. They are slow to recover their sense of efficacy following failure or setbacks. Because they view insufficient performance as deficient aptitude, it does not require much failure for them to lose faith in their capabilities. They fall easy victim to stress and depression.

Sources of Self-Efficacy

People's beliefs about their efficacy can be developed by four main sources of influence. The most effective way of creating a strong sense of efficacy is through mastery experiences. Successes build a robust belief in one's personal efficacy. Failures undermine it, especially if failures occur before a sense of efficacy is firmly established. If people experience only easy successes they come to expect quick results and are easily discouraged by failure. A resilient sense of efficacy requires experience in overcoming obstacles through perseverant effort. Some setbacks and difficulties in human pursuits serve a useful purpose in teaching that success usually requires sustained effort. After people become convinced they have what it takes to succeed, they persevere in the face of adversity and quickly rebound from setbacks. By sticking it out through tough times, they emerge stronger from adversity.

The second way of creating and strengthening self-beliefs of efficacy is through the vicarious experiences provided by social models. Seeing people similar to oneself succeed by sustained effort raises observers' beliefs that they too possess the capabilities master comparable activities to succeed. By the same token, observing others' fail despite high effort lowers observers' judgments of their own efficacy and undermines their efforts. The impact of modeling on perceived self-efficacy is strongly influenced by perceived similarity to the models. The greater the assumed similarity, the more persuasive is the models' successes and failures. If people see the models as very different from themselves, their perceived self-efficacy is not much influenced by the models' behaviour and the results it produces. Modeling influences do more than provide a social standard against which to judge one's own capabilities. People seek proficient models that possess the competencies to which they aspire. Through their behaviour and expressed ways of thinking, competent models transmit knowledge and teach observers effective skills and strategies for managing environmental demands. Acquisition of better means raises perceived self-efficacy.

Social persuasion is a third way of strengthening people's beliefs that they have what it takes to succeed. People who are persuaded verbally that they possess the capabilities to master given activities are likely to mobilize greater effort and sustain it than if they harbor self-doubts and dwell on personal deficiencies when problems arise. To the extent that persuasive boosts in perceived self-efficacy lead people to try hard enough to succeed, they promote development of skills and a sense of personal efficacy. It is more difficult to instill high beliefs of personal efficacy by social persuasion alone than to undermine it. Unrealistic boosts in efficacy are quickly disconfirmed by disappointing results of one's efforts. People who have been persuaded that they lack capabilities however, tend to avoid challenging activities that cultivate potentialities and give up quickly in the face of difficulties. By constricting activities and undermining motivation, disbelief in one's capabilities creates its own behavioral validation.

Successful efficacy builders do more than convey positive appraisals. In addition to raising people's beliefs in their capabilities, they structure situations for them in ways that bring success and avoid placing people in situations prematurely where they are likely to fail often. They measure success in terms of self-improvement rather than by triumphs over others. People also rely partly on their somatic and emotional states in judging their capabilities. They interpret their stress reactions and tension as signs of vulnerability to poor performance. In activities involving strength and stamina, people judge their fatigue, aches and pains as signs of physical debility.

Mood also affects people's judgments of their personal efficacy. Positive mood enhances perceived self-efficacy, despondent mood diminishes it. The fourth way of modifying self-beliefs of efficacy is to reduce people's stress reactions and alter their negative emotional proclivities and misinterpretations of their physical states. It is not the sheer intensity of emotional and physical reactions that is important but rather how they are perceived and interpreted. People who have a high sense of efficacy are likely to view their state of affective arousal as an energizing facilitator of performance, whereas those who are beset by self-doubts regard their arousal as a debilitator. Physiological indicators of efficacy play an influential role in health functioning, athletic and other physical activities.

Studies on Self -Efficacy and Academic Performance

Self-efficacy has generated research in areas as diverse as medicine, athletics, media studies, business, social and political change, psychology, psychiatry, and education. In psychology, it has the focus of studies on clinical problems such as phobia, depression, social skills, assertiveness, smoking behaviour, and moral development. Self-efficacy has been especially prominent in studies of educational constructs such as academic performance, attributions of success and failure, goal setting, social comparisons, memory, problem solving, career development, teaching and teacher education. In general, researchers have established

that self-efficacy beliefs and behaviour changes and outcomes are highly correlated and that self-efficacy is an excellent predictor of behaviour.

In the field of education, self-efficacy is seen to be related with efforts, persistence and performance. Ergul (2004) argued that among the students' characteristics usually examined in distance education, self-efficacy belief is very popular. Schunk (1991) then concluded that individuals who have a high sense of self-efficacy for accomplishing a task work harder and persist longer when they encounter difficulties, whereas those who do not feel efficacious may quit or avoid a task. Furthermore, in academic domains, the research on self-efficacy is less extensive; however, we are now seeing it being applied to such diverse academic domains as mathematics, computer literacy, writing, in-service teacher training, choice of academic majors, and so on. Many of these studies are correlational and describe how self-efficacy relates to academic outcomes.

On a general note, self–efficacy research in academic settings has focused primarily on two major areas. One area has the link between self-efficacy beliefs and college major and career choices, particularly in the areas of Science and Mathematics (Brown, Lent, & Larkin, 1989; Bores-Angel, Church, Szendre & Reeves, 1990; Farmer, Wardrop, Anderson & Risinger, 1995).

Researchers had reported that the Mathematics self-efficacy of College Undergraduates is more predictive of their Mathematics interest and choice of Mathematics-related courses and majors than wither prior Mathematics performance or Mathematics outcome expectations and that male undergraduates report higher Mathematics self-efficacy than the female undergraduates (Hackett, 1985; Hackett & Betz, 1989; Lent, Lopez, & Bieschke, 1993; Pajares & Miller, 1994). This line of inquiry has important applications for counselling and vocational psychology theory and practice, given that findings have provided insights into the career development of young men and women and can be used to develop career intervention strategies.

Studies in the second areas have investigated the relationships among self-efficacy beliefs, related psych-motivational constructs and academic performance. Self-efficacy has been prominent in studies that have explored its relationship with attributions (Shunk, 1989), goal solving (Bouffard-Bouchard, 1989; Larson, Piersel, Imao & Allen, 1990), problem contingencies (Schunk, 1983), self-regulation (Bandura, 1991; Zimmerman et al. 1994), social comparisons (Schunk, 1983; Bandura & Jourde, 1991), strategy training (Schunk & Cox, 1986), teaching and teacher education (Gibson & Dembo, 1984; Ashton & Webb, 1986; Wollfolk & Hoy, 1990), anxiety and self-concept (Pajares & Miller, 1994), and varied academic performance (Bandura, 1993; Pajares et al, 1994; Zimmerman & Bandura, 1994; Bouffard & Vezeau, 1996; Malpas & O'Neil, 1996).

Zimmerman, Bandura, & Martinez-Pons (1992) and Zimmerman & Bandura (1994) presented studies that showed that self-efficacy for self-regulated learning influenced self-efficacy for academic performance. Using a statistical path model, Garcia & Pintrich (1991) found that intrinsic motivation (comparable to learning goal orientation) had a substantial positive effect on self-efficacy (r=.36), and that both intrinsic motivation and self-efficacy had moderate positive effects on self-regulated learning (r=.24 and r=.26). Malpass et al. (1996) found that self-efficacy was positively related to self-regulated learning and mathematics performance. The interaction of self-efficacy with other motivational constructs makes self-efficacy an important variable in this study.

Bandura's (1997) key contention as regards the role of self-efficacy beliefs in human functioning is that "people's level of motivation, affective states, and actions are based more on what they believe than what is objectively true". For this reason, how people behave can often be better predicted by the beliefs they hold about their capabilities than by what they are actually capable of accomplishing, for these self-efficacy perceptions help in determine what individuals do with the knowledge and skills they have. The relationship between self-efficacy and performance is best summed thus:

> *The evidence is relatively consistent in showing that efficacy beliefs contribute significantly to level of motivation and performance. They predict not only the behavioural changes differences in behaviour between individuals receiving the same environmental influence, and even variation within the same individual in the tasks performed and those shunned or attempted but failed.*
>
> (Bandura, 1997, p.61)

Dale Schunk, presently of Purdue University, is one of the most prolific researchers applying self-efficacy as an academic construct. He and his colleagues often use a research paradigm that goes beyond correlational analysis to include instructional interventions designed to raise learners' percepts of efficacy and corresponding performance on criteria tasks. Schunk's treatments to influence self-efficacy include variations on modeling, attributions of success or failure, and goal-setting.

Also, Pajares and colleagues often used advanced statistical procedures to account for the explanatory and predictive variance of self-efficacy in relation to other personal determinants, such as anxiety, academic background, self-confidence, and so on (Pajares & Miller, 1994; Pajares & Kranzler, 1995; Pajares & Miller, 1995). Consistently, Pajares and colleagues find that self-efficacy maintains high explanatory and predictive power for mathematics performance.

In a study of 350 college students, Pajares and Miller (1994) examined the hypothesized mediational role and predictive power of self-efficacy in Mathematics problem solving. Using previously validated measures, the researchers ran several Mathematics-related independent variables in relation to Mathematical problem solving. Results showed that self-efficacy held greater predictive power for problem solving success than did Mathematics self-concept, background in Mathematics, perceived usefulness of Mathematics, and gender.

The effects of background and gender, however, were significantly related to self-efficacy, supporting Bandura's assertion of the mediational role of self-efficacy on performance. Simply put, background and gender are not independent strong predictors of

mathematics performance, but are influential sources of Mathematics self-efficacy which is highly predictive and plays a strong mediational role on performance.

Self-efficacy is a domain-specific construct in academics. Many, including Bandura, argue that it is also task-specific, and attempts to measure self-efficacy at the domain level often result in ambiguous or uninterpretable results (Bandura, 1986; Pajares & Miller, 1994; 1995). Many of the studies that show self-efficacy to account for lesser variance than other personal determinants often stray from Bandura's prescriptions for a micro analytic strategy. Often these studies assess self-efficacy globally with just a few scale items; that is, they ask participants to report on their confidence or efficacy with regard to a specific academic domain, and not a specific performance task.

At this level of self-reporting, it is expected that self-efficacy cannot reliably be separated from other personal determinants such as self-concept, anxiety, self-confidence, and background. It thus raises the question of whether one is actually measuring self-efficacy, or more generally measuring attitudes and other common mechanisms toward a given academic domain. Of course, the latter are important in some areas of educational research, but do not always give us sufficient evaluative information for performance on specific, criteria tasks. One possible lens from which to view self-efficacy within the context of instructional technology is to consider one's judgments of personal capabilities to authentically accomplish a specific performance objective. Self-efficacy and performance are inextricably related, and in the domain of Mathematics, both are often correlated with gender.

There is a potential gender effect in Mathematics learning and Mathematics self-efficacy. As discussed earlier, Fennema and Sherman (1977), and Sherman and Fennema (1978) found that Mathematics confidence and gender stereotyping were significant predictors of Mathematics performance for middle and high school students. Studies with college students showed that gender influenced self-efficacy in Mathematics-related actions,

such as academic major and career decisions (Hackett, 1985; Matsui, Ikeda & Ohnishi, 1989; Matsui, Matsui & Ohnishi, 1990; Lent, Lopez & Beischke, 1991).

Other studies found that gender was an influential source of efficacy information in modeling (Schunk, 1987; Schunk, Hanson & Cox, 1987). In personalization studies, Murphy and Ross (1990) found gender to be an influential factor in determining Mathematics success for eighth graders. Other researchers (Lopez, 1989; Lopez & Sullivan, 1992) found that personalization significantly benefited seventh-grade Hispanic boys in performing Mathematics calculations. Together, these lineages of research suggest that gender maintains a significant influence on mathematics self-efficacy. As the foregoing indicates, a gender effect has often been reported on the dependent variables (Mathematics self-efficacy and performance). In separate studies, a gender effect was reported on the independent variable (personalization).

Furthermore, studies such as Pintrich and De Groot (1990), Zimmerman, Bandura and Martinez-Pons, (1992), Pajares and Miller (1994) and Lim (2001) have been conducted in distance learning system on the relationship between self-efficacy and distance learners' academic performance. For instance, Pintrich and De Groot (1990) reported that academic self-efficacy positively correlated to various outcome measures such as grades seatwork performance, scores on examinations and quizzes and quality of essays and reports. Also, Multon, Brown and Lent (Chemers, Hu & Garcia 2001), found that self-efficacy was related to academic performance (r =.38). Similarly, Pajares and Kranzler's (1995) study has demonstrated that the direct effect of Mathematics self-efficacy on Mathematics performance (β =. 349) was as strong as the effect of general mental ability (β =. 324).

Researchers have equally reported that self-efficacy beliefs are correlated with other self-beliefs, motivation constructs, and academic choices, changes and performance although, as will be seen, effect sizes and relationships greatly depend on the manner in which self-efficacy and criteria tasks are operationalized and assessed. Researchers have also been

successful in demonstrating that self-efficacy beliefs are positively related to and influence academic performance and that these beliefs mediate the effect of skills, previous experience, mental ability, or other self-beliefs on subsequent performance.

A meta-analysis of studies published between 1977 and 1988 revealed that self-efficacy beliefs were positively related to academic performance (Multon, Brown and Lent, 1991). Self-efficacy beliefs were related to academic outcomes (r =. 38) and accounted for approximately 14% of the variance. Effects were stronger for high school (d =.41) and college students (d =.35) than for elementary students (d =.21). How the constructs were operationalized also influenced the findings. The strongest effects were obtained when performance indices were assessed with skills measures (d =.52) or classroom-based indices such as grades (d =.36) than with standardized performance tests (d =.13), a finding that supports the context-specific nature of self-efficacy beliefs. As with self-concept, researchers have demonstrated that, when self-efficacy beliefs correspond to the academic outcome with which they are compared, prediction is enhanced and the relationship between self-efficacy and academic performance is positive and strong (Pajares & Miller, 1994; 1995; 1997).

In Nigeria, Odedele (2000) in her study on test anxiety and self-efficacy correlates of academic performance among secondary school students, reported that self-efficacy was significantly related to the academic performance of students. In the same vein, Adegbola (2001) maintained that self-efficacy contributed significantly to the senior secondary school students' scholastic performance. She stated further however that on sex or gender differentials, there was no significant difference in the self-efficacy of the respondents but there was a significant difference on age basis.

Summing up the literature on self-efficacy beliefs, it is evident that the construct plays a significant role in predicting academic performance. Pintrich and De Groot (1990) suggested that the improvement of students' self-efficacy beliefs leads to increased use of cognitive and meta-cognitive strategies and, thereby, higher academic performance. Self-

efficacy is closely related to self-regulation, and both are especially useful in the context of online education where increased levels of self-efficacy beliefs toward the technology utilized are needed by the students in order to be able to communicate and interact with their peers and the instructor. No studies have been found when reviewing of the literature on self-efficacy which addresses this area of research.

Self Regulation Skills and Academic Performance

Self-regulation skill is a fairly new construct of motivation. It has been found to be another very important student psychological characteristic (Ergul, 2004). This is due to the fact that in distance learning system, learning is more personal and responsibility is more on the shoulders of the students when compared with the traditional face-to-face formal education system. Ergul (2004) therefore, argued that for distance learners to be able to achieve, they need to be able to control their learning and also regulate themselves.

In academic contexts, self-regulation refers to the processes that involve the activation and maintenance of cognitions, behaviours and affection, which are systematically oriented toward the attainment of goals (Schunk, 1989; Zimmerman, 1989). It also refers to "learning that occurs from students' behaviours that are systematically oriented toward attainment of learning goals" (Schunk, 1990:3). According to Butler and Winne (1995), self-regulation is a learning style for student comprising strong abilities like setting goals for developing knowledge and choosing balancing strategies against unwanted situations by determining goals. Self-regulation has been studied in traditional classrooms in order to provide an understanding of how students use their cognition, meta-cognition, and motivation in order to experience successful learning.

Self-regulation of cognition and behaviour is an important aspect of student learning and academic performance in the classroom context (Corno & Mandinach, 1983; Corno & Rohrkemper, 1985). There is a variety of definitions of self-regulated learning, but three components seem especially important for classroom performance. First, self-regulated

learning includes students' meta-cognitive strategies for planning, monitoring, and modifying their cognition (Corno, 1986; Zimmerman & Pons, 1986; 1988; Brown, Bransford, Campione, & Ferrara, 2003). Students' management and control of their effort in classroom academic tasks has been proposed as another important component. For example, capable students who persist at a difficult task or block out distractors like noisy classmates maintain their cognitive engagement in the task, enabling them to perform better (Corno & Rohrkemper, 1985; Corno, 1986).

A third important aspect of self-regulated learning that some researchers have included in their conceptualization is the actual cognitive strategies that students use to learn, remember, and understand the material (Corno & Mandinach, 1983; Zimmerman & Pons, 1986, 1988). Different cognitive strategies such as rehearsal, elaboration, and organizational strategies have been found to foster active cognitive engagement in learning and result in higher levels of achievement. These three components constituted the working definition of self-regulated learning in this study.

However, knowledge of cognitive and meta-cognitive strategies is usually not enough to promote student achievement; students also must be motivated to use the strategies as well as regulate their cognition and effort (Pintrich, Cross, Kozma & McKeachie, 1986; Pintrich, 1988, 1989; Paris, Lipson & Wixson, 2009). Although there are classroom situations and tasks that can foster motivation (Malone, 1981;Corno & Rohrkemper, 1985), there also is evidence to suggest that students' perceptions of the classroom as well as their individual motivational orientations and beliefs about learning are relevant to cognitive engagement and classroom performance (Ames & Archer, 1988; Nolen, 1988).

Accordingly, it is important to examine how the three components of self-regulated learning are linked to individual differences in student motivation in order to describe and understand how personal characteristics are related to students' cognitive engagement and classroom academic performance (Corno & Snow, 1986; Weinert, 1987; Snow, 1989)

Cognitive and meta-cognitive strategies provide the building blocks for constructing knowledge within a learning environment. According to Kovach (2000), self-regulated learners set academic goals, select appropriate learning strategies to achieve these goals, and continually monitor goal progress. They are aware of their knowledge, their beliefs, motivation and qualities of their cognitive processes. Self-regulated learners do not only need to possess cognition (knowledge to build upon), and meta-cognition (the knowledge and monitoring of learning strategies), but they must also be motivated to use their meta-cognitive strategies to build upon their understanding of instructional material (Pintrich & De Groot, 1990).

Zimmerman (1994) identified four attributes of self-regulated learning: (a) self-motivation, (b) self-monitoring, (c) manipulation of social and physical environment, and (d) self-confidence. Self-motivation refers to motivation that is derived from the students' self-efficacious perceptions and their use of self-regulatory learning processes, such as setting goals. Self-monitoring refers to the students' awareness and self-checking during a learning process. Manipulation of the social and physical environment refers to the students' ability to both seek help from people they know are capable, and also organize and restructure their skills in order to optimize learning.

According to Lidner and Harris (1993), there are six dimensions of self-regulated learning. These are:

1. **Epistemological Beliefs:** A person's own understanding of his system of knowing. Knowing about this gives a person the ability to see where he fits into learning or how it influences them. It also influences confidence. The more the learner understands a particular situation, the more success he will experience. Pre-tests or pre-instruction discussion can heighten this awareness.
2. **Motivation:** The will to learn or get better at learning has to come from internal or external motivation. In the case of the self-regulated learner, this motivation comes

from recognizing the importance of the task at hand and through personal development. "Motivation is enhanced when students perceive that they are making progress in learning." (Schunk, 1991).

3. **Meta-cognition:** This is knowledge about cognition and awareness of one's own thinking and learning. This fits with the use of learning strategies. The student must know what tools they have in the toll box and how well they use them. This creates a more active involvement on the part of the learner as they have to assess the situation based on their own abilities and use the learning skills that they see as appropriate or successful.
4. **Learning Strategies:** Students need the skills to handle various learning situations. This means a shift from content to skill development. Giving the student a system of strategies and helping to develop them is a major step towards creating self-regulated learners.
5. **Contextual Sensitivity:** The ability to understand a particular learning situation and how to identify the problem and solve it. This skill can be developed by showing the learner how to identify problems. Learners who do not know what they are being asked to solve will never achieve success. They may not know how to look for clues or important information contained in the question. Working through examples will build this skill.
6. **Environmental Utilization/Control:** Personal experience and knowledge can add to a person's ability to reach a solution, Learners should be taught to broaden their view of learning to include other resources. Often times, events or items we see are not being related provide us with valuable assistance.

Students' meta-cognitive and self-regulatory strategies can have an important influence upon their achievement. Self-regulation would then refer to students' ability to set goals, plan activities, monitor progress, control, and regulate their own

cognitive activities and actual behaviour (Pintrich et al., 1993). Planning activities include analysis of the task, choosing strategies and making decisions on specific behaviours. Monitoring stands for comparing progress against goals or standards in order to guide the following actions. For instance, a type of self-regulatory strategy for reading occurs when a student slows the pace when confronted with more difficult or less familiar text (Tanner & Jones, 2003).

A review of the literature on self-regulation uncovered numerous theoretical and empirical studies (Garcia, 1995; Pintrich & Garcia, 1991; Schunk & Zimmerman, 1994). Garcia (1995) proposed that students use their self-efficacy to fuel their motivational strategies. Pintrich and De Groot (1990) found that increased levels of self-efficacy stimulate self-regulated learning. Meece (1994) also suggested that self-regulated learners possess motivational attributes in their goal orientation that affect their learning experiences. For example, some students are intrinsically motivated to engage in academic activities, while others are extrinsically motivated to maintain their engagement.

However, few studies have explicitly linked the components of self-regulated learning to academic performance (Schunk, 1984; Pajares & Miller, 1994; Pajares & Kranzler, 1995; Pajares & Miller, 1995). Schunk (1984) conducted an experiment on 4th grade children and posited that students who adopted a learning goal strategy experienced higher self-efficacy for skill improvement and engaged in activities they believed enhance learning. Pajares and Kranzler (1995) studied high school students and found that self-efficacy had a significant direct correlation on Mathematics performance ($r = .349$, $p < .05$).

In a similar study, Pajares and Miller (1994) found a significant direct correlation between self-efficacy and academic performance ($r = .413$, $p < .05$). In a later study, Pajares and Miller (1995) reported a significant correlation between Mathematics self-efficacy and problem-solving performance ($r = .69$, $p < .05$).

Furthermore, researchers like Pintrich and De Groot (1990), Zimmerman and Martinez-Pons (1990), Joo, et al., (2000) and Ergul (2004) have also researched into the relationship between self-regulation skills and academic performance in distance education and reported diverse findings. For instance, Joo et al, (2000), Zimmerman and Martinez-Pons (1990) remarked that gender differentials were noticed as regards self-regulation as they reported that self regulation characteristic becomes significant for the females. They argued that female distance learners had more record than the males in the use of self-regulation strategies. Research conducted by Blocher (1997) has shown that self-regulated students have a strong desire to learn and are goal directed.

The evidence presented in the above studies point towards the importance of self-regulation as a predictor of academic performance not only in traditional face-to-face classrooms, but also in the distance learning system.

The Concepts of Study and Study Habits

The word 'study' is a deliberate attempt made at acquiring new knowledge either through the reading of textbooks or by following a course of instructions designed to enhance one's practical exposure in a given situation. According to Yinyinola (2008), study demands the application of one's full faculties. Study can be accomplished in varieties of ways, which include group discussions and through the mass media such as listening to educational radio and television broadcasts and individual programmes which are valuable, supplementary resource materials (Yinyinola, 2008).

Adeyoju (Yinyinola, 2008), describes study as a self-directed education, which compels determination, commitment and consistency of purpose. Locke (Yinyinola, 2008) defined study as the application of mental faculties to the acquisition of knowledge. Thus, study involves the use of one's mind and the application of mental effort. In the same manner, Akinboye (1980) described study as a determined, purposeful behavioural pattern, geared

towards previewing, questioning and reviewing for the purpose of mastering an assignment. It is an activity in which an individual has to invest an absolute concentration in order that it might be productive. Uwakwe (1986) conceived of study as a means through which an individual learns or gains knowledge. For study to be effectively carried out, an individual requires relevant and adequate learning.

Furthermore, study habits have also been described as behaviours that are easily manifested without conscious exertion on the part of the learner (Isangedighi, 1997). Olaleye (2003) opined that study habit as a concept; can be interchangeably used as study method, study-behaviour study skills or study- attitude. Study habits are well planned and deliberate patterns of study which have attained a form of consistency on the part of the student towards understanding academic subjects and passing at examination (Deese, 1959; Pauk, 1962).

The study habits of the students could play pivotal role in the learning process and then reflected in the academic achievements of the students. Rasul (1968) and Shafiq (1978) concluded that the habits have positive relationship with learning, which result in better achievements. Students may fail to maintain higher level of achievements due to a particular study habit. It is, therefore, desirable that the students should be motivated toward such habits of study by which they may score good grades with better understanding of the subject matter. Sorenseon (Olaleye, 2003), while outlining the good basic study habits, stated that one must study with the primary intention of understanding. This requires one not to be in a hurry in getting through, instead, sustained concentration is necessary.

Oguntade (1975) and Bakare (1977) contended that the effectiveness of the study method adopted by students depends on physical and psychological preparedness, judicious use of time, syllabus/volume of works to be covered, concentration and consultation as well as the environment in which the study takes place.

According to Crow and Crow (1992), the effective habits of study include plan/place, a definite time table and taking brief of well organized notes. Thus, Olaleye (2003), while

corroborating Crow and Crow's (1992) assertion, submitted that careful planning and consistency required for acquiring the skills and techniques of study determine whether students study habit is effective or defective.

Several factors have been identified as militating against effective study habits. These factors, according to Yinyinola (2008), include lack of motivation, forgetting, poor note-taking ability, poor reading skills, poor scheduling and inefficient use of time, use of drugs, low self-concept, lack of preparation, inability to carry out given assignment, among others. It is therefore, desirable that these elements need to be properly considered for an individual to benefit from any study guidance programme.

Study Skills

Study skill is a closely related concept to study habits. This is because the effectiveness of the skills involved in any study can determine how good or bad one's study habit is. Study is a process, which involves the application of relevant skills in the devotion of one's time and thought on learning tasks with the intention of acquiring new knowledge from such task. In order for the study to be result-oriented, relevant study skills must be put in place. Therefore, every one that studies must necessarily apply study skills so that the study can be effective. Ball (1982) opines that many committed students at all levels of education may experience frustration and despair in school, not because they lack the potential but because they do not have the appropriate study skills to learn.

Ayodele, James and Ajala (1985) considered study skills as the kind of guidance given to students and which help them to think actively about the global processes of planning and learning what to do, when to do it, how to do it and very importantly, the reason for doing it. James, Jordan and Mathew (1988) referred to study skills simply as the skills that a student needs to develop in order to get maximum benefit from his studies.

Adeyoju (Olaleye, 2003) conceived of study skills as the specific abilities developed by learners in order to master the study materials properly for the purpose of making the study

effective and result oriented. They allow students to acquire, retain and retrieve the information presented in textbooks and classroom. Obe (1996) maintained that study skills is the ability of the learner to acquire information, do mental processing of information for logical organization and understanding, re-reading and memorizing for long time meaningful retention and recalling of information on important occasions such as during test or during examination situation. Study skills refer to the learning and motivation strategies considered necessary to being successful in college (Yinyinola, 2008). According to Yinyinola (2008), some of the required skills in study are:

i. ***Development of desirable study habit:*** This has to do with setting goals for oneself, having study plan, developing confidence in one's ability to study and succeed. In addition, one must have the ability to attack procrastination successfully and getting oneself prepared for examination by engaging in meaningful study all the time and not only when the examination is fast approaching.

ii. ***Maintaining and sustaining concentration on study:*** In order to improve the quality of one's concentration on the study materials, one has to develop interest in texts; cultivate the will to learn and succeed; have self-concept and avoid all stimuli which can distort full concentration.

iii. ***Learning to read and remember study materials:*** This is a very important skill needed for successful study. No meaningful study can take place without cultivating the required skill to read and remember the study materials. Unoh (Yinyinola, 2008) noted that reading to remember means reading with a view to being able to recognize, comprehend and also retain for future reproduction in relevant situations.

iv. ***Developing self*-assurance in study life:** This is also an important skill that anyone who studies must acquire. Lack of self-assurance is a serious emotional

disposition in anyone who engages in study. Such a disposition lacks special stimulus of encouragement, a measure of independence appropriate to intellectual maturity. A student who lacks self-confidence, will likely be a poor achiever. Mace (1964) observes that such a disposition is not conducive to successful endeavour.

v. ***Learning self concept of study behaviour:*** This is another crucial skill that must be mastered for effective study. Self-control skills involve self-monitoring; self-evaluation, self-intervention, self-sustenance and self- reinforcement techniques in getting the best from the Robinson SQ3R method of study. It is important for students to develop effective will power in making use of these techniques so that the set goals in the academic pursuit can be realized.

vi. ***Learning the skills of preparing and taking examination:*** The skill that is required in preparing and taking examinations is equally important as the other skills. For success to be achieved in any study behaviour, the needed skills must be adequately mastered. Akinboye (1980) claimed that examination is not a mere measure of achievement in a course of study but the major determinant of success in life. In present day Nigeria, examination results are taken to be the yardstick of intellectual ability and aptitude. Invariably, results of examination remain the only reliable measure of students' eligibility for a career.

Yinyinola (2008) however, cautioned that the acquisition of study skills alone is not sufficient to bring about effective study; rather, efforts must be made from time to time to ensure the utilization of those skills adequately and effectively. The skills must therefore be maintained and sustained. Also, training in study skills involves the personality of man in its entirety– his affective (feeling), cognitive (thinking), and psycho-motor (acting) domains.

Techniques of Study

The main reason why an individual may engage in a study is to understand the main ideas presented by a text as well as to digest the material read (Yinyinola, 2008). Several techniques have been developed by researchers in order to promote the efforts of the learners in clarifying new knowledge such that the learner can intuitively make use of the knowledge which he/she acquired.

In the submission of Akinboye (1980), the systematic techniques of study include the following:

1. **Learners confused state:** This is a state in which the learner is psychologically overwhelmed by the reasons that account for his ineffective study behaviour. This confusion can be reduced by:

i. Making observations on one's ineffective study behaviour and the factors that are responsible for the unproductive study behaviour.

ii. Restating the problem by using the creative problem-solving techniques.

iii. Applying brainstorming techniques to solve the problem identified.

iv. Employing checklist such as self-control techniques to evaluate the effectiveness of the creative study technique.

v. Revising those point, which have created a problem.

2. ***Brain-storming Group study method:*** This has to do with the generation of as many ideas as possible so as to bring about solution to study problems.

3. ***Robinson's SQ3R method of study:*** This is another study method developed by Robinson (1970). This method, known and referred to as SQ3R, consists of Surveying. Questioning, Reading, Reciting and Reviewing of the study assignment with the intention of reproducing the studied text.

4. ***Repetition as a study method:*** Repetition is a psychological process through which an individual persists on a task in the face of obstacle, frustrating setbacks

and occasional failures (Uwakwe, 1984). It involves persistence on a task, irrespective of frustrations and stumbling blocks. Akinboye (1980) evaluated repetition as a study method and finds it useful, if students will endeavour to study effectively.

5. ***Behaviour Therapy study technique:*** This method has to do with the use of the scientific method for effecting a change in socially undesirable patterns of study behaviour (Akinboye 1980). The therapy is based on the fact that if reinforcement is offered to a student as he studies, he soon develops the ability (skills) to carry on studying well. In the process, the student learns to reinforce himself while he studies.

Study Habits and Academic Performance

In the Study Habit Inventory (SHI) developed by Bakare (1977), it was revealed that a bright child may perform poorly if he/she develops poor or has negative study habits. Similarly, Okpala and Onocha (1998) argued that the type of attitude possessed by an individual could affect the study habits of such an individual and this is likely to affect his/her performance. Abe (1995), in his study to obtain empirical evidence of the casual linkages between academic performance and some socio-psychological variables, in which study habits was one of the selected socio-psychological predictors, established that study habits did not only influence performance in Social Studies but also, exerted direct effect on students' performance in the subject.

Also, Olaleye (2003), in her study on some psycho-social determinants of secondary school female students' performance in Mathematics, reported that study habits is the second most important psychosocial variable after class size that influences performance in mathematics. The study adopted an "*ex-post facto"* design with 1146 female secondary school II students from 18 and 12 schools in Oyo and Osun states respectively. She noted that

study habit is an important variable contributing significantly to the prediction of performance in Mathematics with $\beta = -0.052$.

Kern and Miller's (1998) research focused on study habits of college students. The participants for the study were 102 consisting of 49 women and 53 men. The result of the study indicated that study habits had effect on performance. The researchers concluded that study habits could be taught to increase the likelihood of success.

Moreover, Brown and Holtzman (Ladipo, 2000) reported a positive correlation among study habits, attitudes and grade-point average (GPA). Similarly, Rukowski and Domino (Ladipo, 2000) established the complexity and inter-relationship of study-skills, personality variables and aptitude test scores.

A study was conducted by Quist, Nyanko-Sampson and Essuman (2006) to examine the nature of senior secondary school students' study habits in some selected districts in the central region of Ghana. The participants for the study were 500 SS I and SS III students. They were selected through the stratified random sampling procedure. The findings revealed that there was no significant difference in the study habit behaviour of male and female participants in the study; there was no significant difference in the study habit behaviour between the different levels of schooling; and there was significant difference between the study habit behaviours of students from single sex and co-educational schools. The study also indicated that there was no significant difference in the study habit behaviour of day and boarding students.

Wilhite (Ladipo, 2000) studied the relationship between study behaviour and academic achievement. The result of the study indicated that some study activities were significantly correlated with academic achievement. Corroborating this finding, Gadzella (2004) revealed in his study on the relationships among study skills, self-concept and academic achievement among students that the participants gained significantly from study skill programmes and reported greater self-satisfaction after completing the programme. The finding suggested that

effective study skills lead to academic success and academic success leads to greater satisfaction.

In addition, Jibowo (1997) investigated the effects of study skills training on undergraduate performance in comprehension and note taking. The participants for the study were one hundred (49 males, 51 females) undergraduate students randomly selected from two state owned universities in Nigeria. The experimental group was exposed to instruction in study skills while the control group received no instruction. The results showed that instruction in study skills had significant effect on the experimental groups' performance in both comprehension and note taking.

However, gender, academic level and language performance as single individual variables were not found to have significant effect on the participants' performance in the two tasks. The researcher concluded that study skills training affords the students the opportunity to improve their performance and that if the same condition favourable for learning is given to male and female, both sexes would improve their performance.

Driskell (1976) investigated the effects of guided note-taking and study skills on academic achievement. The participants for the study were 61 undergraduates. The experimental group was randomly selected and subjected to six weeks of twelve sessions in study skills programme. The results of the study indicated that the treatment programme had a significant positive effect on the participants' achievements.

It has been observed that the amount of study time devoted to a course had an impact on students' academic performance (Pamela, 2006). Sheets (1995:123) also stated "that greater number of hours in study was related to persistence and academic performance". In addition, Abdul-Rahman (1994) found that study habits were not directly related to programme completion and academic performance, but bad study habits such as not going through the learning materials, not attempting all the course exercises and not contacting instructors when problems arose contributed to poor grades.

A study conducted by Idle (1978) on the study patterns of successful external students in Australia found that, on the average, they studied for about eight hours per week per subject. The city dwellers schedule their studies better than their country counterparts. MacDonald and Scott (1997) found that under-graduate students find it difficult to read academic texts and this problem affects their academic performance. Koymen's (1992) study concluded that there are no important differences in terms of learning strategies between students in the conventional system and in the distance learning system.

Powell et al. (1990) reported study habit as a predictive variable of distance learners' academic performance. They established positive correlation between study habit and academic performance of distance learners. Kumar (2001) in his own study at the IGNOU, India, reported a low positive but significant correlation ($r = 0.27$) between study habits and academic performance.

According to Raja, Mouli and Rao, (1993), distance learners do usually keep a time schedule for studying. On the other hand, Villi (1999) observed that the habits of the post graduate distance learners at the Madras University, India is to study "only when they get time". Gender differentials in the study habits of secondary school students have also been reported by Grade et al. (Olaleye, 2003). In their investigation of the study habits and attitudes of 150 American – India secondary school students, boys were found to have poor study habits and skills as well as poor attitudes about schoolling and teachers.

Generally, the results of studies of Abe (1995), Akinboye (1974), Bakare (1977), Powell et al. (1990), and Uinomyang (1999) established a positive relationship between study habit and academic performance. These findings however, contradicted that of Owolabi (1988) who reported no significant correlation between study habits and academic performance of secondary school students. He equally found no gender differences in male and female students' study habits in relation to their academic performance.

On gender difference in study habits and academic performance, Singh and Chauham (1988) examined a group of students in Indian schools and found that, compared to girls, boys had better study habits, found home environments more conducive to study and were more systematic in planning academic work. They also found that study habits have a close positive relation with self-concept but no relationship with birth order. In view of this contradiction, there is still the need to investigate the relationship between study habits of distance learners and their academic performance.

Self-Concept

'Self' as a concept, is a complex system of conscious and unconscious beliefs, which an individual holds about self. It is like looking at oneself in a mirror with a beautiful image that indicates good self-concept while an ugly image gives a bad self-concept. (Olaleye, 2003). Self-concept is an important factor in any academic work because the way a student perceives individula's capabilities and potentialities often affect such a student's output. According to Phillips and John (Olaleye, 2003), self-concept is currently gaining prominence in educational research and evaluation studies, both as an outcome sought for its own value and as a variable moderating other relationships.

Rosen (Fayombo, 1999) described self-concept as self confidence which is the anticipation of successfully mastering challenges, obstacles or tasks. It is also the nature and organization of beliefs about one's self. Self-concept is theorized to be multi-dimensional. For example, people have separate beliefs about physical, emotional, social, etc. aspects of themselves. Fayombo (1999) then concluded that self concept is an individual's reflection of oneself, as well as his/her view. Self-concept or self identity also refers to the understanding a sentient being has of itself, as can be expressed in terms of self-assessments that involve persistent attributes. It presupposes but can be distinguished from mere self-consciousness, which is an awareness of one's self.

The self-concept is the accumulation of knowledge about the self, such as beliefs regarding personality traits, physical characteristics, abilities, values, goals, and roles. Beginning in infancy, children acquire and organize information about themselves as a way to enable them to understand the relation between the self and their social world. This developmental process is a direct consequence of children's emerging cognitive skills and their social relationships with both family and peers. During early childhood, children's self-concepts are less differentiated and are centered on concrete characteristics, such as physical attributes, possessions, and skills. During middle childhood, the self-concept becomes more integrated and differentiated as the child engages in social comparison and more clearly perceives the self as consisting of internal, psychological characteristics. Throughout later childhood and adolescence, the self-concept becomes more abstract, complex, and hierarchically organized into cognitive mental representations or self-schemas, which direct the processing of self-relevant information.

Self-concept has typically been defined in terms of the cognitive appraisal one makes of the expectations, descriptions, and prescriptions that one holds about one's self (Hattie, 1992). Coopersmith and Feldman (1974) described self-concept as consisting of "beliefs, hypotheses, and assumptions that the individual has about himself. It is the person's view of himself as conceived and organized from his inner vantage (and) includes the person's idea of the kind of person he is, the characteristics that he possesses, and his most important and striking traits" (Pajare & Schunk, 1999). As such, one's self-concept provides structure, coherence, and meaning to one's personal existence.

Recent definitions have been informed by William James's conception that self-concept is an individual's representation of all his or her self-knowledge. Combs (1962) argued that an individual's self-concept, is, in essence, "what an individual believes he is" (p.62). The researcher therefore, defines self-concept simply as the totality of self-knowledge

that one possesses about oneself. Lewis (1990) suggests that development of a concept of self has two aspects. These are namely:

- **The Existential Self**

This is "the most basic part of the self-scheme or self-concept; the sense of being separate and distinct from others and the awareness of the constancy of the self" (Bee, 1992). The child realizes that he exists as a separate entity from others and that he continues to exist over time and space. According to Lewis (1990), awareness of the existential self begins at the age of two to three months and arises in part due to the relation the child has with the world. For example, the child smiles and someone smiles back, or the child touches a mobile object and sees it move.

- **The Categorical Self**

Having realized that he or she exists as a separate experiencing being, the child becomes aware that he or she is also an object in the world. Just as other objects including people have properties that can be experienced (big, small, red, smooth and so on) so the child is becoming aware of him or herself as an object which can be experienced and has properties. The self too can be put into categories such as age, gender, size or skill. Two of the first categories to be applied are age ("I am 3") and gender ("I am a girl").

In early childhood, the categories that children apply to themselves are very concrete (e.g. hair colour, height and favourite things). Later, self-description also begins to include reference to internal psychological traits, comparative evaluations and to how others see them. Carl Rogers believes that Self Concept has three different components:

* The view you have of yourself (Self image)
* How much value you place on yourself (Self esteem or self-worth)
* What you wish you were really like (Ideal self)

Self-Concept and Academic Performance

Current interest in self-beliefs has also been characterized by renewed research into self-concept, a construct with a long ancestry. William James (1890-1981) was one of the writers to use the term "*self-esteem',* which he described as a self-feeling that "in this world depends entirely on what we back ourselves to be and do". He even provided a formula for self-esteem showing that how individuals feel about themselves depends on the success with which they accomplish those things they wish to accomplish. Self-esteem may be raised, James (1890-1981) argued, either by succeeding in endeavours or in the face of failure, by lowering one's sight and surrendering certain aims.

Researchers have identified seven features critical to a definition of self-concept: These are that self-concept is organized, multifaceted, hierarchical, stable, developmental, evaluative, and differentiable (Maish & Shavelson, 1985; Shavelson & Marsh, 1986). A number of studies have supported the contention that positive self-concept and academic achievement are closely interwoven (Purkey, 1970; Beck, 1984). Fitts (2005) had suggested that persons with optimal self-concept are apt to use their intellectual resources more efficiently. There is also ample empirical evidence that self-concept is related with, and in fact, influences academic performance.

Moreover, it also mediates the influence of other variables that predict academic performance which is to say that it acts as a filter between variables such as previous performance and mental ability on academic performance. For instance, an analysis of 128 studies conducted up to the late 1970s revealed that researchers had reported relationships between self-concept and academic performance that ran the gamut from a strong negative correlation to nearly perfect positive correspondence (Hansfor & Hattie, 1982; Byrne, 1984). Over 90% of the studies reported moderate to weak correlations. In most studies during those years, however, researchers compared general, or global self-concept with academic performance.

In studies in which academic self-concept was measured, correlations were moderately positive, a finding that has been supported by researchers on self-concept during the last 20 years (Bong & Clark, 1999). Assessing global self-concept and comparing it to academic performance in early self-concept research had the effect of lowering the statistical relationship between the two constructs.

Shavelson, Hubner and Stanton (1976) introduced a hierarchical model that differentiated among general, academic, social, emotional, and physical self-concepts. Academic self-concepts were further differentiated as English, History, Science, and Mathematics self-concepts. This conceptualization represented an important step in the study of self-concept. The hierarchical nature is now widely accepted and researchers warn that using global indices of self-concept can provide limited value (Shavelson & Bolus, 1982; Byrne, 1984; Marsh & Shavelson, 1985, Shavelson & Marsh, 1986).

According to the hierarchical model, subject-specific self-concepts are distinguishable from each other and from academic and global self-concepts. Relations among self-concept dimensions are themselves hierarchically structured. The relationship between subject-specific self-concept (e.g., mathematics self-concept) and related performance (mathematics performance) is stronger than that between academic self-concept and academic performance which, in turn, is stronger than that between global self-concept and performance (Marsh, Barnes, Cairns, & Tidman, 1984; Marsh, Byrne, & Shavelson, 1988). Marsh and O'Neill (1984) reported that the Mathematics self-concept of high schools students was strongly related with their mathematics performance.

The strength of relationship decreased as Mathematics performance was compared with academic self-concept, and it decreased even further when compared with verbal self-concept. It is clear that self-concept becomes more empirically sensitive to, and more predictive of, achievement outcomes the more specifically it is conceived and assessed. When domain-specific self-concept is compared with performance in the same domain (e.g.,

Mathematics self-concept with Mathematics achievement), the relationship is positive and strong (Mars, 1993). Mash (1990c) reported on a number of studies in which correlations between Mathematics self-concept and Mathematics achievement indices ranged from .17 to .66 with a median of .33.

A number of studies have supported the contention that positive self-concept and academic achievement are closely interwoven (Beck, 1984; Purkey, 1970). Fitts (1972) has suggested that persons with optimal self-concept are apt to use their intellectual resources more efficiently. Other studies report higher correlations, generally ranging from .40 to .70 (Marsh, Relich & Smith, 1983; Marsh & O'Neill., 1984; Marsh, Smith, & Barnes, 1985; Bryne & Shavelson, 1986; Skaalvik & Rankin, 1996). Typical is a study by Marsh, et al. (1988), who reported a correlation of .55 between high school students' mathematics self-concept and their subsequent mathematics grades. Path analysis revealed direct effects of self-concept on GPA (.60 to .66).

In a related study on mathematics, Newman (1984) studied achievement tests and self-concept data collected in grades 2, 5, and 10. For the interval from grade 2 to grade 5; and from grade 5 to grade 10, prior achievement had a significant effect on subsequent self-concept but prior self-concept had no effect on subsequent achievement. The sample size was small (NS were 84 to 143 for different correlations, when pair-wise deletion was used to constant correlation matrix, and N = 75, when case-wise deletion for missing data was used). Again, academic self-concept was inferred on the basis of responses to a single self-response item.

Newman (1984) examined this problem of inference of academic self-concept from a single item with sensitivity analysis. The untestable reliability of each single item self-concept factor was fixed at different plausible values, and other parameters were estimated for the various reliability values. The sensitivity analysis was an important addition that "made the best of bad situations". The problem with the sensitivity analysis in the view of Marsh

(1990) is that the analysis was conducted on reduced models, in which all paths leading from prior self concept to subsequent performance had already been eliminated. Thus, sensitivity analysis provided no tests of the conclusion that self-concept does not affect subsequent performance.

Marsh (1992) re-analyzed Newman's (1984) data and conducted a sensitivity analysis using the same range of values. For the reliability of the single-item self-concept factors that were considered by Newman for the full models in which paths leading from self-concept to performance were retained. Depending on the prior reliabilities, self-concept sometimes affects subsequent performance, whereas, performance sometimes has no effect on subsequent self-concept. On the basis of sensitivity analysis, Marsh (1992) argued that the data were not strong enough to justify either the conclusion that prior self-concept affects subsequent performance or Newman's conclusion that prior mathematics self-concept has no effect on subsequent mathematics performance.

Finding from the work of Helinke and Van Allen (1995) however corroborated that of Newman (1984) as they reported that prior self-concept does not significantly contribute to the prediction of subsequent performance. Gulas and Kuig (1976) and House (1997) found that academic performance and self-concept are related. Their studies confirmed that students who rate themselves low, or who have low self-concepts are usually under achievers while over achievers are those students with positive self-concept. Kumar (2001), in his study on the first degree level distance learners of the Indra Ghandi National Open University of India (IGNOU), reported that self-concept appeared to be the most important predictor variable among the three selected variables. It contributed 23–92% of the variance in the criterion measured, that is, academic performance. Kumar (2001) established a moderate positive and significant correlation between academic performance and self concept of first-degree distance learners with $r = 0.4714$. The results of the Fitts's (2005) study indicated that self-

concept and academic achievement are associated only in academically strong students. No such association was identified in the present sample of academically weak students.

However, it is because of the importance of casual ordering of academic self- concept and academic performance in educational setting that the present study was undertaken with a hypothetical position that academic performance of distance learners depends on students' self concept. Other factors are however equally important as noted by March (1992) and Olaleye (2003) respectively.

In Nigeria, Adedipe's (1986) study on personological correlates of academic performance at the secondary school level reported correlation coefficients ranging between 0.206 and 0.241 as index of the relationship between self-concept and performance in English Language and Mathematics among secondary school students. The sample consisted of 320 students (167 males and 153 females) randomly selected from four secondary schools in Ibadan. Their ages ranged between 11 and 19 years. Also, in his recent study on the predictive impacts of anxiety, self-concept and locus of control on the academic performance of educationally distressed adolescents, Adeoye (2001) reported that self-concept may not necessarily have any impacts on the academic performance of 312 subjects he selected for the study.

The Concept of Attitudes

One of the important issues in distance education is understanding how students react to learning in a class where members are separated by time and space. Attitude toward learning is an important factor in eventual academic success. Research data on students' attitudes toward distance learning can be grouped into four categories: attitude toward the technology, attitude toward distance education teaching methods, attitude toward student and teacher interaction, and attitude toward being a remote student. Student attitudes about distance learning are frequently linked to components of their experience in distance education, rather than taking distance education as a whole.

The use of a variety of teaching methods with a de-emphasis on lecture delivery is preferred by distance learning students. Positive student pre-disposition to being a remote learner contributes to learning enthusiasm. Attention to teacher-student interaction is important, since distance learners exhibit a strong bias toward personal contact with the instructor. Students who are initially anxious about using technology for learning usually become increasingly comfortable as their exposure to it increases. Thus, distance educators should examine the range of factors influencing student attitudes when planning a distance education course.

Okwilagwe (2002) posited that the possession of positive attitude is so crucial in a student's life that various educationists over the years have been addressing the importance of its development. The attitude of a distance learner towards the programme or a course of study will, to a greater extent, determine the measure of his/her attractiveness or repulsiveness to it. Consequently, in the opinions of Yoloye (Olaoye, 2005), such attitude would influence the learner's choice and academic performance in that programme or course. In view of this fact, there is no doubt that the development of positive attitude either towards academic work or life as a whole is a basic learning outcome of intrinsic worth that a nation's educational process would like to inculcate in her populace.

According to Ebel (Okwilagwe, 2002), the development of right and positive attitude to academic work is more important than the attainment of high grades. By attitude, Anderson (1991) conceived it as a moderately intensive emotion that predisposes an individual to respond consistently in a favourable or unfavourable manner when confronted with a particular object. Allport (Abole and Owolabi, 2002) observed that an attitude is a mental or neutral state of readiness, organized through experience, exerting a directive or dynamic influence on the individual's response to all objects and situations to which it is related." He states further that attitudes are innate; they are learnt; they develop; they are

organized through experience. He also argues that attitudes are dynamic, modifiable, subject to change with motivational qualities.

Shannon (Olaoye, 2005) described attitude as a mental state that exerts influence on a person's response to people, objects and situations. Our attitudes therefore mean a set of complex collections of feelings, beliefs and expectations, regarding people, organizations and things we encounter. Attitude is a hypothetical construct that represents an individual's like or dislike for an item. Attitudes are positive, negative or neutral views of an object, a person, behaviour or event. People can also be "ambivalent" towards a target. This implies that they simultaneously possess a positive and a negative bias towards the attitude in question.

Attitudes are composed from various forms of judgments. Attitudes, according to Shannon (1994), developed on the ABC model (affect, behavioural change and cognition). He maintained that affective response is a physiological response that expresses an individual's preference for an entity. Also, the behavioural intention is a verbal indication of the intention of an individual, while the cognitive response is a cognitive evaluation of the entity to form an attitude. Most attitudes in individuals are a result of observational learning from their environment.

Attitude, in the opinion of Klausmeuer (Olaleye, 2003), influences how well students learn and behave. Therefore, attitude whether conceived as a process or a product of learning, has been found by some researchers to significantly influence students' performance in various subjects (Okwilagwe, 2002). The general contention from the researches so far conducted, according to Austin (1993), seems to suggest that favourable attitudes are important determinants of performance in various disciplines. In view of this, the researcher was inclined to study the attitudes of distance learners towards distance learning programme with respect to their academic performance.

Moreover, Wilson, Lindsey & Schooler, (2000) proposed a model for attitude called Dual Attitude Model. This model proposes that people can have "dual attitudes," which are different evaluations of the same attitude object (one is automatic, implicit attitude; other is explicit attitude). It further proposes that the attitude people endorse at any point in time depends on whether they have the capacity to retrieve the explicit attitude, and whether explicit overrides implicit. Attitudes can also have varied antecedents on the input side, and varied consequences on the output side. Attitude is not however, the response but the tendency or latent property of the person that gives rise to judgments and categorizations. Attitudes as "tendencies to evaluate" mean that there is an implicit or explicit response to an entity based on the "evaluative residue" of past experiences, beliefs or feelings that predisposes the person to a favourable or unfavourable response.

Wilson et al. (2000) also see attitudes as enduring or temporary constructions which implies that some attitudes are relatively enduring (formed early in life and carry through life; others are formed then changed; some formed but fade). They asserted that implicit attitudes are "evaluations that have an unknown origin (people are unaware of the basis of their evaluation), are activated automatically, and influence implicit responses (uncontrollable responses and ones that are not seen as an expression of attitude and therefore are not controlled)"

Attitudes and Academic Performance

Research results have established a strong correlation between attitude and performance (Fennema & Sherma, 1976; Okebukola & Jegede, 1986; Aghaduino, 1992; Price & Williams, 1998; Olaleye, 2003). In fact, the relationship between both attitude and performance is so strong to the extent that the two have reciprocal effect on each other. Neale (Olaleye, 2003: 165) pointed out that "… attitude and performance have a reciprocal effect in their relationship in that attitude affects performance and performance affects attitude".

Burstein (1992) in a comparative study of factors influencing students' academic performance, found that there was a direct link between students' attitudes and outcomes. He also found that 25% and 26% variation in students' attitude towards Mathematics were due to student gender, maternal expectation, expectations of the students' friends, and success attribution (belief about success in Mathematics) in England and Norway. Gibbons, Kimmel and O'Shea (1997) opined that students' attitudes about the value of learning science may be considered as both an input and outcome variable because their attitudes towards the subject can be related to educational achievement in ways that reinforce higher or lower performance. This means that those students who do well in a subject generally have more positive attitudes towards that subject and those who have more positive attitudes towards a subject tend to perform better in that subject.

Also, studies in Nigeria (Alao, 1988; Odunusi, 1994) examined six attitudinal dimensions and their effects on students' performance in sciences. The dimensions were:

(ii) attitude towards scientific inquiry,

(iii) normality of scientists,

(iv) enjoyment of science and science lessons,

(v) leisure interest in science and career interest in science.

The result of the study revealed that students have positive attitudes towards sciences, Mathematics inclusive. Odunusi (1994), in assessing the attitude of some science students towards modern orientation in science, found that students' attitude to science is negative while gender and class level of the students did not significantly influence students' attitude towards science. Obioha (1987) when describing Nigerian situation, opined that schools in Nigeria have come a long way from no science in schools to almost compulsory science programmes at all levels and yet the younger generation do not particularly want to study science. The reason for this view is not far-fetched. The social values in the country nowadays have diverted students' attention and interest from learning science to other goodies of life.

Onafowokan (1998) differed in her report of two separate studies carried out by Schunert (1991) and Einburg (1995) when she linked higher achievement in science to positive attitude on the part of the students.

A critical look into the above cited studies indicated that there are conflicting reportsconcerning the relationship between students' attitudes and academic achievement. It is against this background that the present study attempted in part, to establish the relationship, if any, between students' attitude towards distance learning and academic performance in some Nigerian Universities.

Theoretical Framework

This subsection examines in details, some theories that are relevant to the present study. The primary purpose of doing this is to build an appropriate background. The need to do this is not unconnected with the fact that for anyone to be able to function well in his/her field, such an individual needs to operate from the foundation level of theory which would put him through in all his/her dealings or activities. Without enough theories, researches will become difficult and activities engaged in any form of research will become haphazard. Hanzen (Ojokheta, 2000), stated that "to try to function without a theory is to try to function in chaos: for without planning events in some ways, it is impossible to function in a meaningful order".

The first attempts at the creation of theoretical approaches in the field of distance learning started in the 1950s (Keegan, 2000). As characteristically pointed out by Holmberg (1986), at the end of the 1980s, theoretical approaches provide the potential for hypotheses concerning:

(i) what one can expect from distance learning;

(ii) under what conditions and circumstances; and

(iii) through which practices and procedures (Simon, Schloser & Hanson,1999)

Keegan (2000) classified the developed theories in four groups. The first includes the theories of independence and autonomy, the second the theory of industrialization of teaching, the third the theories of interaction and communication and finally, the fourth aims at explaining distance learning through a combination of the theories of communication and the philosophy of education.

Although, various forms of distance education have existed since the 1840s and attempts at theoretical explanations of distance education have been undertaken for decades by leading scholars in the field, the need for a theory of distance education has been largely unfulfilled until recently. Holmberg (1988) stated that theoretical considerations give distance educators a touchstone against which decisions can be made with confidence. The need for theory in research work has been reiterated thus:

> *One consequence of such understanding and explanation will be that hypotheses can be developed and submitted to falsification attempts. This will lead to insights telling us what in distance education is to be expected under what conditions and circumstances, thus paving the way for corroborated practical methodological application.*
>
> (Holmberg, 1988. p. 3)

Keegan (1995) reaffirmed the continued need for a theory of distance education by stating that a firmly based theory of distance education is one that can provide the touchstone against which, financial, educational, and social decisions can be made with confidence. Theory would thus cease to be an ad hoc response to a set of conditions arising in crisis situations of problem-solving, characteristic of the field of education. In a general sense, theory is taken to mean a set of hypotheses logically related to one another for explaining and predicting occurrences. Commenting on the aim of the theoretician, it was stated that:

> *the aim of the theoretician is to find explanatory theories; that is to say, the theories which describe certain structural properties of the world, and which permit us to deduce, with the help of initial conditions, the effects to be explained.*
>
> (Holmberg, 1985.p. 5)

By theory, Melvin Marx (Ojokheta, 2000) meant any more or less formalized conceptualization of the relationship of variables, and generalized explanatory principles. According to English and English (Ojokheta, 2000), theory is a general principle, supported by considerable data, proposed as an explanation of group of phenomena. Holmberg (1995. 4) further defined theory as, "a systematic ordering of ideas about the phenomenon of a field of inquiry, and an over-arching logical structure of reasoned suppositions which can generate testable hypotheses." He suggested that distance education has been characterized by a trial and error approach, with little consideration given to a theoretical basis for decision-making, and that the theoretical underpinnings of distance education are fragile. Most efforts in this field have been practical or mechanical and have concentrated on the logistics of the enterprise. The theories of distance education, motivation and social cognitive served as the major theories for the present study.

Theories of Distance Education

The historians of distance education such as Rudolf Manfred Delling from Tubingen, asserted in 1966 that although institutionalized distance education had existed for about a hundred year, it was only during the previous few years that the practice of distance teaching commenced to rely on theory. Nevertheless, there was no systematic theory of distance education which might make it possible to classify practitioners' individual experiences in relation to their essence (Delling, 1966).

Delling (1966) further remarked that the first major theoretical work was developed in the 1950s. For instance, in 1959, the East German scholar, Joanes Riechert of Freiburg published a book *Schreiben, Lehren und Verstehen* (Write, Teach and Learn), and at about the same time from Sweden came an international description of the field *On the Methods of Teaching by Correspondence* by Borje Holmberg (1960). Some of the theories that have been postulated in the field of distance education include those of independence and autonomy, industrialization, interaction and communication. However, for the purpose of this study, the

theories of independence and autonomy were examined in relation to some of the variables used in the study.

Theories of Independence and Autonomy

The theories of independence and autonomy were propounded between late 1960s and early 1970s by Rudolf Manfred Delling, Charles A. Wedemeyer and Micheal G. Moore. The theory of independence, according to Delling (1966; 1968), emphasized the reduction of the roles of both the teachers and the educational organizations to a minimum and throw the whole responsibilities on the independence and autonomy of the learners. This is especially important because adults are normally the learners in distance education programmes.

The function of the educational institutions is to take over, upon the wish of the learners, everything they cannot yet do for themselves, with the tendency that the learners eventually become autonomous. The only function left for the educational institutions is to provide information, documentation, and library facilities. The relevance of this theory has to do with the inculcation of positive self concept and the development of good study habits by the learners. This is to avoid the abuse of that" independence".

Moore's (1973) contributions to a theory of distance education was based on the variables "autonomy" and "distance". The basis for learner autonomy as a necessary theoretical component of distance education was justified by Moore from his analysis of the separation between teacher and learner in education at a distance. He asks whether the concept of "distance" or "separation" or "apartness" is adequate to explain the gap between teacher and learner. His answer is NO. The existence of this gap means that the activities of teachers and learners will be influenced by it.

The learner therefore, is compelled to accept a comparatively high degree of responsibility for the conduct of the learning programme because he is alone. He also exercises a greater degree of control over his/her learning. By being autonomous therefore calls for effective self regulations skills on the parts of the learners. This becomes necessary

so as to be able to control and regulate their learning since they are the ones dictating the pace, and almost everything about their educational programme.

Theory of Motivation

Motivation is an important construct in human behaviour and learning. It has the etymological derivation from the Latin word "*Movere"* meaning "to move into action". Moving into action in terms of human learning, entails that there are certain things to be done to help the individual learner achieve his/her learning objectives. In fact, where learning is voluntary and individualized as is usually the case for adult learners, including distance learners, motivation is of great significance to them to be able to achieve effective learning in particular and academic performance in general (Ojokheta, 2000). Due to the importance of motivation in human learning, many motivation theories have been propounded to serve as guide to effective learning and better academic performance.

Theories of Performance Motivation

Performance motivation can be described as the desire or aspiration of an individual to strive for success in any task undertaken and the accomplishment of this brings a feeling of satisfaction and pride to that individual (Ojokheta, 2000). In a learning endeavour, performance motivation connotes that the learners strive to achieve success in his/her learning programme and the accomplishment of this makes him/her academically satisfied.

According to Mclelland et al. and Levine et al. (Ojokheta, 2000), performance motivation was perceived as an underlying personality characteristic, which involves a learner's predisposition to attain success in competition with an internalized standard of excellence. In a similar vein, Atkinson and Feather (1966), viewed it as an energizing condition that causes a person to internalize evaluation of his performance and then seek to meet some sets standard of excellence. Some of the theories that have been postulated on

performance motivation, examined in this study include expectancy-value theory, achievement goal theory and cognitive theory of achievement motivation.

.

- **Expectancy-Value Theory of Achievement Motivation**

The theoretical framework for conceptualizing student motivation is an adaptation of a general expectancy-value model of motivation (Eccles, 1983; Pintrich, 1988, 1989). This theory was propounded by Dewin (1938), Rotler (1954), Tolman (1955) and, Atkinson and Feather (1966). The major emphasis of the theory is that achievement motivation or the strength of the tendency to achieve is determined by three variables namely:

* motive to achieve success in any task undertaken (MS);
* the strength of expectancy that the performance of a task will be followed by success (PS); and
* the relative incentive value of success (IS).

That is, AM or TS = MS + PS + IS.

The model proposes that there are three motivational components that may be linked to the three different components of self-regulated learning: (a) an expectancy component, which includes students' beliefs about their ability to perform a task, (b) a value component, which includes students' goals and beliefs about the importance and interest of the task, and (c) an affective component, which includes students' emotional reactions to the task. The expectancy component of student motivation has been conceptualized in a variety of ways in the motivational literature (e.g., perceived competence, self-efficacy, attributional style, and control beliefs), but the basic construct involves students' beliefs that they are able to perform the task and that they are responsible for their own performance. In this sense, the expectancy component involves students' answers to the question, "Can I do this task?" Different aspects of the expectancy component have been linked to students' meta-cognition, their use of cognitive strategies, and their effort management.

In general, the research suggests that students who believe they are capable to engage in more meta-cognition, use more cognitive strategies, and are more likely to persist at a task than students who do not believe they can perform the task (Schunk, 1985; Fincham & Cain, 1986; Paris & Oka, 1986). The value component of student motivation involves students' goals for the task and their beliefs about the importance and interest of the task. Although this component has been conceptualized in a variety of ways (e.g., learning vs. performance goals, intrinsic vs. extrinsic orientation, task value, and intrinsic interest), this motivational component essentially concerns students' reasons for doing a task. In other words, what are students' individual answers to the question, "Why am I doing this task?" The research suggests that students with a motivational orientation involving goals of mastery, learning, and challenge, as well as beliefs that the task is interesting and important, will engage in more meta-cognitive activity, more cognitive strategy use, and more effective effort management (Dweck & Elliott, 1983; Eccles, 1983; Paris & Oka, 1986; Ames & Archer, 1988; Meece, Blumenfeld & Hoyle, 1988; Nolen,1988).

The third motivational component concerns students' affective or emotional reactions to the task. The important issue for students involves the question, "How do I feel about this task?" Again, there are a variety of affective reactions that might be relevant (e.g., anger, pride, guilt), but in a school learning context one of the most important seems to be test anxiety (Wigfield & Eccles, 1989). Test anxiety has been shown to be related to perceptions of competence (Nicholls, 1976) but it can be theoretically and empirically distinct. Research on test anxiety has been linked to students' metacognition, cognitive strategy use, and effort management (Benjamin, McKeachie, Lin & Holinger, 2001; Tobias, 2005; Culler & Holahan, 2008).

Although the other two motivational components generally show simple, positive, and linear relations with the components of self-regulated learning, the results for test anxiety are not as straightforward. For example, Benjamin et al. (1981) found that although high anxious

students seemed to be as effortful and persistent as low-anxious students, they appeared to be very ineffective and inefficient learners who often did not use appropriate cognitive strategies for achievement. On the other hand, other research suggests that high-anxious children are not persistent or avoid difficult tasks (Hill & Wigfield, 2004). Accordingly, test anxiety may be related to the three components of self-regulated learning in different ways.

Previous research suggests that the expectancy and value components will be positively related to the three self-regulated learning components, whereas the research on test anxiety does not suggest such simple relations. Accordingly, one purpose of this study was to examine and clarify the empirical relations between the motivational and self-regulated learning components. In addition, because very few prior studies have included all three motivational components in their designs, a second purpose involved examining the potential interactive relations of the three motivational components on self-regulated learning components.

Finally, the relationship among motivation, self-regulated learning, and student performance in classroom academic tasks were examined. The focus on classroom assessments of student performance reflects a concern for ecologically valid indicators of the actual academic work that students are asked to complete in junior high classrooms (Doyle, 1983). Most students spend a great deal of classroom time on seatwork assignments, quizzes, teacher-made tests, lab problems, essays, and reports rather than on standardized achievement tests (Stiggins & Bridgeford, 1985). These assignments may not be the most psychometrically sound assessments of student academic performance, but they are closely related to the realities of instruction and learning in most classrooms (Calfee, 1985). If we are to develop models of student motivation and self-regulated learning that are relevant to much of the academic work in classrooms, then it is important to examine student performance on these types of academic tasks (Doyle, 1983; Pintrich et al., 1986).

Accordingly, the third purpose will provide empirical data on how motivation and self-regulated learning components may operate independently or jointly to influence student academic performance in the classroom. The motive to achieve success is an internalized personal disposition of any individual engaging in any given task. It is an objective disposition of personality while the strength of expectancy is a subjective probability that a performance would be followed by success, and incentive value of success refers to the relative attractiveness of the degree of importance attached to success of any tasks undertaken by such individual.

It must be stressed that the incentive value of the attractiveness of success to the individual in any academic learning endeavour is always greater because of the many advantages such individual enjoys being educated. In other words, when one knows that one hopes to achieve success in a particularly activity, one would be much interested. Therefore, in any learning endeavour, it follows that for the student to achieve success in the learning activities, he or she must have the motive to achieve. Without this, there is no logical basis for him or her to engage in the learning task. This is followed by the learner's expectation that he or she would achieve success against all odds, in the learning programme. Thus, will be strengthened by the values attached to the accomplishment of the learning objectives.

- **Achievement Goal Theory**

An achievement goal has been defined as the purpose or reason for an individual's achievement pursuit in a particular situation (Barron & Harackiewicz, 2000). Social cognitive theories of goal setting (Nicholls, 1989; Locke, 1991; Ames, 1992; Elliot & Dweck, 1998) agree that individuals set or respond to goals with reference to their self perception ("How good am I at this?") values ("Is it important to me to achieve in this activity?") and social context ("What will significant others think of my performance in this activity?").

Formulating and orienting toward goals is an important dimension of the educational process because goals help to regulate human action, to define acceptable levels of performance and to promote achievement (Ford, 1987; Nicholls, 1989; Ames, 1992; Butler & Neuman, 1995; Austin & Vancouver, 1996; Elliot & Dwecjk, 1998). Bonney, Gross and Roark (1986) propose that a major task of school psychological personnel should be to facilitate students' effort to formulate developmental goals and take responsibility for attaining them.

Dweck and colleagues (Dweck & Elliot, 1983; Dweck & Leggett, 1988) have identified two important types of achievement goals; learning or mastery goals and performance goals. These two achievement goals and the associated behaviours influence problem-solving performance task involvement, and persistence after failure (Diebner & Dweck, 1978; Smiley & Dweck, 1994). In a normative model of goal orientation, mastery goals orientate students to a focus on learning and mastery of the content or task and have been related to a number of adaptive outcomes including higher levels of efficiency, task values, interest, positive affect, efforts and persistence, the sue of cognitive and meta cognitive, as well as better performance. In contrast, performance goals orientate students to a concern for their ability and performance relative to others and seem to focus the students on the goal of doing better than others or of avoiding looking incompetent or less able in comparison to others.

- **Cognitive Theory of Achievement Motivation**

In this theory, the major emphasis is on the role of cognitive processes in motivation. In other words, the theory emphasized that motivation is a function of the cognitive processes and what it leads to the foundation of certain expectations that determine the way and manner of individual behaviour. Therefore, the individual is motivated to act towards these expectations. In relating this theory to distance learning system, one could speculate that when

distance learners discover that certain Institutional assistance which could have made them more effective in learning is not adequately provided by the distance learning Institution, they develop unbalanced cognition of the learning situation. This will, thus affect their attitude to learning. The initial positive attitude they have towards their learning will, therefore, run counter to the behaviour they would exhibit towards the learning programme. The cumulative effect of this is that there would be a progressive decline in the rate of their academic performance.

Social Cognitive Theory

Miller and Dollard (1941) proposed a theory of social learning and imitation that rejected behaviorists' notions of associationism in favour of drive reduction principles. It was a theory of learning that however, failed to take into account the creation of novel responses or the processes of delayed and non-reinforced imitations. In 1963, Bandura and Walters wrote *Social Learning and Personality Development*, broadening the frontiers of social learning theory with the now familiar principles of observational learning and vicarious reinforcement. By the 1970s, however, Bandura was becoming aware that a key element was missing not only from the prevalent learning theories of the day but from his own social learning theory. In 1977, with the publication of "Self-efficacy: Toward a Unifying Theory of Behavioural Change," he identified the important piece of that missing element—self-beliefs.

Social cognitive theory (Bandura, 1986) has provided a theoretical basis for the development of a model of self-regulated learning in which personal, contextual and behavioral factors interact in such a way as to give students an opportunity to control their learning. Within this framework, Pintrich (1999) describes self-regulated learning as an active, constructive process whereby learners set goals for their learning plan actions and monitor, regulate and control their cognition, motivation and behaviour. These actions are guided and constrained both by their goals and the

contextual framework and can mediate the relationships between individuals and the context and their overall achievement (Zimmerman, 2000).

With the publication of *Social Foundations of Thought and Action: A Social Cognitive Theory*, Bandura (1986) advanced a view of human functioning that accords a central role to cognitive, vicarious, self-regulatory, and self-reflective processes in human adaptation and change. People are viewed as self-organizing, proactive, self-reflecting and self-regulating rather than as reactive organisms shaped and shepherded by environmental forces or driven by concealed inner impulses. From this theoretical perspective, human functioning is viewed as the product of a dynamic interplay of personal, behavioral, and environmental influences. For example, how people interpret the results of their own behavior informs and alters their environments and the personal factors they possess which, in turn, inform and alter subsequent behavior. This is the foundation of Bandura's (1986) conception of reciprocal determinism. The view that (a) personal factors in the form of cognition, affect, and biological events, (b) behavior, and (c) environmental influences create interactions that result in a *triadic reciprocality*.

Bandura altered the label of his theory from social learning to social "cognitive" both to distance it from prevalent social learning theories of the day and to emphasize that cognition plays a critical role in people's capability to construct reality, self-regulate, encode information, and perform behaviours.

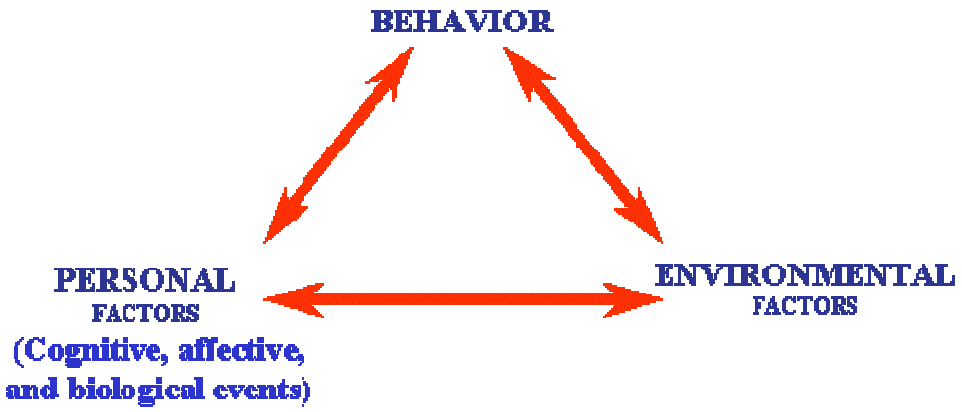

Fig. 2.4: Interrelationship among behaviour, personal and environmental factors
Source: Bandura (I986:205)

The reciprocal nature of the determinants of human functioning in social cognitive theory makes it possible for therapeutic and counseling efforts to be directed at personal, environmental, or behavioural factors. Strategies for increasing well-being can be aimed at improving emotional, cognitive, or motivational processes, increasing behavioural competencies, or altering the social conditions under which people live and work. In school, for example, teachers have the challenge of improving the academic learning and confidence of the students in their charge. Using social cognitive theory as a framework, teachers can work to improve their students' emotional states and to correct their faulty self-beliefs and habits of thinking (personal factors), improve their academic skills and self-regulatory practices (behaviour), and alter the school and classroom structures that may work to undermine student success (environmental factors).

Bandura's social cognitive theory stands in clear contrast to theories of human functioning that overemphasize the role that environmental factors play in the development of human behavior and learning. Behaviourist theories, for example, show scant interest in self-processes because theorists assume that human functioning is caused by external stimuli. The fact that inner processes are viewed as transmitting rather than causing behavior, they are dismissed as a redundant factor in the cause and effect process of behavior and unworthy of psychological inquiry. Bandura (1986) asserted that a psychology without introspection

cannot aspire to explain the complexities of human functioning. It is by looking into their own conscious mind that people make sense of their own psychological processes. To predict how human behavior is influenced by environmental outcomes, it is critical to understand how the individual cognitively processes and interprets those outcomes. More than a century ago,http://www.des.emory.edu/mfp/james.html Williams James (1890-1981: 185) argued that "introspective observation is what we have to rely on first and foremost and always". According to Bandura (1986. 15), "a theory that denies that thoughts can regulate actions does not lend itself readily to the explanation of complex human behavior".

Social cognitive theory is a theory that advanced a view of human functioning which accords a central role to cognitive, vicarious, self regulatory, and self reflective processes in human adaption and change. This theory argues that individuals have self regulatory mechanisms that provide the potentials for self directed changes in their behavior. The manner and degree to which people self regulate their own actions (learning) involves the accuracy and consistency of their self observation and monitoring as well as the evaluation of one's own self (self concept) that act as personal incentives to behave in self directed ways.

Of all the thoughts that affect human functioning, and standing at the very core of social cognitive theory, are self-efficacy beliefs. Bandura's (1997) key contention as regards the role of self-efficacy beliefs in human functioning is that "people's level motivation, affective states, and actions are based more on what they believe than on what is objectively true". For this reason, how people behave can often be better predicted by the beliefs they hold about their capabilities than by what they are actually capable of accomplishing, for these self-efficacy perceptions help in determining what individuals do with the knowledge and skills they have.

Social cognitive theory is the overarching theoretical framework of the self-efficacy construct (Bandura, 1986). Within this perspective, one's behaviour is constantly under reciprocal influence from cognitive (and other personal factors such as motivation) and

environmental influences. Bandura calls this three-way interaction of behaviour, cognitive factors, and environmental situations the "triadic reciprocality." Applied to an instructional design perspective, students' academic performances (behavioural factors) are influenced by how learners themselves are affected (cognitive factors) by instructional strategies (environmental factors), which in turn builds on itself in cyclical fashion.

The methods for changing students' percepts of efficacy, according to Bandura (1977, 1986), are categorically subsumed under four sources of efficacy information that interact with human nature: (1) enactive attainment, (2) vicarious experience, (3) persuasory information, and (4) physiological state. Social Cognitive Theory provides a framework for explaining how personalization and modeling are used to enhance the capabilities of human learning. Self-efficacy is a major construct of this theory.

Bandura (1977) sought to address the related question of what mediates knowledge and action beginning with his seminal work on self-efficacy. Bandura (1986, p. 391) defines the performance component of self-efficacy as people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances. It is not concerned with the strategies one has but with judgments of what one can do with whatever strategies one possesses. Students feel self-efficacious when they are able to picture themselves succeeding in challenging situations, which in turn determines their level of effort toward the task (Salomon, 1983, 1984; Paris & Byrnes, 1989). Bandura (1977, 1986) asserts that self-percepts of efficacy highly influence whether students believe they have the coping strategies to successfully deal with challenging situations. One's self-efficacy may also determine whether learners choose to engage themselves in a given activity and may determine the amount of effort learners invest in a given academic task, provided the source and requisite task is perceived as challenging (Salomon, 1983; 1984).

Several researchers have since investigated the relationship of self-efficacy to learning and academic achievement, but research in the area of academic performance is still developing (Lent, Brown, & Larkin, 1986; Multon, Brown & Lent, 1991; Schunk, 1994). One challenge to instructional technologists, therefore, is to investigate new methods of raising learners' levels of self-efficacy and academic performance through the use of appropriate technological innovations.

Social cognitive theory is rooted in a view of human agency in which individuals are agents proactively engaged in their own development and can make things happen by their actions. Key to this sense of agency is the fact that, among other personal factors, individuals possess self-beliefs that enable them to exercise a measure of control over their thoughts, feelings, and actions, that "what people think, believe, and feel affects how they behave" (Bandura, 1986. 25). Bandura provided a view of human behavior in which the beliefs that people have about themselves are critical elements in the exercise of control and personal agency. Thus, individuals are viewed both as products and producers of their own environments and of their social systems. Since human lives are not lived in isolation, Bandura expanded the conception of human agency to include collective agency. People work together on shared beliefs about their capabilities and common aspirations to better their lives. This conceptual extension makes the theory applicable to human adaptation and change in collectivistically-oriented societies as well as individualistically-oriented ones.

Appraisal of Literature Reviewed

The review of literature in the present study dealt with some of the suppositions by scholars and researchers on students' characteristics and their academic performance in open-distance learning programme. The review considered three major explanatory constructs that impact on distance learners' academic performance. These are socio-demographic, motivational and attitudinal characteristics respectively. The need for appraising the literature

reviewed so far is to highlight the extent of their relevance and importance to the present study.

On distance learners' social characteristics, the works of Woodley and Parlett (1983); Chacon-Duque (1985); Powell, et al (1990); Wang & Newlin (2002) and Ergul (2004) were found revealing. For instance, Powell, et al. (1990) studied the effects of student predisposing characteristics on student success. They established that marital status, gender and financial stability, contributed significantly to distance learners' academic performance. However, Chacon-Duque (1985) and Wang & Newlin (2002) had contrary findings. Ergul (2004), in his study on the relationship between students' characteristics and academic performance in distance education, also found that educational level, age, gender, employment status and number of children at home were not significant.

Findings for the age of the learner as a predictor of academic performance are inconsistent. Abdul-Rahman's (1994) and Parker's (1994) studies established that age is not a significant predictor of performance. Parker's (1994) non-significant results for age may have been due to the narrow differences between ages for the distance education completers and non-completers. Also, Whittington's (1997) finding moderately supports age as a factor in the completion of courses that lead to better performance. However, the study of Sheets (1995), argued that younger adults performed better than older adults.

Also, researches conducted on gender as a social construct, as expected, has diverse findings (Hills, 1980; Woodley & Parlett, 1983; Chacon-Dugue, 1985; Aghoghoroma, 1999; Aremu, 1999; Ogbebor, 1999; Wang & Newlin, 2002; Ergual, 2004). For instance, studies (Woodley & Parlett, 1983; Obioma, 1988; Powell, et al. 1990; Aremu, 1999; Bakare, 2000) established a significant relationship between gender and academic performance. However, studies like those of Chacon-Dugue (1985), Abdul-Rahman (1994), Parker (1994), Obodo (1996), Adesoji (1999), Lim (2000), Adeyemi and Osunde (2002), Wang and Newlin (2002), and Ergul (2004) reported insignificant correlations.

Studies that reported significant correlation between gender and academic performance revealed inconsistent outcomes, with some favoured males and other females. Among studies that favoured the males are those of Benbow and Stanley, 1980; Marshall and Smith, 1982; Osafehinti, 1986 and Aremu, 1999. According to Osafehinti (1986), gender differences, especially in Mathematics achievement, is "huge and remarkable", with boys showing superior ability to girls. Aremu (1999), while reporting gender factor in academic performance, found that male students performed better than females in academics.

As regards those studies that favoured the females, the works of Ezewu, 1980; Debboer, 1986; and Ajadi, 2001 are quite revealing. For instance, Ezewu (1980) compared the performance of boys and girls in the English Language and Mathematics in 10 classes of 10 secondary schools. He found that generally girls performed better in English Language than boys in all the 10 classes, but only 2 of the differences were statistically significant. The influence of gender on academic performance is generally inconclusive (Oxford et al. 1993; Ory, Bullock & Burnaska, 1997; Lim, 2001).

Employment factors had inconclusive results too. Some studies showed that employment issues like nature of occupation (Parker, 1994), full-time work experience (Sheets, 1995), and number of hours employed (Whittington, 1997) were related to performance. Also, Woodley and Parllet (1983) and Powell et al. (1990) found a significant relationship between the employment status of distance learners and their academic performance. However, the studies of Chacon-Dugue (1985), Wang & Newlin (2002) and Ergul (2004) established insignificant correlation. Similarly, Abdul-Rahman's (1994) finding showed that family income was not related to programme completion and performance. Also, Dutton et al. (2002) reported that student employment had a negative prediction on performance.

The need to study psychological variables was emphatically stressed by researchers (Sewart, Keegan, & Holmberg, 1983; Murphy, 1989; Suciat, 1990; Chan., Yum, Fan, Jegede, & Taplin, 1999; Ojokheta, 2000; Ergul, 2004). Psychological characteristics are very important in the literature of distance learning. This is because the concept of motivation, a psychological component, is one of the most important components of learning in any educational environment (Maehr, 1984). Studies on motivation and academic performance have diverse findings. Some review investigated the correlation between certain students' psychological characteristics and academic performance. For instance, positive relationship was established between self-efficacy and academic performance by some researchers (Pintrich & De Groot, 1990; Pajares & Miller, 1994; Lim, 2001; Wang & Newlin, 2002; Ergul, 2004).

Furthermore, Gottfried (1990) found positive correlations between motivation and performance. Specifically, she reported that young students with higher academic intrinsic motivation had higher performance. She also found that early intrinsic motivation correlates with later motivation and performance, and that later motivation is predictable from early performance. It was also reported that perceived academic competence was positively related to intrinsic motivation. This therefore appears that students who feel competent and self-determined in the school context develop an autonomous academic motivation which in turn, had a positive prediction on school performance (Fortier, Vallerand & Guay, 1995).

However, some studies have claimed little or no significant relationship between psychological variables and academic performance. A study conducted by Niebuhr (1995) examined the relationships between seven psychological variables and students' academic performance and specifically focused on individual motivation and its effects on academic performance. Findings showed that student's motivation had no significant relationship with academic performance. Another earlier study of Boggiano, Main & Katz (1991), regarding differences on gender in motivation found that the females were significantly more extrinsic

than males, thus, female students' performance was less associated with their interests than male students' academic performance (Shiefele, Krapp & Winteler, 1992). Also, Stipek & Ryan (1997) reported that few studies that have examined motivation in young children established that it is a weak predictor of academic performance.

In addition, studies such as Pintrich and De Groot (1990), Zimmerman, Bandura and Martinez-Pons, (1992), Pajares and Miller (1994) and Lim (2001) were conducted in distance learning system on the relationship between self-efficacy and distance learners' academic performance. For instance, Pintrich and De Groot (1990) reported that academic self-efficacy positively correlated with various outcome measures such as grades seatwork performance, scores on examinations, quizzes and quality of essays and reports. Also, Multon, Brown and Lent (Chemers, Hu & Garcia, 2001) found that self-efficacy was related to academic performance (r =. 38). Similarly, Pajares and Kranzler's (1995) study demonstrated that the direct effect of mathematics self-efficacy on Mathematics performance (β =. 349) was as strong as the effect of general mental ability (β =. 324).

In Nigeria, Odedele (2000) in her study on test anxiety and self-efficacy as correlates of academic performance among secondary school students reported that self-efficacy was significantly related to the academic performance of students. In the same vein, Adegbola (2001) maintained that self-efficacy contributed significantly to the senior secondary school students' scholastic performance. She stated further however that on sex or gender differentials, there was no significant difference in the self-efficacy of the respondents but there was a significant difference on age basis.

Summing up the literature on self-efficacy beliefs, it is evident that the construct plays a significant role in predicting academic performance. Pintrich and De Groot (1990) suggested that the improvement of students' self-efficacy beliefs leads to increased use of cognitive and metacognitive strategies and, thereby, higher academic performance. A review of the literature on self-regulation uncovered some theoretical and empirical studies (Pintrich

& Garcia, 1991; Schunk & Zimmerman, 1994; Garcia, 1995) proposed that students use their self-efficacy to fuel their motivational strategies. Pintrich and De Groot (1990) attested that increased levels of self-efficacy stimulate self-regulated learning. Meece (1994) suggested that self-regulated learners possess motivational attributes in their goal orientation that affect their learning experiences. For example, some students are intrinsically motivated to engage in academic activities, while others are extrinsically motivated to maintain their engagement.

However, few studies have explicitly linked the components of self-regulated learning to academic performance (Schunk, 1984; Pajares & Miller, 1994; Pajares & Kranzler, 1995; Pajares & Miller, 1995). Schunk (1984) conducted an experiment on 4th grade children and posited that students who adopt a learning goal experienced higher self-efficacy for skill improvement and engage in activities they believe enhance learning. Pajares and Kranzler (1995) studied high school students and found that self-efficacy had a significant direct impact on mathematics performance ($r = .349$, $p < .05$). In a similar study, Pajares and Miller (1994) found a significant direct correlation from self-efficacy to academic performance ($r = .349$, $p < .05$). In a later study, Pajares and Miller (1995) found a significant correlation between mathematics self-efficacy and problem-solving performance ($r = .69$, $p < .05$). Brackney and Karabenick (1995) and Malpass, et al. (1996) obtained very similar results to the previous studies.

Several researches have equally established diverse findings on the prediction of academic performance by self-regulation skills. For instance, while positive correlation was reported between self-regulation skills and academic performance by Pintrich and De Groot, (1990) as well as Zimmerman, Bandura and Martinez-Pons, (1990), Ergul (2004) established contrary finding. He reported insignificant correlation between self-regulation skills and academic performance. Akinboye (1974), Powell et al. (1990), and Olaleye (2003) also reported that study habits were found to have contributed significantly to students' academic

performance. In the same manner, Bryne (1984), Marsh (1992), and Olaleye (2003) established positive correlation between students' academic self-concept and performance.

Furthermore, researchers like Zimmerman and Martinez-Pons (1990), Pintrich and De Groot (1990), Joo et al. (2000) and Ergul (2004) have also researched into the relationship between self-regulation skills and academic performance in distance education and reported diverse findings. For instance, Zimmerman and Martinez-Pons (1990) and Joo et al. (2000) reported that gender differentials were noticed as regards self-regulation as they reported that self regulation characteristic becomes significant for females. They argued that female distance learners had more record than males in the use of self-regulation strategies. Research conducted by Blocher (1997) has shown that self-regulated students have a strong desire to learn and are goal directed.

The evidence presented in the above studies point towards the importance of self-regulation and as a predictor of academic performance not only in traditional face-to-face classrooms, but also in distance learning system. One area of study concerning self-regulation that has not yet been completely examined is that of its effects on students' performance and satisfaction of online courses, as well as course completion. This can be left for other studies.

Generally, the results of studies of Akinboye (1974), Bakare (1977), Powell et al. (1990), Abe (1995) and Uinomyang (1999) established a positive relationship between study habit and academic performance. These findings however, contradict that of Owolabi (1988) who reported no significant correlation between study habits and academic performance of secondary school students. He equally found no gender differences in male and female students' study habits in relation to their academic performance. In view of this contradiction, there is still the need to investigate the relationship between study habits of distance learners and their academic performance.

One of the important issues in distance education is understanding how students react to learning in a class where members are separated by time and space. Attitude toward learning is an important factor in eventual academic success. Research data on student attitudes toward distance learning can be grouped into four categories: attitude toward the technology, attitude toward distance education teaching methods, attitude toward student and teacher interaction, and attitude toward being a remote student. Research results have established a strong correlation between attitude and performance (Okebukola & Jegede, 1986; Fennema & Sherma, 1976; Aghaduino, 1992; Price & Williams, 1998; Olaleye, 2003). In fact, the relationship between both attitude and performance is so strong to the extent that the two have reciprocal effect on each other. Neale (Olaleye, 2003) pointed out that "…… attitude and performance have a reciprocal effect in their relationship in that attitude affects performance and performance affects attitude.

The need for students to have positive attitudinal dispositions towards their academic endeavours was also stressed by Okwilagwe (2002). To this end, Powell, et al (1990) found a negative correlation between students' attitude and academic performance while Kumar (1996; 2001) reported low but positive relationship. All the above and many more theoretical and empirical findings served as the backups to explaining students' characteristics as determinants of academic performance in open-distance learning system in Nigerian Universities. They all give more insights into the present study.

From the foregoing, it can be deduced that none of the researchers studied the joint contributions of distance learners' socio-psychological variables to their academic performance exhaustively. Whereas, researchers and theorists (Coldeway, 1982; 1986; Calvert, 1986; Garrison, 1987; Kumar, 1996; 2001) have stressed the need for a comprehensive approach, taking into account all the experiences of distance learners as well as the unique aspects of distance learning environment. In addition, it has also been observed that little research has been devoted to exploring factors that predict the academic

performance of distance learners (Cookson, 1989), while those that even exist concentrated largely on demographic correlates as a component in their studies (Biner, Bink, Hufman & Dean, 1995; Kumar, 2001). In fact, it appears that little or nothing seems to have been done on the disability status of distance learners as correlates of their academic performance in Nigeria. This study also contends that the battery of factors used to predict the students' academic performance in conventional system may be dissimilar in distance learning system.

Several studies have been carried out on academic performance especially on conventional students, but not much on distance learning students within the Nigerian educational system. The desire to break this ground so as to extend the frontier of knowledge in order to help improve the distance learners' academic performance necessitated and served as the motivating factor for undertaking the present piece of research so as to fill the existing important research gap.

Hypotheses

The following hypotheses were formulated and tested with t-test at 0.05 level of significance in the study.

1. **Hypothesis 1:** There is no significant gender difference in distance learners' academic performance in Nigerian Universities.
2. **Hypothesis 2:** There is no significant difference between abled and disabled distance learners' academic performance in Nigerian Universities.
3. **Hypothesis 3:** There is no significant difference between employed and unemployed distance learners' academic performance in Nigerian Universities.
4. **Hypothesis 4:** There is no significant difference between married and single. distance learners' academic performance in Nigerian Universities
5. **Hypothesis 5:** There is no significant difference between distance learners' academic performance in single and dual mode Nigerian Universities.

CHAPTER 3

RESEARCH METHOD

This chapter deals with the discussion of the methodology adopted in carrying out this study.

Research Design

The research design adopted for the study is descriptive survey which is of *"ex-post facto"* type. It was descriptive because the researcher collected data to describe the situation. It was also survey because the researcher moved from one Institution to the other during the course of research. The researcher could not manipulate any of the variables used in the study, hence, it was "*ex-post facto*".

Population

The target population for the study was made up of twenty one thousand, one hundred and fifty-one undergraduate distance learners in distance learning programmes in Nigeria Universities. This was as shown in Table 3.1

Table 3.1 Distance Teaching Institutions in Nigerian Universities.

S/N	Name of the Distance Teaching Institutions	Owner Universities	Government Ownership	Total No of Students
1	Distance Learning Centre.	University of Ibadan, Ibadan.	Federal Government	3, 840
2	Distance Learning Institute.	University of Lagos, Akoka.	Federal Government	5, 704
3	National Open University of Nigeria (S/W)	National Open University of Nigeria	Federal Government	7,405
4	Centre for Distance Learning & Continuing Education.	University of Abuja, Abuja.	Federal Government	4, 202
				21,151

Sample and Sampling Techniques

The researcher purposively selected the four Nigerian Universities operating distance learning programmes as approved by the National Universities Commission, the only regulatory body for University education in Nigeria. These Universities were the Universities of Ibadan, Ibadan; Abuja, Abuja; Lagos, Akoka and the National Open University of Nigeria (NOUN).

Five hundred and seventy-five participants were selected from each of the 4 Universities through purposive sampling technique. This gave a total of 2300 participants, which was 10.87% of the study population. The choice of purposive sampling technique was to enable the researcher select subjects of relevant interest to the study.

Instrumentation

Five instruments were used for data collection for the study. These instruments, which were designed by the researcher include:

Students' Attitude Towards Distance Learning Questionnaire (SATDLQ);

Distance Learners' Self Efficacy Scale (DLSES);

Distance Learners' Self Regulation Skills Scale (DLSRSS);

Distance Learners' Study Habits Inventory (DLSHI); and

Distance Learners' Self Concept Scale (DLSCS).

The researcher also used a self-designed distance learners' bio-data master sheet (DLBMS) to collect students' results from the Institutions' records officers. All the instruments were responded to by distance learners except the DLBMS.

Students' Attitude Towards Distance Learning Questionnaire (SATDLQ)

This instrument was designed to collect information on students' attitudes towards distance learning. It was divided into 2 sections- Section A and Section B. Section A contained items on students' socio-demographic background such as age, gender, employment status, marital status and disability status. It also contained columns for name of the Institutions, grade point average and matriculation number.

Section B consisted of 25 items on students' attitudinal dispositions towards distance learning. The items were drawn on a four-point Likert scale of Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD) and carried the weights of 4,3,2,1 respectively.

Distance Learners' Self-Efficacy Scale (DLSES)

This instrument was also developed by the researcher. It sought information on students' self-regulation skills in distance learning. It comprised of 1 section of 15 items drawn on a modified four-point Likert scale of Most Like Me (MLM), Like Me (LM), Least Like Me (LLM), and Not Like Me (NLM). It was scored with the weights of 4,3,2,1 respectively.

Distance Learners' Self Regulation Skills Scale (DLSRSS)

This instrument was developed to collect information on students' self-efficacy beliefs of distance learning. It made up of 1 section 20 items drawn on a modified four-point Likert scale of Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD) and carried the weights of 4,3,2,1 respectively.

Distance Learners' Study Habits Inventory (DLSHI)

This instrument was also developed by the researcher. It sought information on students' study habits in distance learning. It has 1 section of 20 items, which were drawn on a modified four-point Likert scale of Most Like Me (MLM), Like Me (LM), Least Like Me (LLM), and Not Like Me (NLM). It was scored with the weights of 4,3,2,1 respectively.

Distance Learners' Self Concept Scale (DLSCS)

This instrument was developed to collect information on students' self-efficacy beliefs of distance learning. It made up of 1 section of 15 items, drawn on a modified four-point Likert scale of Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD) and carried the weights of 4,3,2,1 respectively.

Distance Learners' Bio-Data Master Sheet (DLBMS)

This was another self-designed instrument to collect students' results from the Institutions' records officers. This was to measure students' academic performance. The grading system was as shown below:

Table 2: G.P.A Scoring System

S/N	G.P.A.	CLASSIFICATIONS	POINTS
1	4.50 – 5.00	First Class	5
2	3.50 – 4.49	Second Class Upper	4
3	2.50 – 3.49	Second Class Lower	3
4	1.50 – 2.49	Third Class	2
5	1.00 – 1.49	Pass	1

Validity of the Instruments

All the instruments listed above were personally designed by the researcher. They were later given to the supervisor, the internal/external examiner and some lecturers at the Institute of Education for contents, construct and face validity. This was to determine the

proper structuring, adequacy and contents validity of each of the items in each of the instruments and to ensure that all the instruments measured what they were expected to measure. All the items in all the instruments were retained after modifications based on the experts' suggestions.

Reliability of the Instruments

Furthermore, reliability was carried out using 300 undergraduate students, studying at the sandwich/part time programme of the University of Ado-Ekiti, Ekiti in affiliation with the Emmanuel Alayande College of Education, Oyo. These students were found appropriate for this purpose because they share similar characteristics with the distance learners. They were not included in the real study. Cronbach's coefficient was computed based on their responses. The alpha values obtained were 0.86, 0.75, 0.81, 0.68 and 0.76 for SATDLS, SSEBDLS, SSRDLS, SSHDLI and SSCDLS respectively.

Procedure for Data Collection

The researcher employed the services of four Research Assistants in each of the four Universities he had earlier contacted for the purpose during pre-field activities. The researcher first underwent training programme on questionnaire administration conducted by some experts in the Institute of Education, University of Ibadan, Ibadan. The researcher then organized a week orientation and training programme for his research assistants on how to go about administration of the questionnaires. All the questionnaires were administered on the students. A questionnaire was administered per week. This was to allow for effective administration and retrieval. Five weeks were used for data collection in aech of the Universities. The researcher was on ground in throughout those weeks for necessary assistance, guidance and correction where needed.

Eight and seventy-five copies of the questionnaires were sent out to each of the four Universities. This gave a total of 3500 questionnaires. Three thousand and fifty-five copies of the questionnaire were returned. This gave 87.3% rate of return However, 755 out of these questionnaires were not completely filled. The remaining 2300 copies used for the research work were found to be appropriately filled.

Procedure for Data Analysis

Data were analyzed through the confirmatory causal modeling involving two closely related multivariate analytical techniques namely multiple regression (backward or stepwise elimination procedure) and path analysis.

Multivariate Technique

The adoption of multivariate technique on the one hand, is based on the premise that it will enable the researcher to establish how different predictor variables act simultaneously with one another as well as with the dependent variable (Kerlinger & Pedhazur, 1973; Aghaduino, 1992). The technique also afforded the researcher an ample opportunity to study the pattern of causation among the eleven variables in the model as postulated by Pedhazur (1982). In all, 9 backward regression analyses were run through SPSS computer programme in order to arrive at the path coefficients, that is, beta weights, of the hypothesized model.

Multiple Regression Analysis

Multiple regression analysis was used to determine the joint and relative contributions of the 10 independent variables (x_1--------x_{10}) in predicting distance learners' academic performance (x_{11}). The criterion variable was therefore regressed on each of the 10 explanatory variables (x_1----------x_{10}). The regression equation is: $x_{11} = a + b_1x_1 + b_2x_2 + b_3x_3$

$+ b_4x_4 + b_5x_5 + b_6x_6 + b_7x_7 + b_8x_8 + b_9x_9 + b_{10}x_{10}$. Where $b_1 – b_{10}$ are the regression weights that represent the relative contributions of the independent variables (x_1----------x_{10}) to the prediction of the dependent variable (x_{11}). However, since correlation can only suggest co-variation, there was the need to ascertain the causal linkage or relationship among the variables. Hence, this demands that the researcher employed the use of path analysis technique.

Path Analysis

Path analysis technique was employed with a view to enabling the researcher to study the effects, both direct and indirect, of the independent variables (x_1------x_{10}) on the dependent variable (x_{11}). In addition, it enabled the researcher to select those variables that are potential determinants (causes) of the effects, and then, attempt to isolate the separate contributions to the effects made by each predictor variable or cause (Blalock, 1964).

The adoption of causal modeling however, required the researcher to:

i. build a hypothesized causal model that involved distance learners' variables on the basis of temporal order, research findings and theoretical ground (Duncan, 1966; Kerlinger & Pedhazur, 1973);

ii. identify the paths in the model through structural equations;

iii. trim the paths of the model on statistical significance and meaningfulness;

iv. validate the new model by reproducing the zero-order correlation matrix of the variables from a set of normal equations, using the beta weights in the new model.

The researcher then took into consideration, the following assumptions in his attempt to build the hypothesized recursive path model as highlighted by Kerlinger & Pedhazur (1973):

i There is a one-way causal flow in the system. That is, reciprocal causations between variables are ruled out;

ii The residuals are not correlated among themselves, and with the variable preceding them in the model;

iii Each of the endogenous or dependent variable is directly related to all the variables preceding it in the hypothesized causal sequence.

The confirmatory causal modeling technique involves the following processes:

i Selection of the variables that are postulated to be the causes of the effects;

ii Hypothesizing and selecting the 'correct' theoretical causal model that shows causal relationships among the study variables;

iii Constructing the structural equations associated with the arrow diagrams;

iv Identifying and trimming the path of the model using the criteria of significance ($P<0.05$) and meaningfulness($P<0.5$); and

v Validation (confirmation) of the more parsimonious model, resulting in a more parsimonious model.

In building the confirmatory causal model, Blalock (1964); Duncan (1966) and Bryant & Doran (1977), identified three fundamental principles for generating a hypothesized causal model and these principles which were applied in the selection of variables in this study are:

* **Temporal Order:** This principle stipulates that if a variable occurs in time before another one with which it is known or assumed to be causally related, the latter variable will be a function of the former, and not vice versa.

* **Research Findings:** Research can identify a causal order among a number of variables.

* **Theoretical Ground:** A particular causal order can be hypothesized by a researcher, who then goes ahead to test his theory.

Building the Hypothesized Causal Model

The researcher built the confirmatory causal model on the basis of the aforementioned principles for generating a hypothesized causal model namely temporal order, research findings and theoretical/logical ground.

Consider the linkages among variables Xi (i = 1, 2, 3, 4, 5)

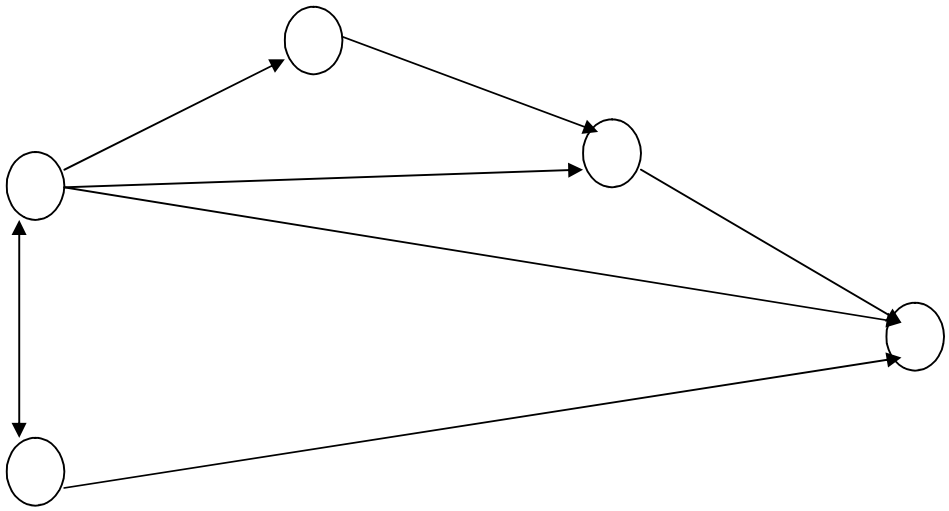

Figure 3.1: Hypothesized linkages among variables 1, 2, 3, 4, and 5.

It was hypothesized that age (X_1) and gender (X_2) are exogenous to other variables. These variables were related but could not cause each other. They could only cause any of the other eight variables in the model. They also existed on temporal order. For instance, someone's age and gender had been in existence ever before one could be conscious of one's employment status, marital status, self-concept and so on.

Age (X_1) was hypothesized to influence disability status (X_3) on theoretical ground and research findings. Researchers had shown that individuals with younger age identities reported lower levels of perceived disability. The older an individual is, the more likely such an individual to be disabled (Lapinsky, 2005; Boehmer, 2007).

Also, age (X_1) could cause employment status (X_3) both on temporal order and theoretical ground. The study contended that younger students are likely to remain unemployed for early part of the programme while older ones, for whom the programme is primarily designed, are likely to be employed. On temporal order and logical basis, age (X_1) could cause marital status (X_5). This is because younger students are likely to remain single for the early part of the programme while the older students are likely to be married, divorced or widowed. Gender (X_2) was hypothesized by the researcher to cause marital status (X_5) on temporal order and research findings. Researchers have reported that gender explains 10% variations in marital status among two-child families (Morgan & Polland, 2002; Dahl & Moretti, 2004). The researcher also argued that female students are likely to get married earlier than their male counterparts during the course of their programme.

Consider the linkages among variables Xi (i = 1, 2, 6, 7, and 8)

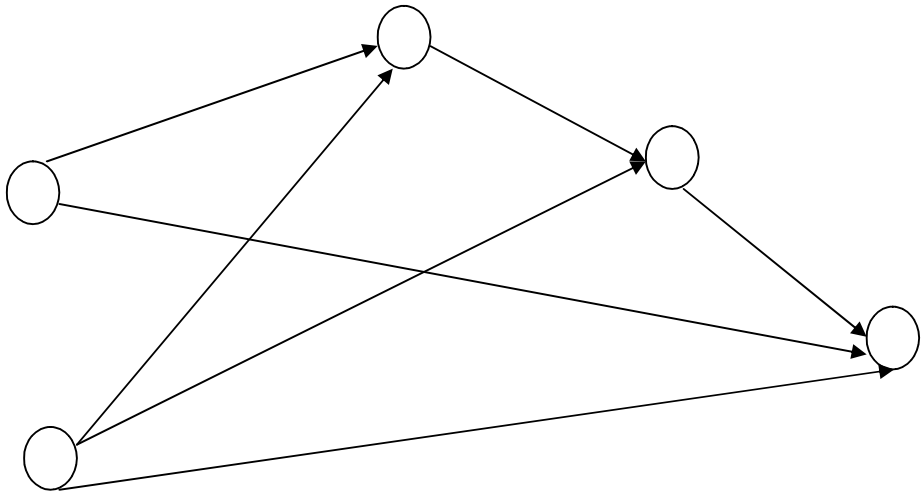

Figure 3.2: Hypothesized linkages among variables 1, 2, 6, 7 and 8.

Age (X_1) was hypothesized to cause self-efficacy (X_6) on research findings (Post-Kammer & Smith, 1985; Ergul, 2004) and theoretical grounds. The study also argued that it is expected of older matured students to be more self-efficacious than their younger less-matured students. Self-regulation was hypothesized to be caused by age (X_1) both on temporal

order and theoretical grounds. It was contended that older matured students were likely to exhibit good self-regulatory learning strategies than the younger matured students. Age (X_1) on temporal order and theoretical grounds, was hypothesized to cause study habits. This is because matured younger students who are expected to be self-regulated in their programme are likely to have good study habit.

Also, it was hypothesized that self-efficacy (X_6) could cause self-regulation (X_7) on research findings (Zimmerman & Martinez-Pons, 1990; Pintrich & Garcia, 1991; Ergul, 2004). This is due to the fact that students who felt more efficacious with respect to certain task/course were more likely to report using all types of cognitive strategies to succeed in pursuing the task. Self-regulation (X_7) in turn could cause study habits (X_8) on logical and theoretical grounds. This is because a self-regulated student, who usually controls his learning, tends to have good study habits.

Moreover, it was hypothesized that gender (X_2) has measurable causation on self-efficacy (X_6) on research findings (Betz & Hackett, 1981; Lent, Brown & Laskin, 1985; Post-Kammer & Smith, 1985. Researchers had established that female students have significant lower self-efficacy than male students especially in traditionally male-dominated courses. Still on research findings (Zimmerman & Martinez-Pons, 1990; Joo et al. 2000), gender (X_2) was hypothesized to cause self-regulation (X_7). Researches had also reported that gender (X_2) causes study habits (X_8). The male students were found to have good study habits than their female counterparts (Adedipe, 1986; Adesoji, 1999).

Consider variables Xi (i = 1, 4, 7, 9, 10, and 11)

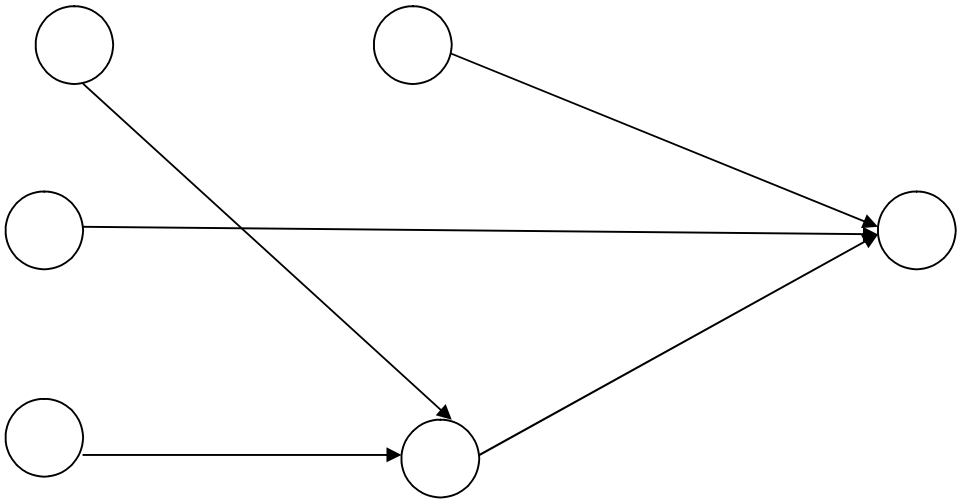

Figure 3.3: Hypothesized linkages among variables 1, 4, 7, 9, 10 and 11

Also, academic performance, on theoretical ground and research reports (Bloom, 1961; Woodley & Parlett, 1983; Ezeokoli, 1986; Arends, 1994) could be caused by age (X_1). It was further hypothesized that age (X_1) could cause student's attitude towards distance learning on logical basis and theoretical ground. This is because matured working learners who are self-sponsored were likely to have positive attitudinal dispositions towards a programme they voluntarily embarked upon. On logical basis and research findings (Crosswhite, 1972; Fennma, 1974; Chacko, 1981; Chidolue, 1986; Kumar, 2001), students' attitude in turn could cause academic performance. It is expected of a student to perform better in any task/course to which such a student is favourably disposed.

It was hypothesized that employment status (X_4) could cause students' attitude both on logical basis and research findings (Sahoo & Bhar, 1987). It is expected of an unemployed student to be unfavourably disposed to distance learning programme. In the same vein, self-concept could cause academic performance based on research findings (Rothman, 1969; Arends, 1994). Similarly, self-regulation (X_7) could cause student's attitude based on

theoretical and logical grounds. For instance, a student who possesses good self-regulatory learning strategies has the tendency of having positive attitudinal disposition towards distance learning programme.

Consider variables Xi (i = 2, 3, 5, 9, 10 and 11)

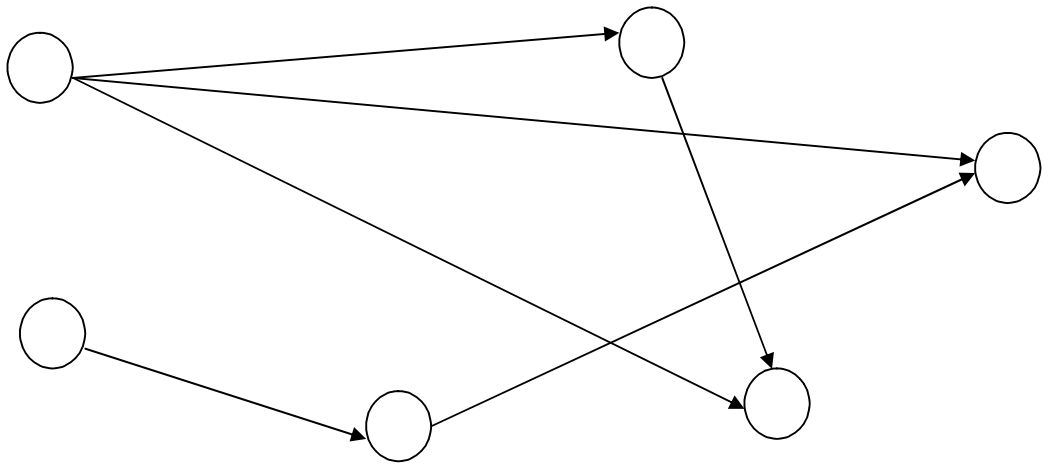

Figure 3.4: Hypothesized linkages among variables 2, 3, 5, 9, 10 and 11

Gender (X_2) could cause self-concept (X_9) both on theoretical ground and research findings (Zimmerman & Martinez-Pons, 1990; Meece, 1991; Wigfield, Eccles & Pintrich, 1996; Joo et al. 2000). Boys and men tend to be more confident than girls and women in academic-related endeavours. In the same vein, gender (X_2), on research findings (Broophy & Goods, 1974; Brouard, 1996; Berg, 2001) was hypothesized to cause students' attitude. Gender (X_2) could also cause academic performance based on research reports (Comber & Keeves, 1973; Woodley & Parlett, 1983; Ezeokoli, 1986; Powell et al. 1990; Arends, 1994). For instance, male teachers have been found to exert more positive effects on students' performance.

Similarly, disability status (X_3) could cause marital status (X_5) on logical basis. This is because a disabled student, either young or old, is likely to remain single for most part, if not all the period of his/her studentship. On research findings (Powell et al. 1990, marital status in turn could cause academic performance. From the literature and logical grounds, self-

concept could cause student's attitude towards distance learning. The study argued that student with positive self-concept was likely to have positive attitude towards such a student's academic works in the programme than somebody with negative self-concept.

Consider variable Xi (i = 3, 6, 8, 9, 10 and 11)

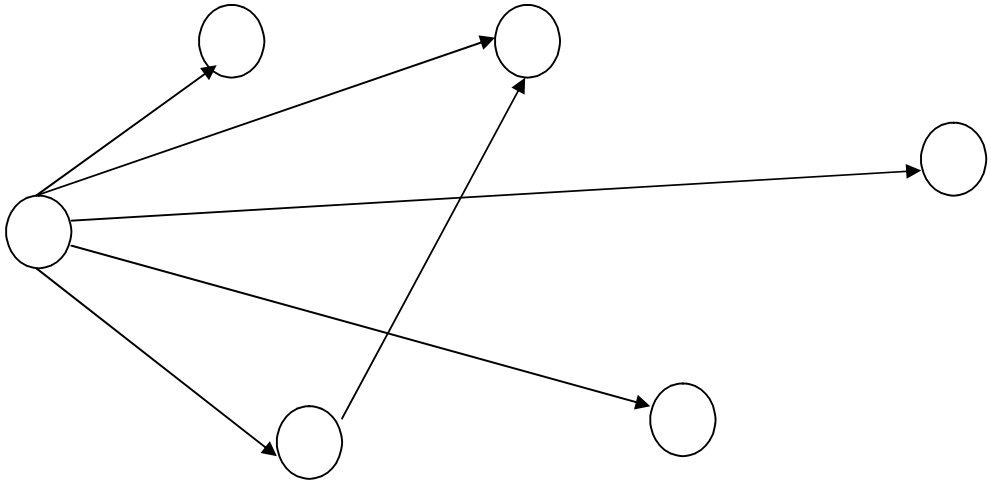

Figure 3.5: Hypothesized linkages among variables 3, 6, 8, 9, 10 and 11

Furthermore, disability status (X_3) on logical basis could cause self-concept (X_9). This is because a disabled student who is not adequately motivated in the programme is likely to have lower self concept than their able counterparts.

Also, it was hypothesized that disability status (X_3) could cause study habits on theoretical ground, temporal order and logical basis. The study contended that a disabled student who is not provided with all necessary learning materials may not be adequately motivated to study well. Similarly, disability status (X_3) on theoretical ground, temporal order, and logical basis influences student's attitude. A disabled student may have poor attitudinal dispositions to the programme due to such a student's disability status. In the same vein, academic performance was hypothesized to be caused by disability status (X_3) on logical basis and research findings (Oseni, 2006; Abilu, 2008). Researchers have reported significant relationships between disability status (X_3) and academic performance.

On research findings (Jennifer, Lofland, Cassisi, Poreh & Blonsky, 2005), disability status (X_3) could cause self-efficacy (X_6). Regression analyses indicated a significant negative relationship between disability and self-efficacy. For instance, disabled persons who reported higher levels of self-efficacy were found to have lower pain severity and behaviour as well as learning impairment. Furthermore, study habits were hypothesized to cause self-concept (X_9) on research findings (Okpala & Onocha, 1998). Study habits (X_8) are equally hypothesized to be influenced by self-efficacy on logical basis and research findings. The more self-efficacious a student is, the more likely to have good study habits.

Consider variables Xi (i = 4, 5, 7 and 8)

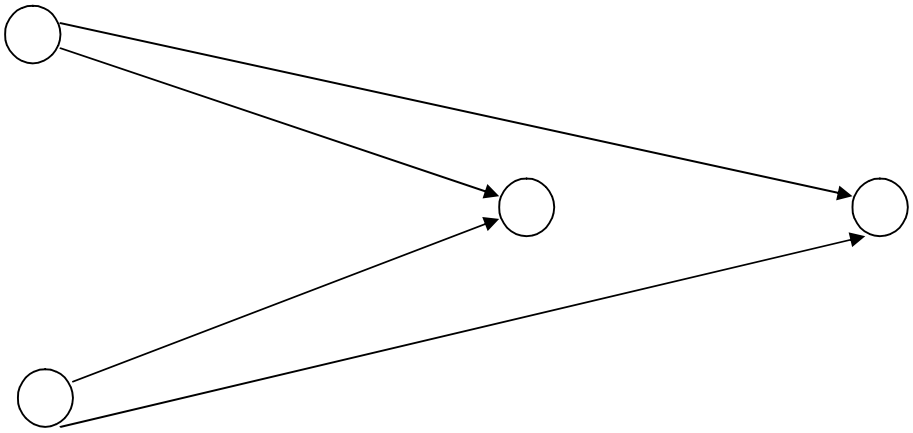

Figure 3.6: Hypothesized linkages among variables 4, 5, 7, and 8

Furthermore, the researcher hypothesized that employment status could cause Study habits (X_8) on research reports and theoretical ground (Kumar, 1996; 2001). An unemployed student might be busy searching for job, which would affect their concentration on academic work. In the same vein, an employed student might be too busy with office demands. This would affect their studies. Also, employment status influence self-regulation (X_7) on logical basis and theoretical ground. The study argued that the nature of work of an employed student goes a long way in determining whether or not such a student would be able to control

learning. Also, on logical basis and research finding (Kumar, 1996; 2001), marital status (X_5) was hypothesized to be caused by study habits (X_8). Male students were found to have good study habits than their female counterparts. Marital status (X_5) was hypothesized to cause self-regulation (X_7) on logical basis. This is because married students are likely to be faced with many demands that can affect their ability to control their learning than single students.

Consider variables Xi (i = 6, 7, 8, 9, and 11)

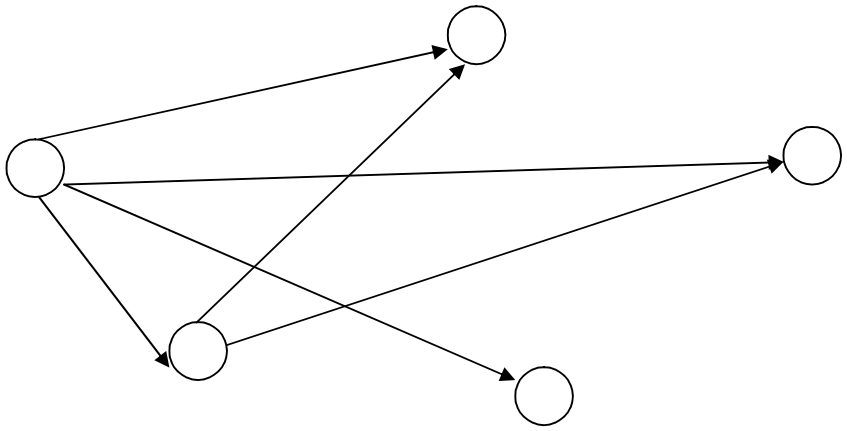

Figure 3.7: Hypothesized linkages among variables 6, 7, 8, 9, and 11

Also on theoretical ground and research findings, self-efficacy was hypothesized to cause self-concept (X_9). As reported on the relationship between self-efficacy and self-concept, it was argued that the more someone is self-efficacious, the more such a person to be more confident of oneself (Bandura, 1977: Schunk, 1991). Self-efficacy had been found to be caused by academic performance on research findings (Pintrich & De Groot, 1990; Pintrich & Miller, 1994; Joo et al., 2000; Lim, 2001; Ergul, 2004). Study habits (X_8) were also hypothesized to be caused by self-efficacy on logical and research findings (Pintrich & Miller, 1994; Pintrich & Miller, 1995; Pintrich & De Groot, 1996). The more self-efficacious a student is, the more likely to have good study habits.

Academic performance based on research reports was also hypothesized to be caused by self-regulation (X_7). This is because self-regulated students are usually more motivated to using planning, organizational and self-monitoring strategies than the low self-regulated students. In fact, researches (Pintrich & De Groot, 1990; Zimmerman & Martinez-Pons, 1990) had shown a statistically significant causation between self-regulation (X_7) and student's academic performance.

Consider variables Xi (i = 4, 8, 9, and 11)

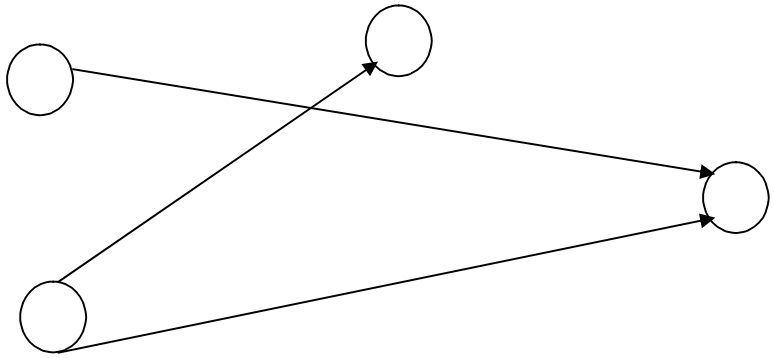

Figure 3.8: Hypothesized linkages among variables 4, 8, 9 and 11.

Academic performance was also hypothesized to be caused by employment status (X_4) on research findings (Woodley & Parlett, 1983; Dutton et al., 2002). Studies had shown that unemployed students in distance learning programme are usually preoccupied with the endless search for job. This might automatically affect their academic performance in the programme. Also, studies (Okpala & Onocha, 1998; Olaleye, 2003) reported that study habits could cause self-concept. Study habits (X_8) on research findings, theoretical ground and logic, could cause academic performance. In fact, researchers (Akinboye, 1974; Bakare, 1977; Olaleye, 2003; Oke & Oladejo, 2008) had established significant relationship between study habits and academic performance.

Identifying the Paths in the Model

The researcher employed the technique of path analysis theorem (Wolfle, 1977) and Wright's Law (Asher, 1977) to construct the resultant structural equations. Therefore, the effects of the 10 explanatory variables (X_1 ….X_{10}) were predicted on the criterion variable (X_{11}) using the structural equation below:

$X_{11} = \beta_1 X_1, \beta_2 X_2, \ldots\ldots\ldots \beta_{10} X_{10}$

Where:

X_{11} = Academic Performance

$X_1, X_2, \ldots\ldots X_{10}$ = Predictor Variables

$\beta_1, \beta_2, \ldots. \beta_{10}$ = Associated Beta Weights

In all, the researcher came up with a set of nine structural equations after exploring all the hypothetical linkages shown in the Input Path diagram of causal model of an eleven-variable system shown below.

$X_3 = P_{31}X_{1+} e_3$

$X_4 = P_{41}X_1 + P_{43}X_{3+} e_4$

$X_5 = P_{51}X_{1+} P_{52} X_2 + P_{53} X_{3+} P_{54} X_{4+} e_5$

$X_6 = P_{61} X_{1+} P_{62} X_2 + P_{63}X_{3+} e_6$

$X_7 = P_{71}X_{1+} P_{72} X_2 + P_{74} X_{4+} P_{75} X_5 + P_{76} X_{6+} e_7$

$X_8 = P_{81}X_1 + P_{82} X_{2+} P_{83} + X_3 + P_{84}X_{4+} P_{85} X_5 + P_{86} + X_6 + P_{87} X_{7+} e_8$

$X_9 = P_{92}X_2 + P_{93+}X_{3+} P_{96}X_6 + P_{98}X_{8+} e_9$

$X_{10} = P_{101}X_1 + P_{102}X_{2+} P_{103}X_3 + P_{104}X_4 + P_{107}X_7 + P_{109}X_{9+} e_{10\beta}$

$X_{11} = P_{111}X_1 + P_{112}X_2 + P_{113}X_3 + P_{114}X_4 + P_{115}X_5 P_{116}X_6 + P_{117}X_7 + P_{118}X_8 + P_{119}X_9 + P_{1110}X_{10+} e_{11}$

The implication of the above equation is that the criterion variable, that is, academic performance was predicted by all the 10 explanatory variables.

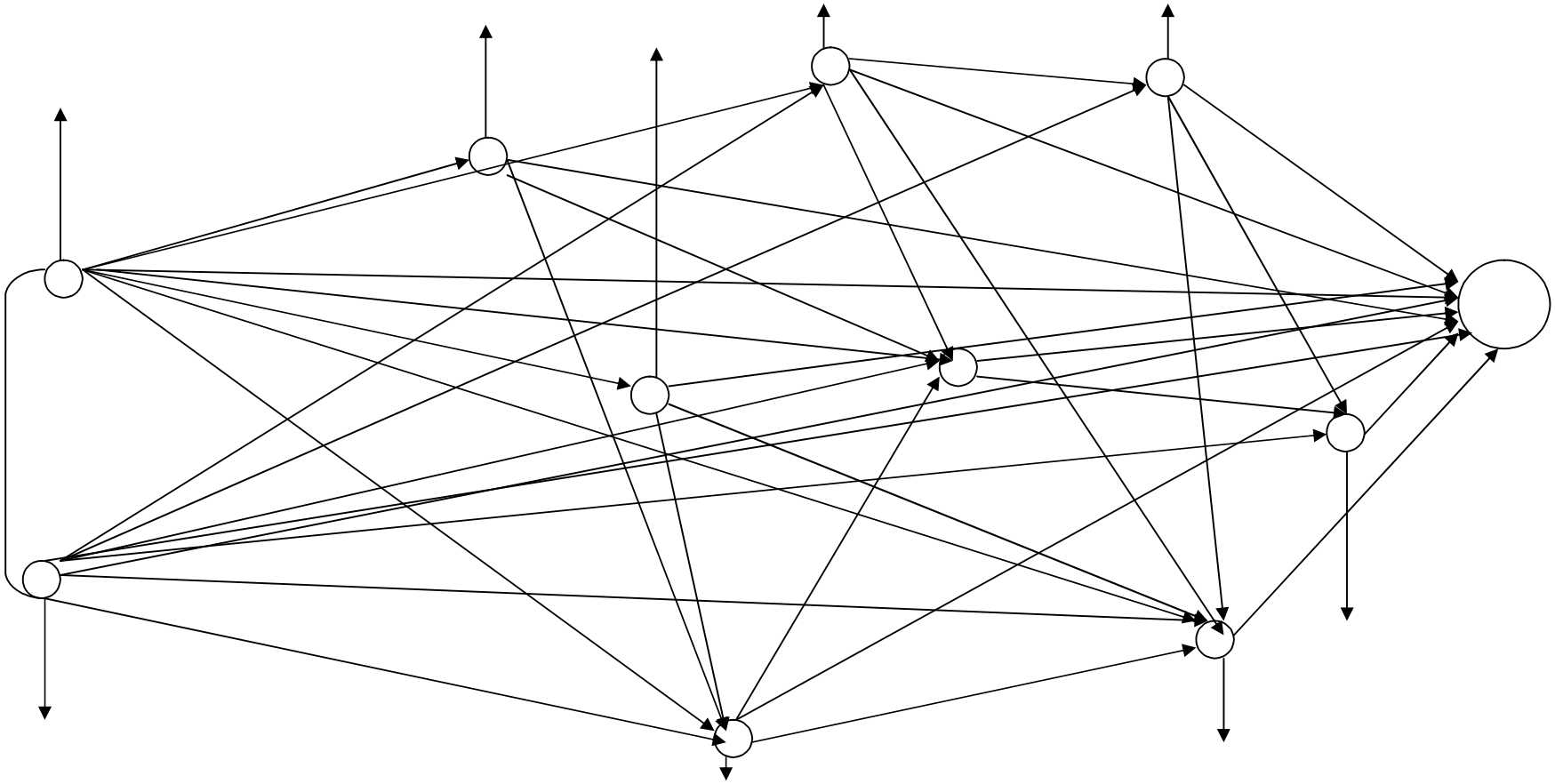

Fig.3.1 An Hypothesized Diagram of Causal Model of an Eleven Variable System

X1 = Age
X2 = Gender
X3 = Disability Status
X4 = Employment Status
X5 = Marital Status
X6 = Self-Efficacy
X7 = Self-Regulations
X8 = Study Habits
X9 = Self-Concept
X10 = Students' Attitudes
X11 = Academic Performance

CHAPTER 4

RESULTS AND DISCUSSION

This study provided a causal explanation of the academic performance distance learners in Nigerian Universities on the basis of the 10 socio-psychological characteristics. All the research questions raised and the hypotheses formulated to pilot this study were answered and tested in this chapter including the statistical results and findings.

Research Question 1

To what extent would the selected factors namely age, gender, disability status, employment status, marital status, self-efficacy, self-regulation skills, study habits, self-concept, students' attitude, when taken together, predict the academic performance of distance learners in Nigerian Universities?

Finding

To provide answer to this question, multiple regression analysis of academic performance of distance learners on the ten socio-psychological constructs was carried out. The total contribution of the ten explanatory variables to the prediction of the criterion variable is shown in Table 4.1.

Table 4.1 Summary of Regression of Students' Academic Performance on the Selected Factors

R	R Square	Adjusted R Square	Standard Error of the Estimate
.172	.030	.023	1.637

From Table 4.1.1, the 10 socio-psychological factors namely age, gender, disability status, employment status, marital status, self-efficacy, self-regulation skills, study habits, self-concept, students' attitude, have a joint multiple correlation which is positive with student's academic performance (R=.172). This implies that the 10 factors are quite relevant and important towards the determination of the academic performance of distance learners in Nigerian Universities. Furthermore, the table reveals that the 10 factors explained 3.0% of the total variance in the academic performance of students in the programme (R Square =.030). By implication, the remaining 97% is due to other factors (excluded in the present study) and residuals. The information provided in table 4.1 is represented in pie-chart

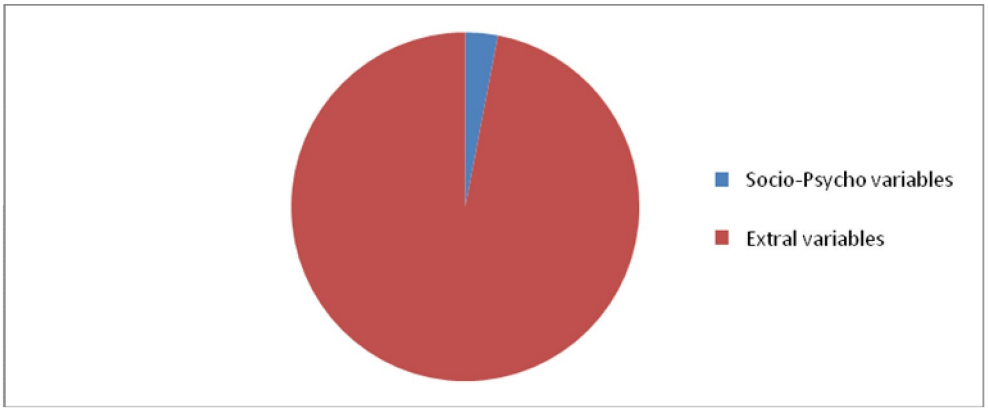

Fig. 4.1: The Extent of the socio-psychological variables taken together that accounted for distance learners' academic performance.

However, in order to determine whether or not, the R Square value of .030 obtained is significant, the analysis of variance (ANOVA) was performed. This is shown in the Table 4.2.

Table 4.2 Analysis of Variance of the Regression Analysis

Source of Variance	Sum of Squares	df	Mean Square	F	Significance
Regression	118.640	10	11.864	4.5556	**.000***
Residual	3877.391	1489	2.604		
Total	3996.032	1499			

*Significant at p<.05

Table 4.1.2 shows the R Square value obtained from the regression analysis is significant (F=4.556; p<.05). This means that the R Square value of .030 is not due to chance. Hence, it is taken as a serious extent of determination of students' academic performance by the ten selected factors.

Research Question 2

What are the relative contributions of each of the selected factors to the prediction of the academic performance of distance learners in Nigerian Universities?

Finding

The parameter estimate of the relative contributions of each of the selected variables to the prediction of the academic performance of distance learners in Nigerian Universities was shown in Table 4.3.

Table 4.3 Relative Contributions of the Ten Variables to Students' Academic Performance

S/N	Factors	B	Std. Error	Beta β	Rank	t-value	Sig.
	(Constant)	2.921	.515			5.668	.000
1.	Age	-.149	.034	.144	1st	-4.375	.000*
2.	Gender	-3.62E-02	.048	.019	8th	-.753	.452
3.	Disability Status	.301	.140	.056	4th	2.144	.032*
4.	Employment Status	6.743E-02	.106	.018	9th	.637	.524
5.	Marital Status	8.892E-02	.092	.031	6th	.969	.333
6.	Self- Efficacy	-9.04E-03	.006	.043	5th	-1.511	.131
7.	Self -Regulation	-1.38E-02	.006	.062	3rd	-2.148	.032*
8.	Study Habit	3.652E-03	.005	.022	7th	.692	.489
9.	Self –Concept	1.544E-04	.006	.001	10th	.024	.981
10.	Student's Attitude	1.131E-02	.005	.070	2nd	2.480	.013*

*Sig.(P<0.05)

Table 4.2 above reveals that the beta (β) weights of the paths (path coefficients) give the estimates of the strengths of the prediction. The entire socio-psychological variables were found to contribute differentially to the prediction of the academic performance of distance

learners in Nigerian universities. Specifically, age, disability status, self regulation and students' attitude contributed significantly to the observed variance in the criterion. The relative contribution of each variable showed that age made the highest contribution to students' academic performance (β=.144; p<.05), this is followed by student's attitude (β=.070; p<.05), while self regulation made the third in the magnitude of contribution to the dependent variable (β=.062; p<.05). Disability status was the next, making the fourth in the order of decreasing magnitude of the various contribution to academic performance (β=.056; p<.05).

The other factors also made varied contributions to the prediction of the academic performance of distance learners in Nigerian universities. Their contributions were however not significant. These are self efficacy (β=.043; P>.05), marital status (β=.031; p>.05), study habits (β=.022; p>.05) and gender (β=.019; p>.05) in that decreasing order. The last two factors with the lowest level of contributions were employment status (β=.018; p>.05) and self concept (β=.001; p>.05).

Research Question 3

What is the most meaningful causal model (involving students' socio-psychological characteristics) for the academic performance of distance learners in Nigerian Universities?

Finding

The hypothesized model shown in figure 3.1 is reproduced as figure 4.1 with the path coefficients and the zero-order correlation coefficients (in parenthesis). In trimming the paths in the model, paths are considered significant if the P value is less than 0.05 and meaningful if path coefficient is less than 0.5. Based on these criteria, the new path model is obtained as shown in figure 4.2. The figure shows that only 26 pathways survived the trimming exercise.

APPENDIX I

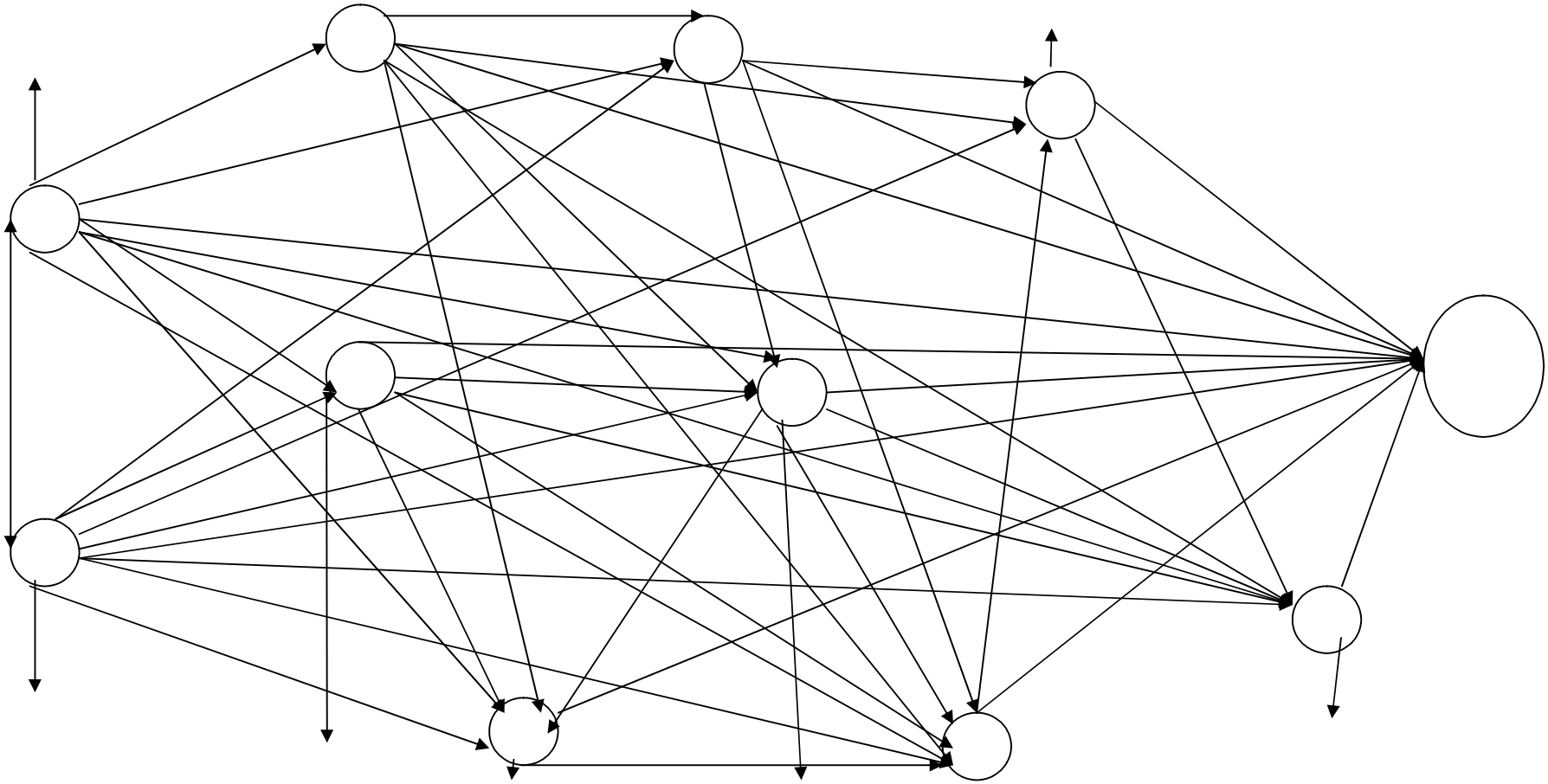

Fig.1 A Path Model of an Eleven Variable System with Path Coefficients and Zero order Correlations (in parenthesis).

X1 = Age
X2 = Gender
X3 = Disability Status
X4 = Employment Status
X5 = Marital Status
X6 = Self-Efficacy
X7 = Self-Regulations
X8 = Study Habits
X9 = Self-Concept
X10 = Students' Attitudes
X11 = Academic Performance

APPENDIX II

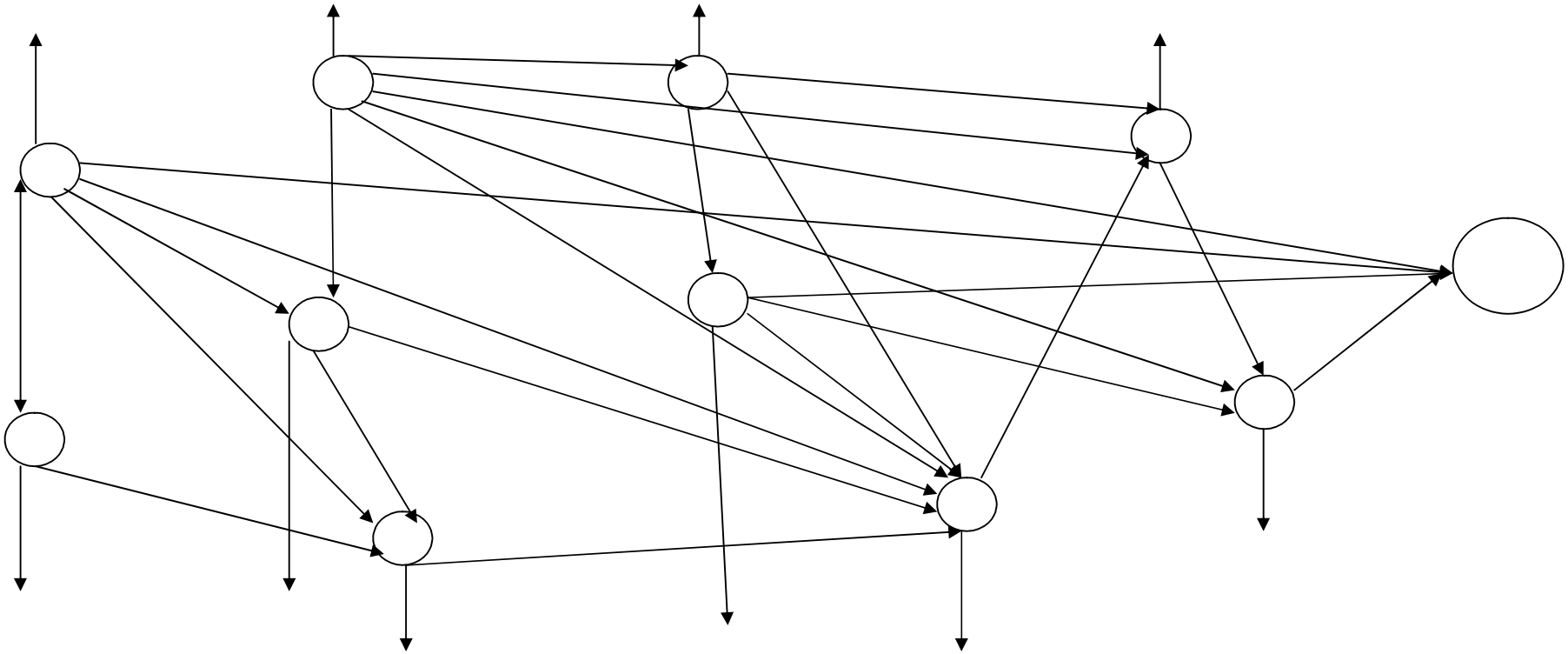

Fig.2 A New Model (More Parsimonious) of an Eleven Variable System

X1 = Age
X2 = Gender
X3 = Disability Status
X4 = Employment Status
X5 = Marital Status
X6 = Self-Efficacy
X7 = Self-Regulations
X8 = Study Habits
X9 = Self-Concept
X10 = Students' Attitudes
X11 = Academic Performance

Table 4.4 The Original and Reproduced Correlation Matrices for the Eleven Variables

Var.	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11
X1	**1.00**	.014	-.029	.409	.579	-.009	.025	-.002	.000	-.038	-.127
X2	.014	**1.00**	.000	.000	.074	-.007	-.009	-.051	-.022	-.036	-.017
X3	.000	.000	**1.00**	.058	-.025	.084	.000	-.090	-.102	.064	.056
X4	.381	.000	.008	**1.00**	.344	.000	.017	-.065	.000	.008	-.034
X5	.575	.071	.018	.014	**1.00**	.000	.006	-.025	.000	.000	-.047
X6	-.031	.039	.075	.000	.000	**1.00**	.379	-.285	.194	.000	-.039
X7	.010	.041	.000	.002	.012	-375	**1.00**	.319	.000	.229	-.055
X8	-.132	.062	.102	.071	.034	.307	.288	**1.00**	.505	.000	.025
X9	.000	.062	..139	.000	.000	.170	.000	.483	**1.00**	.304	.005
X10	.038	.046	.064	.002	.000	.000	.223	.000	.275	**1.00**	.063
X11	-.127	.017	.054	.062	.054	.039	.062	.025	-.023	.063	**1.00**

NOTE:

a. Entries above the diagonal are the original correlation coefficients

b. Entries below the diagonal are the reproduced correlation coefficients

Table 4.5 Discrepancies Between Original and Reproduced Correlation Coeff.

Correlation	Original	Reproduced	Differences
r12	.014	-.008	.006
r13	-.029	.000	.029
r14	.409	.381	.028
r15	.579	.575	.004
r16	-.009	-.031	.022
r17	.025	.010	.015
r18	-.102	-.132	.030
r110	-.038	.038	.000
r111	-.127	-.148	.021
r25	.074	.071	.003

r26	-.007	.039	.032
r27	-.009	-.041	.032
r28	-.051	.062	.011
r29	-.022	.062	.040
r210	-.036	.046	.010
r211	-.017	.017	.000
r34	.058	.008	.050
r35	-.025	.018	.007
r36	.084	.075	.009
r38	-.090	.102	.012
r39	-.102	.139	.037
r310	.064	-.064	.000
r311	.056	.054	.002
r45	.344	.074	.033
r47	.017	.002	.015
r48	-.065	-.071	.006
r410	.008	.002	.006
r411	-.034	.062	.028
r57	.006	.012	.018
r58	-.028	.034	.006
r511	-.047	.054	.007
r67	.379	.-375	.004
r68	-.285	.307	.022
r69	.194	.170	.024
r611	-.039	.039	.000
r78	.319	.288	.031
r710	.229	.223	.006
r711	-.055	.062	.009
r89	.505	.483	.022
r811	.025	.001	.024
r910	.304	.275	.029
r911	.005	-.023	.018
r1011	.063	.043	.020

To verify the efficacy of the new model shown in figure 4.3 the reproduced correlation coefficient (using the new path model), was compared to the original correlation coefficients. The original and the reproduced correlation coefficient matrices are shown in Table 4.4. The differences between the original and the reproduced correlations are considered very small (≤ 0.05). This implies that the pattern of correlation in the observed data is consistent with the new model. The model is therefore considered tenable in explaining the causal interaction between students' socio-psychological characteristics and academic performance of distance learners in Nigerian Universities.

Table 4.6 Significant Paths and their Path Coefficients (P<0.05)

S/N	Path	Path Coefficients
1	P_{111}	.144
2	P_{113}	.056
3	P_{117}	.062
4	P_{1110}	.070
5	P_{103}	.086
6	P_{107}	.158
7	P_{109}	.273
8	P_{93}	.065
9	P_{96}	.062
10	P_{98}	.481
11	P_{81}	.140
12	P_{83}	.111
13	P_{84}	.054
14	P_{85}	.091
15	P_{86}	.211
16	P_{87}	.247
17	P_{76}	.382
18	P_{63}	.085
19	P_{51}	.525
20	P_{52}	.061

21	P_{54}	.127
22	P_{41}	.411
23	P_{43}	.069

Research Question 4

What are the direct and the indirect effects of the independent variables on the academic performance of distance learners in Nigerian Universities?

Finding

Table 4.7 presents the direct and the indirect effects of the independent variables on the academic performance of distance learners in Nigerian Universities.

Table 4.7 Significant pathways through which Xi (1,2,3,4,5,6,7,8,9,10) caused variations in the dependent variable Y (11) (P<0.05)

Normal Equation	Direct	Indirect
1 = r111	P_{111}	**03:** P_{1110} P_{109} P_{98} P_{85} P_{54} $P_{41;}$ P_{1110} P_{109} P_{98} P_{84} $P_{41;}$ P_{1110} P_{109} P_{98} P_{81}
2 = r211	-	**01:** P_{1110} P_{109} P_{98} P_{85} $P_{52.}$
3 = r311	P_{113}	**08:** P_{1110} P_{109} P_{98} $P_{83;}$ P_{1110} P_{109} P_{98} P_{87} P_{76} $P_{63;}$ P_{1110} P_{109} P_{98} P_{86} $P_{63;}$ P_{1110} P_{109} P_{98} P_{85} P_{54} $P_{43;}$ P_{1110} P_{109} P_{98} P_{84} $P_{43;}$ P_{1110} $P_{103;}$ P_{1110} P_{109} $P_{93;}$ P_{1110} P_{109} P_{96} $P_{63.}$
4 = r411	-	**02:** P_{1110} P_{109} P_{98} P_{85} $P_{54;}$ P_{1110} P_{109} P_{98} P_{84}
5 = r511	-	**01:** P_{1110} P_{109} P_{98} P_{85}
6 = r611	-	**03:** $P_{1110}P_{109}P_{98}$ $P_{86;}$ P_{1110} P_{109} $P_{96;}$ P_{1110} P_{109} P_{98} P_{87} $P_{76;}$
7 = r711	P_{117}	**01:** P_{1110} $P_{107..}$
8 = r811	-	**01:** P_{1110} P_{109} $P_{98.}$
9 = r911	-	**01:** P_{1110} P_{109}
10=r1011	P_{1110}	-
Total	**04**	**22**

The paths in the model which exert both direct and indirect effects on students' academic performance in the Universities' distance learning programmes in Nigeria are significant and meaningful. There are 26 pathways through which all the 10 predictors Xi (1,2,3,4,5,6,7,8,9,10) caused variations in the dependent variable (Xj). Out of these pathways, only 4 are direct while 22 are indirect. The beta weights of these pathways, both direct and indirect, are also shown in Table 4.7.

Table 4.8 Significant Paths and their Path Coefficients ($p<0.05$)

S/N	Pathway	Nature of Path	Path Coefficients	Value
1	P_{111}	Direct		.144
2	P_{113}	Direct		.056
3	P_{117}	Direct		.062
4	P_{1110}	Direct		.070
5	P_{1110} P_{109} P_{98} P_{85} P_{54} P_{41}	Indirect	(.070 (.273)(.481) (.127) (.411)	.000
6	P_{1110} P_{109} P_{98} P_{84} P_{41}	Indirect	(.070) (.273) (.481) (.411)	.0037
7	P_{1110} P_{109} P_{98} P_{81}	Indirect	(.070) (.273) (.481)(.140)	.001
8	P_{1110} P_{109} P_{98} P_{85} P_{52}	Indirect	(.070) (.273) (.481)(.061)	.0005
9	P_{1110} P_{109} P_{98} P_{83}	Indirect	(.070) (.273) (.481) (.111)	.001
10	P_{1110} P_{109} P_{98} P_{87} P_{76} P_{63}	Indirect	(.070) (.273) (.481) (.241) (.382) (.085)	.000
11	P_{1110} P_{109} P_{98} P_{86} P_{63}	Indirect	(.070) (.273) (.481) (.211) (.085)	.00016
12	P_{1110} P_{109} P_{98} P_{85} P_{54} P_{43}	Indirect	(.070) (.273) (.481) (.091) (.127) (.069)	.000
13	P_{1110} P_{109} P_{98} P_{84} P_{43}	Indirect	(.070) (.273) (.481) (.054) (.069)	.000
14	P_{1110} P_{103}	Indirect	(.070) (.086)	.006
15	P_{1110} P_{109} P_{93}	Indirect	(.070) (.273)(.065)	.001
16	P_{1110} P_{109} P_{96} P_{63}	Indirect	(.070) (.273)(.062)(.085)	.000
17	P_{1110} P_{109} P_{98} P_{85} P_{54}	Indirect	(.070) (.273) (.481) (.127)	.001
18	P_{1110} P_{109} P_{98} P_{84}	Indirect	(.070) (.273) (.481) (.054)	.000
19	P_{1110} P_{109} P_{98} P_{85}	Indirect	(.070) (.273) (.481) (.091)	.0008
20	$P_{1110}P_{109}P_{98}$ P_{86}	Indirect	(.070) (.273) (.481) (.211)	.0019
21	P_{1110} P_{109} P_{96}	Indirect	(.070) (.273)(.062)	.0011

22	P_{1110} P_{109} P_{98} P_{87} P_{76}	Indirect	(.070) (.273) (.481) (.241) (.382)	.0008
23	P_{1110} P_{107} P_{76}	Indirect	(.070) (.158)(.382)	.004
24	P_{1110} P_{107}	Indirect	(.070) (.158)	.0110
25	P_{1110} P_{109} P_{98}	Indirect	(.070) (.273) (.481)	.009
26	P_{1110} P_{109}	Indirect	(.070) (.273)	.0191

Research Question 5

What proportions (in percentage) of the total effects are direct and indirect on the academic performance of distance learners in Nigerian Universities?

Finding

Table 4.9 shows the decomposition of the total effects of academic performance into direct and indirect effects according to Kerlinger and Pedhazur's (1973) principle.

Table 4.9 Proportion of Total Effects of the Predictors that are Direct and Indirect

Criterion	Predictors	TE	%	DE	%	IE	%	
Variable 11	Var.1-10	A	B	C	D	e	F	F
	1	.127	.814	.144	.923	-.017	-.109	27.13
	2	.017	.109	.019	.122	-.002	-.013	3.63
	3	.056	.359	.056	.359	.000	.000	11.97
	4	.034	.218	.018	.115	.016	.103	7.27
	5	.047	.301	.031	.199	.016	.103	10.03
	6	.039	.250	.043	.276	-.004	-.026	8.33
	7	.055	.353	.062	.397	-.007	-.045	11.77
	8	.025	.160	.022	.141	.003	.019	5.33
	9	.005	.032	.001	.006	.004	.026	1.07
	10	.063	.404	.070	.449	-.007	-.045	13.47
Total		**.468**	**3.0**	**.466**	**2.987**	**.002**	**.013**	**100**

NOTE:

b = a/ta X3

d = b/ta X 3

e = a – c

f = e/ta X 3

F = b/fb X 100

Total Effects = Original Correlation Coefficients / Zero Order

Direct Effects = Path Coefficients

Indirect Effects = Total Effects – Direct Effects

From Table 4.8, 2.98% of the total effect is direct, while .002% of the total effect is indirect. The table also reveals the relative proportion of each of the predictors. Age has the highest proportion (both direct and indirect) (27.13%). This lends credence to the earlier finding that age had the highest prediction on academic performance (β= .144; $p<.05$). This is

followed by students' attitude that has 13.47%, having also come second in the order of prediction in research question 2 (β=-070; p<.05). Students' disability status was next, making the third in the order of proportion of direct and indirect effects. It had 11.97% of the total direct and indirect effects. Self regulation had the next proportion of direct and indirect effects on academic performance with 11.77%.

The fifth predictor was marital status that had 10.03% proportion of direct and indirect effects. Coming sixth was self efficacy with 8.33% proportion of the direct and indirect effects. The seventh and eighth predictors were employment status and study habits that had 7.27% and 5.33% respectively. Gender and self concept were the ninth and tenth in the order of proportion of direct and indirect effects as they had 3.63% and 1.07% respectively.

The relative order of magnitude with regards to the proportion of direct and indirect effects therefore are age, students' attitude, disability status, self regulation, marital status, self efficacy, employment status, study habits, gender and self concept.

The proportions of the direct and the indirect effects of the selected variables on students' academic performance are also shown in pie chart as presented in figure 4.4.

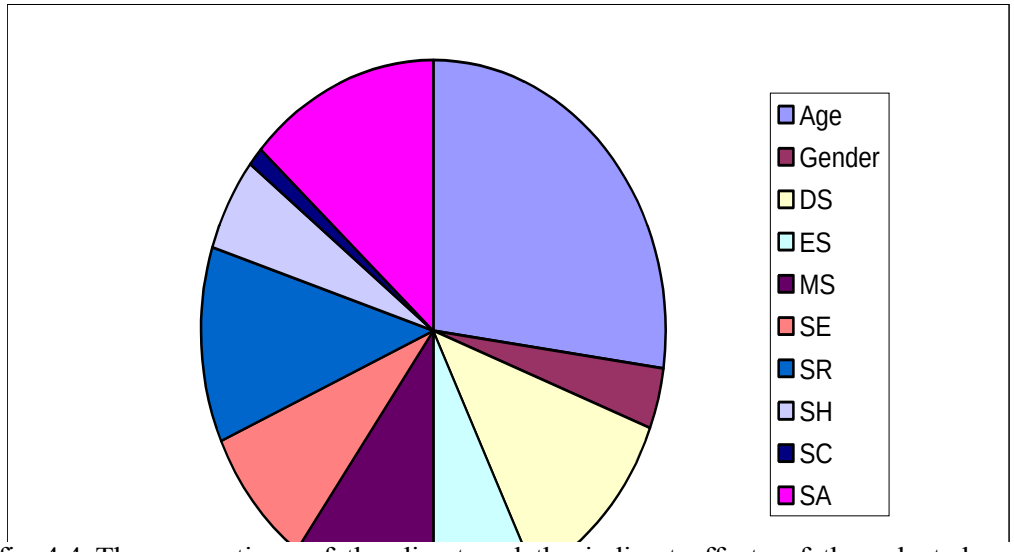

fig 4.4 The proportions of the direct and the indirect effects of the selected variables on students' academic performance.

Hypothesis 1

There is no significant gender difference in the academic performance of distance learners in Nigerian Universities.

Table 4.10 Comparison of Academic Performance of Distance Learners on Gender Basis

Variable	N	X	SD	df	t-value	Sig	Rmk	Decision
Female	1352	2.91	1.55	2298	0.339	.734	Not Sig	Do Not Reject
Male	948	2.95	1.64					

Not Significant at P> 0.05

Finding

Table 4.10 presents information on hypothesis 1 as measured by t-test to determine the significance or otherwise of the difference between the academic performances of male and female distance learners in Nigerian universities. The result shows a mean of 2.91 for female distance learners compared with a mean of 2.95 from male counterparts. This finding indicates that there was no gender difference in the distance learners' academic performance (t = .33, df =2298, P> 0.05). Hypothesis 1 is therefore retained.

Hypothesis 2

There is no significant difference between able and disabled distance learners' academic performance in Nigerian Universities.

Table 4.11 Comparison of Academic Performance of Able/Disabled Distance Learners

Variable	N	X	SD	df	t -value	Sig	Rmk	Decision
Disabled	85	2.63	1.56	2298	2.394	.017*	Sig	Reject
Able	2215	2.96	1.64					

*Significant at P< 0.05

Finding

From Table 4.11, it was revealed that there is a significant difference between the academic performances of able and disabled distance learners in Nigerian Universities (t =

2.39, df = 2298, P< 0.05). This is because disabled distance learners had a mean score of 2.63 which is less than 2.96 for the able distance learners, with the t value of 2.39. This was found to be significant at P< 0.05 level of significance. Thus, hypothesis 2 is therefore rejected.

Hypothesis 3

There is no significant difference between employed and unemployed distance learners' academic performance in Nigerian Universities.

Table 4.12 Comparison of Academic Performance of Employed/Unemployed Distance Learners

Variable	N	X	SD	Df	t value	Sig	Rmk	Decision
Employed	2016	2.89	1.62	2298	1.194	.233	Not Sig	Do Not Reject
Unemployed	284	3.01	1.64					

Not Significant at P> 0.05

Finding

Table 4.12 above provides information on the academic performance of employed and unemployed distance learners in Nigerian Universities. The employed distance learners had a mean score of 2.89 as compared with the 284 unemployed distance learners with a mean score of 3.01 at t-value of 1.19. There is no significant difference therefore between the academic performance of employed and unemployed distance learners in Nigerian Universities (t = 1.19, df =2298, P> 0.05). Hypothesis 3 is also retained.

Hypothesis 4

There is no significant difference between married and single distance learners' academic performance in Nigerian Universities.

Table 4.13 Comparison of Academic Performance of Married/Single Distance Learners

Variable	N	X	SD	Df	t value	Sig	Rmk	Decision
Married	1895	2.81	1.58	2298	2.317	.021*	Sig	Reject
Single	405	3.00	1.67					

*Significant at P< 0.05

Finding

From Table 4.13, the academic performances of married and single distance learners in Nigerian Universities were compared. The mean score of the married distance learners was 2.81 as compared with the 3.00 mean score of the single counterparts at t value of 2.32. This implies that significant difference existed between the academic performance of married and single distance learners in Nigerian Universities ($t = 2.32$, $df = 2298$, $P< 0.05$). Hypothesis 4 is therefore also rejected.

Hypothesis 5

There is no significant difference between the academic performance of distance learners in single and dual mode Nigerian Universities.

Table 4.14 Comparison of Academic Performance of Distance Learners in Single Mode/Dual Mode Universities

Variable	N	X	SD	Df	t value	Sig	Rmk	Decision
Single	575	2.77	1.61	2298	3.066	.002*	Sig	Reject
Dual	1725	3.03	1.63					

* Significant at $P< 0.05$

Finding

The academic performance of distance learners in a single mode and dual mode Universities is compared in table 4.14. It was shown that the distance learners in single mode University had a mean score of 2.77 as compared with that of their counterparts in dual mode University which was 3.03, with t-value of 3.07. This finding indicates that there was significant difference in the academic performance of distance learners in a single mode and dual mode University ($t = 3.07$, $df = 2298$, $P< 0.05$). The hypothesis is also rejected.

Summary of Findings

Findings from the present study revealed that the 10 socio-psychological factors, namely age, gender, disability status, employment status, marital status, self-efficacy, self-regulation skills, study habits, self-concept, students' attitude, when taken together, accounted for 3% of the variance in students' academic performance. This shows the importance of the selected explanatory variables to the criterion variable. This is consistent with some earlier researches which established significant relationships between some students' socio-psychological characteristics and academic performance in distance learning programmes. For instance, the present study is in agreement to some earlier studies such as those of Woodley and Parlett, (1983), Powell et al., (1990), Abdul-Rahman (1994), Parker (1994), and Sheets (1995) that reported positive correlation between students' socio-psychological variables and academic performance. Whereas, Chacon-Dugue (1985), Wang and Newlin (2002) and Ergul (2004) found that gender, educational level, age, marital status, and employment status were not significant.

On the relationship between psychological factors and academic performance, Gottfried (1990) and Fortier, Vallerand and Guay (1995) found positive correlations between psychological variables and academic performance. Specifically, they reported that young students with higher academic intrinsic motivation had significantly higher performance. They also found out that early intrinsic motivation correlates with later motivation and performance, and that later motivation is predictable from early performance. It was also reported that perceived academic competence was positively related to intrinsic motivation. This therefore appears that students, who feel competent and self-determined in the school context, develop an autonomous academic motivation which in turn, had a positive impact on school performance. Findings from this study however, contradicted the works of Boggiano, Main & Katz (1991), Niebuhr (1995) and Stipek and Ryan (1997) as these studies showed that student motivation had no significant effect on academic performance and that few

studies which have examined motivation in young children established that it is a weak predictor of academic performance.

Furthermore, findings from this study corroborated previous studies that established positive relationship between attitudes and academic performance. (Okebukola & Jegede, 1986; Fennema & Sherma, 1976; Aghaduino, 1992; Price & Williams, 1998; and Olaleye, 2003). In fact, the relationship between both attitude and performance is so strong to the extent that the two have reciprocal effect on each other. Neale (Olaleye, 2003) pointed out that "…… attitude and performance have a reciprocal effect in their relationship in that attitude affects performance and performance affects attitude.

Moreover, in terms of relative contributions of the selected factors to the criterion variable, findings from the present study indicated that age made the highest contribution to students' academic performance (β=.144; p<.05), closely followed by student's attitude (β=.070; p<.05), while self regulation made the third in the magnitude of contribution to the dependent variable (β=.062; p<.05). Disability status was the next, making the fourth in the order of decreasing magnitude of the various contribution to academic performance (β=.056; p<.05). In addition, age had the highest proportion of effects (both direct and indirect) (.127%) out of .468% of the total effect. This is not unconnected with the fact that age is one of the major considerations in distance learning since majority of students in the programme are usually adults for which the programme was primarily designed as noted by scholars (Ojokheta, 2000; Kumar, 2001).

In fact, Sheets (1995) and Whittington (1997) moderately supported age as a factor in the completion of courses that leads to better performance and that older ages were positively related to performance. Therefore, the present study has once again confirmed the importance of age in distance learning programme. Age is again closely followed by students' attitude that has 13.47%. Hence, students' attitude towards distance learning programme is equally important and this study agreed to some earlier studies like Fennema and Sherma, (1976), Okebukola and Jegede (1986), Aghaduino, (1992), Price and Williams, (1998) and Olaleye, (2003) that established a strong correlation between students' attitude and performance. The present study therefore underscored the need for positive attitude on the part of the students for them to succeed in the programme.

Another important factor that had significant contribution to academic performance is self regulation (β=.062; p<.05). This is not surprising because distance learning places more responsibilities on the shoulder of the students than the institutions. Ergul (2004) argued that for distance learners to be able to achieve, they need to control their learning and also regulate themselves. This finding therefore confirmed the results of the earlier studies such as Pintrich

and De Groot (1990) and Zimmerman and Martinez-Pons (1990) who reported positive correlation between self regulations and academic performance. It however, contradicted Ergul's (2004) finding established that there was no significant relationship between self regulation and academic performance. This is a surprise finding when compared with the finding of Ergul (2004), who had earlier asserted that self regulation is a vital student characteristic, required in distance learning. Ergul (2004) however argued that his subjects probably did not form the needed strategies that could have improved their learning, thus their academic performance was not sufficient (M=50.15%).

Disability status came fourth, thus, indicating that it is an important variable that should be seriously considered in distance learning programme. This finding therefore lends credence to Pamela's (2006) assertion that the academic performance of disabled distance learners has also been a source of concern to researchers in the field of distance education. In fact, age, student attitude, self regulation and disability status made significant contributions to the criterion variable in the present study.

The remaining factors also made varied contributions to students' academic performance in distance learning programmes in Nigerian Universities. Their contributions were however not significant. These were self efficacy (β=.043; P>.05), marital status (β=.031; p>.05), study habits (β=.022; p>.05) and gender (β=.019; p>.05) in that decreasing order. The last two factors with the lowest level of contributions were employment status (β=.018; p>.05) and self concept (β=.001; p>.05) respectively.

Based on the findings of the study, the 56 pathways hypothesized in figure 3.1 were reduced to 26 significant pathways in figure 4.2 derived from nine structural equations, which were used in explaining the causal model of the students' socio-psychological determinants of academic performance in distance learning programmes in Nigerian Universities. The efficacy of the new model was verified by producing the original matrix of the variables. The

verification of the model shows that the original correlation data were consistent with the new model. Hence, the new model was not rejected.

Furthermore, the present study indicated that of all the ten variables hypothesized to be directly or indirectly predicting students' academic performance in distance learning programmes in Nigerian Universities, only one factor (students' attitude) had direct prediction on academic performance, while the rest, that is, age, gender, disability status, employment status, marital, self efficacy, self-regulation, study habits and self concept predicted academic performance in distance learning programmes in Nigerian Universities both directly and indirectly.

Findings from the study however, confirmed the results of the work of Abe (1995) who had earlier reported that some of the selected variables like study habit and self concept have both direct and indirect prediction on academic performance. The present study however, contradicted those of Umoinyang (1999) and Olaleye (2003) respectively. For instance, the study of Olaleye (2003) indicated that study habit has only direct effect on female student' academic performance in Mathematics. Gender of the students has also been found in this study to be a good predictor of academic performance in line with previous works like those of Adedipe (1986), Oyesoji (1999) and Bakare, (2000) which established a significant relationship between gender and academic performance. However, some studies reported insignificant correlations between the two constructs (Chacon-Dugue, 1985; Abdul-Rahman, 1994; Parker, 1994; Obodo, 1996; Adesoji, 1999; Lim, 2000; Adeyemi & Osunde, 2002; Wang & Newlin, 2002, and Ergul, 2004). Finding from the present study therefore contradicted these studies.

In addition, employment status also had both direct and indirect prediction with academic performance in the present study. This finding agreed to some earlier studies which showed that employment issues like nature of occupation (Parker, 1994), full-time work experience (Sheets, 1995), and number of hours employed (Whittington, 1997) were related to

performance. Conversely, the studies of Chacon-Dugue (1985), Wang and Newlin (2002) and Ergul (2004) established insignificant correlation. Similarly, Abdul-Rahman's (1994) finding showed that family income was not related to programme completion and performance. Also, Dutton et al. (2002) reported that student employment had a negative impact on performance. Employment status is related to academic performance in the present study unlike some cited ones because in distance learning programmes, learners' employment status is critical to their success.

Marital status of the students also had both direct and indirect effects on academic performance. It is therefore related to academic performance in support of studies conducted by Woodley and Parllet (1993) and Powell et al. (1990) that found a significant relationship between marital status and academic performance of distance learners. This is however, contrary to those of Chacon-Dugue (1985), Wang and Newlin (2002) and Ergul (2004) which established a negative correlation between status of distance learners and their academic performance. Significant relationship between marital status and academic performance as reported in this study might not be unconnected with the fact that there are many young unmarried students in distance learning programmes nowadays. This status probably enabled them to have good academic standings.

The present study also established positive relationship between self efficacy and academic performance as reported by studies earlier cited. A meta-analysis of studies published between 1977 and 1988 revealed that self-efficacy beliefs were positively related to academic performance (Multon, Brown & Lent, 1991). Self-efficacy beliefs were related to academic outcomes (r=.38) and accounted for approximately 14% of the variance. This study also supported the works of Nigerians like those of Odedele (2000) and Adegbola (2001) which maintained that self-efficacy contributed significantly to the senior secondary school students' scholastic achievement.

Study habits are another important variable that exerted both direct and indirect effects on academic performance in this study. This finding corroborated those of Abe (1995), and Onafowokan and Okpala (1998) that established that study habits had both direct and indirect effects on academic performance in Social Studies and Integrated Science respectively. If students exhibit negative study habits such as lacking concentration, feeling tired, sleepy and bored while studying and so on, it is likely that such students may lack the impetus to engage in meaningful productive academic works.

Another factor of relevance and importance with both direct and indirect effects on academic performance is self concept. Self concept and academic performance are related to each other. This is in line with the study of Marsh, et al (1988) which also established that there existed a correlation of .55 between high school students' mathematics self-concept and their subsequent mathematics grade. However, unlike the present study, Marsh, et al.'s (1988) path analyses revealed only direct effects of self-concept on GPA (.60 to .66), while this study established that self concept exerted both direct and indirect effects on academic performance in distance learning programmes in Nigerian Universities. It therefore becomes very important that all stakeholders take into consideration, all the selected factors as they all either directly and/or indirectly influence students' academic performance in distance learning programmes in Nigerian Universities.

Furthermore, the finding from hypothesis 1 showed that there is no significant difference between the academic performances of male and female distance learners in Nigerian Universities, with male learners performed better than their female counterparts. This finding is in line with the previous findings like those of Carpenter (1981) and Leder (1990) that established no significant difference in students' academic performance on the basis of gender. The reason for the significant difference in distance learners' academic performance on gender basis that eventually favoured male might not be unconnected with the

fact that male distance learners are less occupied, especially after the close of work. Therefore, it is possible that they usually have more time to study than their female counterparts.

Finding from the present study totally disagreed with those of Benbow and Stanley (1980), Marshall and Smith (1982) Osafehinti, (1986) and Aremu, (1999) respectively. These studies did not only report significant difference in academic performance of students on gender basis, but also particularly favoured male as established by the present study. This finding is also in partial contrast with the studies of Ezewu (1980), Debboer (1986) and Ajadi (2001) as they reported that though gender had significant effect on students' academic performance, female students performed better than their male counterparts.

The result of hypothesis 2, which indicated that non-disabled distance learners performed better than the disabled colleagues lends credence to the work of Moisey (2004) that reported that students with disabilities usually recorded less success. The rationale behind the poor academic performance of disabled distance learners in Nigerian Universities is glaring. Adequate provisions are not made for this category of students. Special student support services, especially in terms of supportive staff like sign language interpreters, speech therapists, audiologists and the like were not made available for students with disabilities in Nigerian Universities. In fact, none of the universities used in the present study had provision for students on the wheel chairs when the structures of the lecture rooms and staff offices are considered. This made it difficult for these students to receive certain parts of their lectures well.

Finding from this study that showed no significant difference between the academic performances of employed and unemployed distance learners corroborates those of earlier studies like Chacon-Dugue (1985), Wang and Newlin (2002) and Ergul (2004) which established insignificant difference. The academic performances of the unemployed distance learners were found to be better than those of the employed students. However, the studies of Woodley and Parllet (1983) and Powell, et al (1990) that found a significant relationship

between the employment status of distance learners and their academic performance. contradict the present finding. The established finding in the present study might be due to the fact that both the employed and the unemployed distance learners equally had enough time to study. The employed distance learners are economically dependent and probably less occupied with office work, while the unemployed ones might had time to study.

Also, this study also reported significant difference in distance learners' academic performance based on marital status. It therefore contradicts studies conducted by Chacon-Dugue (1985), Wang and Newlin (2002) and Ergul (2004) established insignificant correlation between marital status of distance learners and their academic performance. This is however, in line with those of Woodley and Parllet (1993) and Powell et al. (1990) that found a significant relationship between marital status and academic performance of distance learners. The rationale behind this finding might not be unconnected with the fact that single distance learners are less occupied with home demands than the married ones who have children and spouses to take care of.

Finally, the present study established that there was significant difference in the academic performances of distance learners either in a single mode or dual mode University. This is in line with the work of Adeyemi and Osunde (2002) that reported significant difference in the academic performances of students in a single mode and dual mode Universities. It contradicts the study of Ajadi (2001). The reason that could be adduced for the present finding might probably be due to the fact that students in these two types of Universities were not exposed to the same type of teaching- learning environment. Students in distance learning programme might not be adequately supported with necessary facilities that could have enhanced their academic performance by the Institutions.

CHAPTER 5

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter presents the summary of the findings of this study. Conclusions were made based on the summary and appropriate recommendations and educational implications were equally suggested. Limitations to the study and suggestions for future research were also brought to the fore.

Summary

The study attempted to provide a better understanding of some socio-psychological characteristics of students' performance in distance learning programmes in Nigerian Universities. It also attempted to provide the basis for developing a more effective theory for teaching-learning activities in distance learning programme. From the analysis so far, the following summary was made:

A new path model involving the listed socio-psychological variables with 23 significant and meaningful pathways was produced. The pattern of original correlation was found to be consistent with the new model. It was found that nine out of the ten variables (age, gender, disability status, employment status, marital status, self efficacy, self regulation, study habits and self concept) hypothesized to be predicting students' academic performance in Universities' distance learning programmes had both direct and indirect effects; while one variable (students' attitude) had only a direct effect. Also, findings from this study revealed that all the students' socio-psychological constructs, when taken together, accounted for 3% of the variance in the academic performance of distance learners in Nigerian Universities. In addition, out of 3.00% of the total effects of the 10 selected predictors on students' academic performance, 2.987% was direct while .013% was indirect.

Furthermore, age had the highest total causal effect of 27.13% on the academic performance of distance learners in Nigerian Universities. This was followed by students' attitude with 13.47%; and then disability status with 11.97%. Self regulation got 11.77% to

come fourth in the proportion of total effects. Fifth was marital status that accounted for 10.03% of the total effects, while self efficacy was the next with 8.33%. The seventh in the order was employment status that recorded 7.27%; while study habits came eighth with 5.33%. The ninth and tenth in the order were gender and self concept with 3.63% and 1.07% respectively.

The study also revealed that there was no significant difference between the academic performances of male and female distance learners with male recording better academic performance than their female counterparts. The non-disabled distance learners were also found to have performed better than their disabled colleagues in open and distance learning programmes in Nigerian Universities. In the same vein, the unemployed distance learners recorded better academic performance than the employed ones, also there was significant difference in the academic performances of distance learners in the single mode and dual mode Universities.

Conclusion

All the 10 students' socio-psychological characteristics (age, gender, disability status, employment status, marital, self-efficacy, self-regulation, study habits and self concept) predicted the academic performance of distance learners in Nigerian Universities both directly and indirectly. Also, some variables were more important than others in determining the academic performance of distance learners in Nigerian Universities. For instance, age is the most important factor. It did not only make the highest prediction on students' academic performance, but also, the highest total effects. This is not unconnected with the fact that majority of students in the programme are usually adults for which the programme was primarily designed as noted by scholars (Ojokheta, 2000; Kumar, 2001).

Generalizability of Findings

Although, findings from the present study apply particularly to the distance learning institutions and the participants where the study was carried out, they can still be used to generalize for other institutions. This is because the study was conducted within the only approved four Universities to run open and distance learning, among which two are first generation Universities, whose standard and quality in the Nigerian University system appear to be among the best. In view of this fact, whatever results one gets from any study conducted among these Universities could be used as basis and point of reference fro other parts of the country.

Contributions to Knowledge

The essence of carrying out any research work is to extend the frontier of knowledge. The present study was therefore carried out with this same objective, especially in the field of distance education practice. It has contributed to the extension of the frontier of knowledge in the following ways:

- The study has shown the predictive power of the selected factors in the determination of the academic performance of distance learners.
- It has specifically underscored the importance of age as one of the major determinants of distance learners' academic performance. It therefore serves as a pointer, especially to the prospective students that whether one is old or young, one can still perform well in distance learning programme
- Furthermore, nothing appears to have been done on disabled distance learners in order to assist them in improving upon their academic performance. This study has therefore shown that disability status of distance learners needs to be considered in the planning and policy formulation of distance education programmes. Thus, the study indicated that when necessary facilities and supportive personnel are put in place, disabled

distance learners' academic performance could improve. The researcher therefore believes that authorities concerned need to be aware of these conclusions and be more supportive of disabled students.

- The need for effective promotion of self-regulation skill among the distance learners should be considered when planning distance learning programme.
- Also, the study has shown that distance learners' academic performance can improve when they have positive attitudes to the programme.
- Finally, the study has produced a new model, considered tenable in explaining causal interactions between the socio-psychological variables and academic performance of distance learners in Nigerian Universities.

Recommendations

Some recommendations were made towards the improvement of students' academic performance in the Nigerian Universities' distance learning programmes. These recommendations are based on the summary of findings and conclusions reached thereafter. The recommendations are:

* Students should pay serious attention to all the selected factors, most importantly those that have direct and significant effects namely age, students' attitudes towards distance learning, self-regulation skill and disability status on their academic performance.
* Participating academics/tutorial facilitators in the programmes should always encourage the formation of tutorial study groups that will encompass students of different ages for the sharing of ideas and knowledge. In addition, academics should always display positive attitudes to the students so that they too can have positive attitudinal dispositions towards the programme.
* Guidance Counselors, Study Centre Managers and other Administrative Staff should always focus on the development of positive image of students in the learning activities.

* Educational planners in the field of distance education need to study the new causal model and apply it as a model for future policy-making, planning and development as a way of improving students' academic performance in the programme.
* Institutional Administrators should always organize regular seminars and workshops for students through which information on the influence of the selected factors on their academic performance would be disseminated to them.
* Distance learning Institutions should provide adequate students' support services and facilities in order to develop in the students, positive attitudinal dispositions towards distance education in general and their courses of study in particular. Specifically, adequate provision should be made for special learning need students, who may be disadvantaged in the inclusive education system. Also, distance learning Institutions should tailor their self-instructional course materials in such a way that will promote students' academic self concept and inculcate good study habits, if quality performance is to be achieved. Furthermore, distance education Institutions need to devise a mechanism of keeping distance learners highly motivated until the completion of their programmes. Essentially therefore, keeping on the institutional agenda, the learning needs of the students and addressing them appropriately is hereby suggested.

Limitations to the Study

Certain factors served as limitations to this study. For instance, extraneous variables such as learning environment, mode of study, nature of employment of the participants and others that could influence the findings of the study were outside the scope of this study. Also, the study involved only a limited number of predictors presumed to influence academic performance. There are other variables such as the nature of work, distance between study centre and place of work, and the like, which could have interfered with this study. Furthermore, only 200 level students of the National Open University of Nigeria were used.

This was because the Institution did not have students in 300 level and above as at the time of data collection.

Suggestions for Further Research Studies

The limitations in this study are pointers to the fact that there is the need for further research studies. The scope of the work could be widened to incorporate such characteristics as students' socio-cultural cum economic background, and previous distance learning experience. In addition, motivational characteristics can be compared at the beginning and end of the programme and their relationships with academic performance examined. Their effects on students' satisfaction as well as course completion, that is, persistence, can also be researched into.

Furthermore, teachers' attitudes towards teaching in distance learning programme could be explored as this may cuase students' attitudes towards the programme and subsequently their academic performance.

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Appendix I

Letter of Introduction

Appendix II

SCHOOL OF EDUCATION
FEDERAL COLLEGE OF EDUCATION (SPECIAL),OYO
QUESTIONNAIRES ON PSYCHOLOGICAL VARIABLES PREDICTING ACADEMIC PERFORMANCE IN OPEN AND DISTANCE LEARNING

Dear Respondent,

All the attached questionnaires are basically meant to elicit information on students' socio-psychological variables that can predict their academic performance in open and distance learning programme. They are primarily for research purpose. All your responses will therefore, be treated with utmost confidentiality.
Your maximum cooperation is hereby solicited.

Thanks.

Institution: _____ Matric .No: _____GPA: _____

SECTION A DISTANCE LEARNERS' SOCIO-DEMOGRAPHIC BACKGROUND

Instruction: Kindly indicate your response by putting a tick **(√)** appropriately:

Age:

15-20 ☐
21-25 ☐
26-30 ☐
31-35 ☐
36-40 ☐
41-45 ☐
46-50 ☐
51+ ☐

Marital Status:

Single ☐
Married ☐

Employment Status:

Unemployed ☐
Employed ☐

Disability Status:

Disable ☐
Able ☐

Gender:

Male ☐
Female ☐

Nature of Disability:_____

SECTION B STUDENTS' ATTITUDE TOWARDS DISTANCE LEARNING QUESTIONNAIRE (ATDLQ).

Instruction: Kindly read through the following statements and rate accordingly. You are to tick (√) your response.

S/N	Statements	SA	A	D	SD
1	I am in distance learning programme just to keep me busy				
2	I opted for distance learning programme because it is easier to pass examinations in the programme.				
3	I do not usually absent myself from tutorial study group.				
4	I am in distance learning programme because it is the last hope of furthering my education.				
5	I think about distance learning programme only when we are approaching the contact periods.				
6	I enroll in distance learning programme on the advice of my colleagues.				
7	Studying in distance learning programme amounts to waste of one's time.				
8	I do not think that distance learning programme is fun, but I always try to do well				
9	I always have confident of passing whenever I write tests /examinations in distance learning programme.				
10	I would like to enroll in distance learning programme even up to postgraduate level.				
11	I choose distance learning programme because it offers personal convenience for studies.				
12	Access to various distance learning study materials makes the programme much easier for me.				
13	Distance learning course materials are too difficult for me to Understand.				
14	I opted for distance learning system so as to prevent further stay at home.				
15	I am in distance learning because it enables me to keep my job while studying.				
16	I enrolled in distance learning programme on the advice of my parents.				

17	No matter how well I prepared for examinations, I do not always do well at all.				
18	I am in distance learning programme to be able to upgrade myself at work.				
19	The presence of colleagues in tutorial group discussions makes distance learners happy.				
20	Studying in distance learning programme is very difficulty for me.				
21	I enrolled in distance learning programme on the advice of my spouse.				
22	I like distance learning programme so as to improve my social status.				
23	Distance learning involves too much reading.				
24	I am in distance learning programme to be able to meet with big people.				
25	Distance learning system is a place where I can develop my potentials to the fullest.				

Appendix III

DISTANCE LEARNERS' SELF-EFFICACY SCALE (DLSES).

Instruction: Kindly read through the following statements and rate accordingly. You are to tick (√) your responses

S/N	Statements	MLM	LM	LLM	NLM
1	I can do the tutorial questions asked at the end of chapters in my distance learning study materials.				
2	I can get good grades in distance learning tests/ examinations.				
3	I can learn at any place by mode of distance learning.				
4	I can partake and do well in tutorial study group in distance learning.				
5	I can cope with academic stress involved in distance learning.				
6	I can undertake the workloads in my distance learning				

	courses.				
7	I can achieve better in my academic works despite my home/family demands.				
8	I can still do better academically despite my religious activities /engagements.				
9	I can succeed in distance learning even with my tight office schedule.				
10	I can perform better in distance learning despite my numerous social engagements.				
11	I can understand topics in all distance learning courses.				
12	I can overcome the academic stress involved in distance learning.				
13	I can learn at any time by method of distance learning.				
14	I can learn in distance learning at least as better as in traditional regular system.				
15	I am strong enough to face serious academic works involve in distance learning.				
16	I can obtain good class honour at the end of my distance learning programme				
17	I can get acquainted with the personal developmental tasks required of me in distance learning programme.				
18	I can perform efficiently in my distance learning programme.				
19	I can perform effectively in my distance learning programme.				
20	I can still perform excellently well despite the nature of my disability.				

Appendix IV

DISTANCE LEARNERS' SELF-REGULATIONS SKILLS SCALE (DLSRSI)

Instruction: Kindly read through the following statements and rate accordingly. You are to tick (√) your responses.

S/N	Statements	SA	A	D	SD
1	I always ask myself questions so as to make sure I understand				

	the distance learning study materials I have been reading.				
2	I usually work on practice exercises and answer questions at the end of each chapter even though I do not have to do so.				
3	I work hard to receive good grades even though I do not like certain lesson of distance learning programme				
4	I have specific period of time to go through my distance learning course study materials even when the time may not be convenient.				
5	I do not usually set my goals towards knowledge development in my distance learning studies.				
6	I always endeavour to select appropriate learning strategies so as to achieve my academic goals				
7	I usually monitor my progress in goal achievement in distance learning programme.				
8	I always set balancing strategies in case of unwanted situation in my academic pursuit.				
9	I usually set goals towards knowledge development in distance learning programme.				
10	I always find time to search for information concerning my programme on the internet.				
11	I usually strive to get relevant course materials to read in the programme.				
12	I do not engage in other activities that will further promote my understanding of the study materials.				
13	I usually reduce my social activities to the advantage of my academic works during contact periods.				
14	I usually carry out personal assessment and evaluation of the study objectives.				
15	I maintain such systematic cognitions and behaviours necessary for me to attain my goals.				

Appendix V

DISTANCE LEARNERS' STUDY HABITS INVENTORY (DLSHI).

Instruction: Kindly read through the following statements and rate accordingly. You are to tick (√) your responses.

S/N	Statements	MLM	LM	LLM	NLM
1	I study only when examinations approach in open and distance learning programme.				
2	I found it very difficult to concentrate on any assignment in distance learning programme.				
3	My studies suffer due to time I usually waste on reading newspapers and watching television.				
4	I have a definite place of study for my course materials.				
5	While taking notes, I always write down things, which later turn out to be vital points.				
6	I do not have organized way of studying.				
7	I solve some problems as soon as possible after tutorial class discussions				
8	I usually approach colleagues and tutors whenever I could not solve some problems.				
9	I attach special attention to neatness, workings, notes and other written work.				
10	I understand my course materials better when I do group work.				
11	I always feel too tired, bored or sleepy whenever I sit down to read my course materials.				
12	I follow examples in the class to be able to solve some problems on my own.				
13	I always map out immediate goals to be achieved before embarking on studying.				
14	I make up for any missed lectures whenever I am absent from class.				
15	I do not bother to search for any other relevant materials besides those given to me at the study centr34				
16	The course materials are too difficult to understand.				

17	I do not study my course materials except during contact periods				
18	I study only when I get time.				
19	While studying I concentrate only on those areas I see as absolutely important and necessary for examinations purpose.				
20	I usually find time to study at school before I get home.				

Appendix VI

DISTANCE LEARNERS' SELF CONCEPT SCALE (DLSCS).

Instruction: Kindly read through the following statements and rate accordingly. You are to tick (√) your responses.

S/N	Statements	SA	A	D	SD
1	I am not confident about what other people think about my studying in distance learning system.				
2	I usually feel nervous because I fear I might fail in distance learning programme.				
3	I always like to participate in any tutorial group discussions.				
4	I like being myself when it comes to studying.				
5	My performance in distance learning programme is poor.				
6	I like to work hard in distance learning programme.				
7	I consistently do well in terms of academic achievement.				
8	I am always optimistic that I will perform well in distance learning programme.				
9	I am always thirst for more knowledge in distance learning programme.				
10	I always agree with my colleagues on all academic issues in distance learning programme.				
11	I do not always worried about any lectures I missed when I am absent from study centre.				
12	I am shy in seeking assistance at the study centre.				
13	I usually rely on colleagues' assistance during tests/ examinations.				
14	I cannot do well in distance learning system whatever method employed.				
15	I constantly feel academically insecure in distance learning programme.				