SURVEY OF BARRIERS AFFECTING THE USE OF INFORMATION COMMUNICATION TECHNOLOGIES (ICTS) AMONG DISTANCE LEARNERS: A Case Study of Nigeria

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ABSTRACT

The use of Information Communication Technology (ICT) to bridge the communication gap between teacher and learner has been identified as a major characteristic of Open and Distance Learning (ODL). In many developing counties, including Nigeria, several barriers prevent OD learners from maximising the potentials of ICTs to enhance their learning. This study seeks to identify these barriers and consequently, strategies to overcome them within the Nigerian context. Subjects of the research are OD learners in three selected distance learning institutions in Nigeria. Responses from administered questionnaires and interviews constitute the data, which were analysed using appropriate statistical instruments. The findings of this study which form part of an ongoing regional research on the use of ICTs by distance learners, show that

- **much of ODL instructional delivery is still primarily print based;**
- **there is some significant progress has been made especially with regard to encouraging the use of some non traditional ICTs through ODL; and**
- **although Nigeria has embarked on implementing computer literacy at all levels, the issue of affordability, bandwidth, and infrastructural facilities like constant electricity remain barriers.**

However, the data that most can afford mobile phones thus providing a unique opportunity to maximize them as support tools for learning.

Keywords: **ICTs, Open and distance learning, barriers, distance learners, information dissemination**

INTRODUCTION

The use of ICTs to bridge the communication gap between teacher and learner has been identified as one of the most significant features of Open and Distance Learning (ODL) delivery systems. The ICTs which are used for learning can be viewed as a continuum from low end to high end technologies and they include the following: radio, television, audio, video, telephone, computer, Internet, mobile telephony, videoconferencing, and teleconferencing.

The digital divide between many developing countries, Nigeria inclusive, and the rest of world constitutes the background to identifying the several barriers which prevent OD learners from maximizing the potentials of ICTs to enhance their learning.

The digital divide between developing and developed countries in the use of ICTs is evidenced by the statistics showing the number of Internet users in Africa at 3.4% compared with 41.2% for Asia, 24.6% for Europe, and 15.7% for North America. The rate of penetration also follows a similar trend as Africa has the lowest penetration rates of 5.6% compared with the highest at 74.4% in North America. In contrast however, Africa has the second highest growth rate in the number of users with 1,100% as shown in Table: 1

Table: 1
World Internet Usage and Population Statistics

World Regions	Population (2008 est.)	Internet Users Dec. 31,2000	Internet Users Latest Data	Penetration (opulation)	Users Growth 2000-2008	Users of Table
Africa	975,330,899	4,514,400	54,171,500	5.6 %	,100.0	3.4 %
Asia	3,780,819,792	114,304,000	657,170,816	17.4 %	474.9	41.2 %
Europe	803,903,540	105,096,093	393,373,398	48.9 %	274.3	24.6 %
Middle East	196,767,614	3,284,800	45,861,346	23.3 %	,296.2	2.9 %
North America	337,572,949	108,096,800	251,290,489	74.4 %	132.5	15.7 %
Latin America/Caribbean	581,249,892	18,068,919	173,619,140	29.9 %	860.9	10.9 %
Oceania /Australia	34,384,384	7,620,480	20,783,419	60.4 %	172.7	1.3 %
WORLD TOTAL	6,710,029,070	360,985,492	1,596,270,108	23.8 %	342.2	100.0 %

Source: Internet World Statistics (2008)

This study examines and identifies these barriers as well as strategies to overcome them within the Nigerian context. With a population of over 140,000,000, Nigeria is reported to have had about only 200,000 Internet users in 2000 but now currently has over 10,000,000 users.

In relation to the rest of Africa, Nigeria has the second largest number of Internet users (10,000,000) following Egypt (Internet World Statistics, 2008) and represents 18.5% of Internet users in Africa.

The phenomenal growth of Internet users over an eight year period illustrates the potential of ICTs in Nigeria. The story of growth in the use of other ICTs like mobile telephony is even more phenomenal. From less than 1,000,000 fixed and mobile lines in 1999 to 25,000,000 lines in circulation in 2006 since inception in 2001, and with a projected growth rate of 25% per annum, mobile telephony has the potential of not only for closing the developmental gap (2006:1), but also for providing access to learning for development in Nigeria. With teledensity ratios that stood at 1:165 at inception, present growth rates for 2007 are estimated at 1:10. There has also been appreciable growth in the spread and rural penetration of mobile telephony with 58% coverage of the population (World Bank 2006). This wide margin is not unrelated to the fact that it costs fives times more to access the Internet compared to the mobile phone. In a comprehensive report on mobile telephony in Nigeria (2006) this ICT tool has proven to be successful and sustainable among the rural Nigerian population.

However, according to the report, low levels of education and illiteracy reinforced by poverty are among the factors limiting access to ICT infrastructure in developing countries and especially among women (2006:24). Also, while the above shows an appreciable growth for Nigeria in comparison with Africa, the pace is relatively slow in comparison with the rest of the world. One of the major catalysts that have been identified in literature to address barriers to the use of ICTs is a national policy on ICT.

A National Information Technology (IT) policy was approved for Nigeria in 2001. The National Information Technology Development Agency (NITDA), and the Nigerian National ICT for Development (ICT4D) Strategic Action Plan committee were also established to drive the implementation of the policy. Encouraging the use of ICTs in education is one of the objectives of the policy. One of the key objectives of a ten- year plan for rejuvenating open and distance learning in Nigeria was to encourage technological literacy (Jegede, 2008). The digital divide remains a major threat to achieving mass education through ODL because ICTs increase access to learning as well as enable learning in formal and non-formal environments (Jegede, 2008; Khan, 2008). This study is a survey of how much has been achieved in encouraging the use of ICTs through ODL, and the barriers that militate against achieving this objective. It will also bring to the fore other 'non-traditional' barriers which are often not mentioned in literature on use of ICTs, particularly as it affects distance learning.

LITERATURE REVIEW

John Daniel (2006) highlights two main advantages that Africa has over industrialized countries in exploiting the use of ICTs for education and which also serve as opportunities to bridge the digital divide. They are "its ability to provide higher quality learning to increasing numbers at lower costs…" and "the habit of leapfrogging into new technologies". The actualization of these opportunities is however determined by the ability to overcome identified barriers. The amount of available information on barriers to the use of ICTs varies from country to country (COL 2000, COL 2002, Thorpe 2005, PHEA 2007).

In higher education where the use of ICT is currently being introduced, the problems are similar across the continent. ICT infrastructure is still being developed in Africa but has also experienced significant growth over the last decade. In East Africa, higher education institutions in Kenya and Tanzania for example, are introducing distance learning programmes to meet the increased need for access and lifelong learning. Distance education is being offered by Open University of Tanzania, and by the African Virtual University from its Kenyan headquarters. However, the use of ICT to facilitate learning is restricted by various problems including weak ICT infrastructure particularly in rural areas, availability of electricity, computer illiteracy, access to computers outside university campuses, and high capital costs of implementing elearning programmes (PHEA 2007).

South Africa has a similar experience with the rest of Africa with regard to the need for increased access which is one of the main reasons distance education remains an attractive option. At the same time and in contrast to the rest of the continent, South Africa has had a relatively longer history in the use of distance education and in varying degrees across institutions, the use of ICTs in higher education.

Even though ICTs have been an integral part of South African's higher education for longer than in other African countries, the literature suggests that access cannot be provided through the use of ICTs in the same ways as is done in developed countries (PHEA 2007, 109).

The challenges include adequate deployment of infrastructure, skills and access. Even so, South Africa is ahead of the rest of Africa in the types of ICTs it is currently

exploring such as open source software, m-learning resources. Research on the use of ICTs in distance education in the Nigerian context is relatively new and limited for the simple reason that ICT in distance education in the country is a relatively recent phenomenon. In three separate workshops organized by COL on the use of ICTs in Commonwealth countries, Nigeria did not feature as one of the countries (2000, 2002, 2003). A brief country report is provided below as a background for the present study.

BRIEF COUNTRY REPORT

Nigeria, the most populous country in Africa, is located in West Africa between two francophone countries, Benin and Cameroon. Nigeria has a population of 140,003,542 (2006); 51.2% are male and 48.8% are female. The population is distributed between rural and urban as 51.7% and 48.3% respectively while 42.3% are under the age of 15. 68% of the population is literate with higher rates for males 75.7% than for females 60.6%.

The government provides free education at the primary level. Secondary school attendance rate is only 29% (32% for males and 27% for females). Starting with only five universities in 1948, the number of tertiary institutions has multiplied significantly to over 100 higher education institutions. However, the proliferation has not resolved the problem of access as less than 20% of eligible candidates gain placements into these institutions yearly. Gross primary, secondary and tertiary enrollment is 56% of the population (World Bank, 2006). Distance education in Nigeria dates back to early 1960s when it was in the form of correspondence education. Today, there are a number of dual mode institutions that includes the Distance Learning Institute (DLI) of the University of Lagos. Although the institute started with producing its course materials in print format, it currently runs face to face lectures for its students for specified periods in the year. Others are Centre for Distance Learning and Continuing Education (CDLCE) of the University of Abuja; Distance Learning Centre (DLC) of University of Ibadan; and Distance Learning Centre of the Obafemi Awolowo University. The National Teachers' Institute (NTI) is a single mode institution which was established to provide training and upgrading for primary and secondary school teachers. The institute produces course materials in print format and plans to broadcast them via the radio as well.

The National Open University of Nigeria (NOUN), which was established in 2002 to resolve the problem of access to higher education in the country, is the only single mode distance education tertiary institution in West Africa. Although its course materials have print as the basic format, they are also being produced in other digital format including CDs, web based, and audio formats.

Key aspects of its operations have been digitalized such as admissions, registration, and information dissemination. The university also plans to digitalize the administration of its examinations.

Nigeria is classified as an emerging market and has one of the fastest growing telecommunication markets in the world with a concentration of major players like MTN, Glo, Airtel, Etisalat and Visafone. The telecommunications industry has recorded phenomenal growth over the last decade. The growth is evidenced by an increase from less than 1,000,000 fixed and mobile lines in 1999 to 25,000,000 lines in 2006 since inception in 2001, and a projected growth rate of 25% per annum. There has also been appreciable growth in the spread and rural penetration of mobile telephony from 38% coverage in 2000 to 58% in 2006 (World Bank 2006).

On the average, mobile telephony has overtaken use of the Internet which stands at 6.75 per 100 people (ITU, 2007). This wide margin is not unrelated to the fact that it costs fives times more to access the Internet compared to the mobile phone. Access to computers is dismally low and has not increased significantly with 0.8 people per 100 (ITU, 2007). Older ICTs like the television are available only to 32% of the population (World Bank 2006). Table: 2 shows statistics for ICT use in comparison to average statistics for Sub-Saharan Africa:

Table: 2
ICT statistics

ICT	Indicator	Nigeria		Sub-Saharan Africa
		2000	2007	
Fixed Phone lines	Number of users per 100	0.4	1.07	1.0
Mobile telephony	Number of subscribers per 100	0.0	27.8	13.5
Internet	Number of users per 100	0.1	6.75	3.8
Computer	PCs per 100	0.6	0.8	1.8
Television	% of Households with television	26	32	14

Sources: World Bank 2006, ITU, 2007

As mentioned earlier, Nigeria has an IT policy in place with the use of ICTs in education as one of its objectives. In this regard, individual institutions are engaging in partnerships to improve their ICT infrastructural base. For example, several universities receive support in this regard, from the *Partnership for Higher Education*, an initiative funded by seven major foundations in the United States. Other institutions, like the University of Lagos, have received support from major telecommunication service providers like the MTN in providing networked computer laboratories for students.Access to ICTs remains a major challenge to the development of distance education in the country as it is solely dependent on the efforts of government to provide infrastructure.

Available research often cite what has now come to be known as the 'traditional' problems or barriers to the integration of ICTs which are namely, erratic power supply, inadequate provision and very high cost of ICT infrastructure, and low ICT and Internet access among the population (2007:82). The objectives of this study are to identify the barriers affecting learners within the context of distance education in Nigeria, their coping strategies, and suggest strategies to overcome them.

METHODOLOGY

The study was guided by the following questions:

- **What are the various ICTs available to distance learners in their environment?**
- **What are the barriers to ICTs that distance learners face?**
- **What strategies do distance learners employ to overcome these barriers?**

Sample

The population for this study comprised distance learners of three Open and Distance learning institutions in Nigeria. The institutions comprising 2 single, and 1 dual mode respectively are;

- National Open University of Nigeria (NOUN),
- The National Teachers' Institute (NTI), and
- Distance learning Institute (DLI), University of Lagos.

The total population size of the three institutions as at the time of the study stood at about 35,000 with the National Open University of Nigeria accounting for 75%. The questionnaires were distributed according to the population of each institution using a ratio relative to the population of each institution. Out of 600 questionnaires administered on a sample of the population, total of 215 questionnaires were received using random sampling.

Instrumentation and Administration

The survey research method was used for the study. The main research tool used was a structured questionnaire which was administered on the subjects of the study. The questionnaire comprised three sections, A: respondent's profile; B: access to ICTs; and C: open ended questions. Responses from the administered questionnaires were subjected to analysis using simple percentage distribution to determine the most accessible ICTs, factors affecting access, learners' needs to facilitate access, the extent to which distance education has motivated the use of ICTs among its learners.

Data Interpretation and Analysis

The data was analyzed and the results are presented in tables 3-9. Questions 1- 8 of the questionnaire elicited responses on the profile of 215 respondents. Their responses are tabulated in Table: 3 below.

Table: 3
Respondents' Profile

Age	Frequency	%
Less than 20 years	10	4.7
20 – 29 years	60	29.3
30-39	79	36.7
40-49	54	25.1
50 and above	6	2.8
Null	6	2.8
Total	215	100
Gender	Frequency	%
Male	118	54.9
Female	97	45.1
Marital Status		
Single	96	44.7
Married	84	39.1
Divorced	35	16.3
Highest educational Qualification		
Secondary School leaving Certificate	38	17.7
Diploma	55	25.6
First Degree	72	33.5
Postgraduate, Masters	16	7.4
Other	34	15.8
Occupational Status		
Employed	115	53.5
Self Employed	20	9.3
Employer	49	22.8
Student	8	3.7
Other	23	10.7

Survey: 2008

In table: 3, the highest percentage of respondents, 36.7% are in the 30-49 years range followed by 29.3% in the 20 -29 years age range, and 25.1% in the 40-49 years range. 54.9% of the respondents were male and 45.1% were female; 44.7% are single and 39.1% are married. Respondents with a first degree as their highest qualification have the highest percentage of 33.5%, followed by 25.6% with diploma, and 17.7% with a school leaving certificate. A greater majority are employed 53.5% followed by 22.8% who are employers, and 9.3% who are self-employed. Question 9 sought to know the kinds of facilities including ICT enabling facilities that are available in the respondents' area of residence. Their responses are shown in table 4:

Table: 4 ICT facilities available in respondents' area of residence

ICT Facilities	Frequency	%
Electricity	152	70.7
Mobile phone connectivity	123	57.2
Radio service	112	52.1
Television service	117	54.4

Survey: 2008

Table: 4 shows the ICT profile of respondents' area of residence. All respondents indicated the availability of one or all four ICT related facilities, 70.7% claim they have electricity, 57.2% have mobile connectivity, 52.1% have radio service, and 54.4 have television service. Section B of the questionnaire elicits responses on the ICT profile of respondents and their institutions.

Table: 5 ICT facilities available at Respondents' institution

	Frequency	%
Radio	80	37.2
Television	66	30.7
Telephone	64	29.8
Email	57	26.5
Video conferencing	16	7.4
Internet	65	30.2
Audio conferencing	9	4.2
Online learning	20	9.3
Web access	19	8.8
Fax	20	9.3
Sms/text messaging	28	13
Other	15	7

Survey: 2008

Respondents were asked to tick as many of the options that were available. Table: 5 shows the responses to question 10 on ICTs that are available or used by their respective institutions.

Respondents claim that the following ICT services are available at their institutions: Radio 37.2%, Internet 30.2%, television 30.7%, telephone 29.8%, email 26.5%, and text messaging 13%.

Other ICT services indicated include fax, online learning, web access, video conferencing, and audio conferencing.In question 11, respondents were about the channels they use to access information from their institution. Table 6 shows their responses:

Table: 6 CTs used to access Information

	Frequency	%
Print	**131**	**60.9**
Radio	**28**	**13**
Television	**14**	**6**
Telephone	**37**	**17.2**
Email	**22**	**10.2**
Internet	**47**	**21.9**
Teleconferencing	**8**	**3.7**
Online learning	**10**	**4.7**
Web access	**14**	**6.5**
Fax	**8**	**3.7**
Sms/text messaging	**26**	**12.1**
Other	**13**	**6.1**

Survey: 2008

In table: 6, respondents identify the following as the ICT services they use to access information from their institutions: Print 60.9%, Internet 21.9%, telephone 17.2%, radio 13%, text messaging 12.1%, and email 10.2% Other ICT services used include web access, television, online learning, teleconferencing, and fax. Respondents were asked in question 12 about how they receive instructional learning from their institution. The result of their responses is shown in table: 7.

Table: 7 ICTs used to access Instructional learning

	Frequency	%
Print	**130**	**60.5**
Radio	**28**	**13**
Television	**14**	**6.5**
Email	**22**	**10.2**
Video conferencing	**0**	**0**
Teleconferencing	**8**	**3.7**
Online learning	**10**	**4.7**
Text messaging	**18**	**8.4**
Other		

Survey: 2008

In table: 7, respondents identified print materials as the most accessible means of instructional learning with 60.5%; and are followed by radio at 13%, and email at 10.2%.

Table: 8 Lack of access and regular use of ICTs

	Frequency	%
Financial constraints	**68**	**31.6**
Equipment	**77**	**35.8**
Electricity	**56**	**26**
Internet	**43**	**20**
Communication network	**41**	**19**
Technical support	**36**	**16.7**
Technical infrastructure	**33**	**15.4**
Other	**8**	**3.7**

Survey: 2008

Other ICTs indicated are text messaging, television, online learning, and teleconferencing.In question 13, respondents were asked why they did not have access or regularly use the other ICTs they did not select. Their responses are shown in table: 8. n table 8, 35.8% of respondents identify lack of access to ICT equipment as the most critical factor, followed by financial constraints with 31.6%, lack of access to electricity with 26%, lack of communication network with 19%, lack of access to the Internet with 20%, lack of technical support with 16.7%, lack of technical infrastructure with 15.4%.

Table: 9 Factors affecting use of ICTs

Socio-cultural factors	Strongly Agree		Agree		Disagree		Strongly disagree	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
I have heavy domestic chores, I don't have time	16	7.4	51	23.7	109	50.7	21	9.8
My husband or father discourages me	3	1.4	7	3.3	154	71.6	26	12.1
My religion does not encourage learning skills like ICT	6	2.8	1	0.5	146	68	41	19.1
I have heavy marital obligations	10	4.7	28	13	122	56.7	22	10.2
I am busy looking after my children	5	2.3	20	9.3	154	71.6	27	12.6
I am discouraged by incessant arrests by security operators	9	4.2	19	8.8	124	57.7	33	15.3
Socio-economic factors								
I am not able to pay for the cost of the programme/course	29	13.5	48	22.3	99	46	14	6.5
I cannot afford the cost of using the Internet	34	15.8	53	24.7	89	41.4	15	7
I cannot afford to buy a personal computer	37	17.2	67	31	73	34	14	6.5
I cannot afford to buy a mobile phone	11	5.1	23	10.7	136	63.3	21	9.8
Environmental factors								
Electricity is not stable, affects use of the Internet	80	37.2	72	33.5	30	14	10	4.7
The nearest cyber café To my house/office is far	26	12.1	79	36.7	78	36.3	11	5.1
I do not have access to a computer	29	13.5	65	30	83	38.6	13	6
My study centre does not have computer facilities	48	22.3	64	29.8	66	30.7	14	6.5
I do not have a mobile phone	12	16	17	8	132	61.4	28	13
Other factors								
I do not know how to use the computer	16	7.4	38	17.7	110	51.2	25	11.6
The Internet access is slow	25	11.6	59	27.4	80	37.2	15	7

Survey: 2008

Respondents were asked in questions 14 a-d to identify the degree to which socio-cultural, socio-economic, and environmental factors hinder their use of ICT for learning at a distance. Table: 9 show their responses. For socio-cultural factors, the average of a greater majority of respondents disagreed (62.7%) and strongly disagreed (13.8%) that any of the identified factors hinders their use of ICTs. Among socioeconomic factors, 52.5% (46% and 6.5%) of respondents disagreed and strongly disagreed that cost of programmes was a barrier; 48.4% (41.4% and 7%) for cost of using the Internet; 73.1% (63.3% and 9.8%) for cost of owning a mobile phone while 48.2% (41.4% and 7%) of respondents agreed and strongly agreed that they could not afford the cost of a personal computer. Among environmental factors, 70.7% (37.2% and 33.5%) of respondents agreed and strongly agreed that electricity is a barrier; 48.8% (12.1% and 36.7%) agreed and strongly agreed that the distance of a cyber café to their house or office is a barrier; only a slightly greater percentage of respondents (44.6%) disagreed and strongly disagreed that they do not have access to a computer; 37.2% (30.7% and 6.7%) disagreed and strongly disagreed that their study canters lack of computer facilities; only 24% (16% and 8%) agreed and strongly agreed that they did not own a mobile phone; and a greater percentage of respondents 42.8% and 6% disagreed and strongly disagreed that they have internet access. Only 7.4% and 17.7% of the respondents indicated that they lack of computer skills while only 11.6% and 27.4% indicated slow Internet access as a barrier. n section C, questions 16-19 of the questionnaire are open ended to elicit respondents' perceptions with regard to what they see as the best channels for information and instructional learning. Table: 10 is a summary of their responses:

Table: 10 Open ended responses

Q.16 I prefer to receive or access information from my institution through	Frequency	%
Internet	62	28.8
Print material	47	21.9
Telephone/text messaging	21	9.8
Computer/online	18	8.4
Video conferencing	15	7
Email	10	4.7
Television/Radio	31	14.4
Q.17 I consider these ICTs facilities most effective for learning		
Internet	68	31.6
Print material	38	17.7
Tutorials	10	4.7
Computer/online	31	14.4
Video conferencing	22	10.2
Television/radio	18	8.4
Q.18 Do you think it is compulsory to know how to use any of the ICTs for learning at a distance? Why?		
Yes	155	72.1
No	10	4.7
Q.19 How have you been able to overcome the barriers that hinder learning at a distance?		
1. By reading course materials and attending all tutorials		
2. By participating in peer group discussions		
3. By sourcing for information from other materials		
4. By organizing my time		
5. By personal determination and effort		
6. By using ICTs at cyber cafes and at work		
7. By maintaining contact and obtaining information through the mobile phone		

Survey: 2008

For question 16, 28.8% of respondents preferred to receive or access information through the Internet, followed by 21.9% for print, and 14.4% for television and radio. Other ICTs indicated are telephone and text messaging, computer and online, videoconferencing and email. imilarly, for question 17 the Internet was also the most preferred medium by 31.6% of respondents to receive instructional learning, followed by 17.7% for print, 14.4% for computer and online, and 10.2% for video conferencing. The only other preferred ICTs for learning are television and radio. A greater majority of respondents, 72.1% felt that ICTs were compulsory for learning at a distance. The most common reasons for their response include;

- **facilitates learning ii) because it's the computer age**
- **offers flexible and easy access to information**
- **its efficient, saves time and money, and**
- **bridges distance.**

For the 4.7% who said no, their reasons include cost and computer literacy. When asked about their coping strategies in question 19, about 7 major responses were given with the most common being responses 1-4.

DISCUSSION

In spite of the fact that most respondents showed a fairly high level of education with a higher percentage having a first degree as their highest qualification, their responses in tables 6 and 7 show that print remains the most accessible means of learning among the OD learners in Nigeria. At the institutional level, there is still a heavy dependence on print. However, the results show that the Internet and email, and text messaging as non traditional ICTs are also being increasingly used, albeit more for accessing information than for learning. The increasing use of these ICTs among distance learners Vis viz conventional learners can perhaps be viewed as ODL's contribution in encouraging their use. In spite of the phenomenal growth and deployment of mobile telephony in Nigeria however, text messaging still records very low percentages as a tool for learning.

From the results, respondents did not identify any significant socio-cultural factors as barriers. Socioeconomic factors are a significant barrier to ICT use among distance learners in Nigeria. Access to ICTs is largely determined by the ability to afford them. Interestingly, a lack of computer skills is not a significant barrier as only a low percentage of respondents indicated lack of computer skills as a barrier. Public availability and adequate deployment of these facilities is also a crucial factor. However, with a greater percentage of respondents indicating possession of mobile phones and thus greater access to this ICT tool, mobile telephony should be explored and utilized more as a tool for learning as is also the case in South Africa. Information on admission, registration, classes, assignments, feedback, and exam results are some academic activities which could be transacted via the mobile phone. Learners' coping strategies indicate that contact through communication and motivation are very crucial to the learning experience, hence the need to overcome barriers that discourage these factors.

RECOMMENDATIONS AND CONCLUSION

The data shows that, although much of ODL instructional delivery is print based, some significant progress has been made especially with regard to encouraging the use of some non traditional ICTs through ODL.

However, while Nigeria has embarked on implementing computer literacy at all levels, the issue of cost remains a barrier. Indeed, as shown in the data most are unable to have continuous access to the equipment. Farrell and Shafika (2007) in a survey of ICT and education in Africa highlight some current trends.

Countries like Nigeria have adopted the use of second hand computers through SchoolNet, Nigeria in partnership with the Education Trust Fund (ETF) to support computer literacy efforts. Another initiative is the One Laptop per Child (OLPC), a non-profit organization established to promote access to technology to support children's' learning experience. Electricity is usually supplemented by using generators, albeit expensive. The data shows that most can afford mobile phones thus providing a unique opportunity to maximize them as tools for learning as has been reported for South Africa and Kenya (2007:21).

Author's Note

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