INFORMATION AND COMMUNICATION TECHNOLOGY AND DISTANCE LEARNING DELIVERY IN SELECTED NIGERIAN UNIVERSITIES

BY

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CERTIFICATION

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DEDICATION

This work is dedicated to my wife, Maryam Adeyinka Odere Busari, May God grant us long Life and may HIS grace that has brought us safe thus far continue to uphold us in love and understanding and to my daughter; Hafsoh Olanrewaju Abike Busari who has been a source of happiness to me; and to the blessed memory of Mr. Abiodun Monsuru Alawoki (aka Aare), a jolly good fellow, who touched so many lives. Your candour was infectious, your comradeship make fellowship come alive. May the almighty Allah (SWT) continue to bless your gentle soul with AL Janna Firdausi (Amen)

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ABSTRACT

The Nigerian government adopted the distance learning approach to increase access to tertiary education. However, studies have been limited to implementation efforts with little focus on learning delivery modalities. This study, therefore, examined the delivery and performance of internet-mediated distance learning in selected Nigerian universities.

Based on structuration theory, the study adopted survey research design. Three universities with established distance learning programme supported with ICT were selected; these were University of Ibadan (UI), University of Lagos (UNILAG) and National Open University of Nigeria (NOUN). Using multistage sampling procedures, a semi-structured questionnaire was administered to 179 (UI), 230 (UNILAG) and 461 (NOUN) proportionately selected students to obtain data on socio-economic characteristics (e.g. age, gender, occupation, marital status), knowledge and usage of internet and effect of virtual education on learning. Copies of another set of questionnaire were administered to 35 (UI), 72 (UNILAG) and 93 (NOUN) purposively selected tutors that identified the possible effects of internet-mediated learning. Eighteen FGD's were conducted to the students based on their level of studies to identify challenges that may impede adoption of internet-mediated learning. Nine KII and IDI were conducted with policy makers and distance learning administrators respectively on viability of internet approach to learning. A non-participant structured observation method was further deployed to check the adequacy of facilities available in the three universities. Quantitative data were analysed using descriptive statistics, chi-square and ordinal regression tests while qualitative data were content analysed.

The age of the students was 34.5$\pm$9.6 years, 57.8% were females, 26.8% were married, and 62.2% were employed. Learning increased with higher internet accessibility (x^2=64.8;df=1<0.05). Higher knowledge of internet informed better capability (x^2=55.6; df=1;p<0.05). Internet usefulness, and ease of use jointly explained 37.8% of variance in internet usage (F=0.869)=25.60;R^2=0.48; p<0.001). The NOUN learners indicated higher level of internet skill (R^2=2.48) than those from UI (R^2=2.18) and UNILAG (R^2=2.15). Students indicated that internet bridged communications and blurred boundaries but encouraged a strong move towards individualization and significantly affected interactions and interface between academics and learners. Number of male academics (60.5%) was almost twice the number of female (39.5%) academics. Internet-mediated teaching improved professional practice 53.4%, (UI), 46.2% (NOUN), 43.6% (UNILAG); support research 66.0% (UI), 53.0% (NOUN), 31% (UNILAG) and preparation of teaching materials 30.3% (UI), 28.3% (NOUN), 53.8% (UNILAG). Limitation to the use of internet was, however, associated with deficient infrastructural facilities 43.1%, (UI), 59.4% (NOUN), 47.3% (UNILAG); and inadequate technical trainings 58.3%, (UI), 56.3% (NOUN), 47.1% (UNILAG). Distance learning-mediated by internet was perceived to be more effective for supporting knowledge acquisition, skills and competences. Administrators and policy makers strongly argued that internet-mediated learning was a priority. Result indicated that poor infrastructural facilities, resistance to change and inadequate manpower inhibit non-integration of internet.

The use of internet in distance learning has enhanced learning delivery in the sampled universities. Its usage should be strongly encouraged.

Keywords: Information and communication technology, Distance learning delivery, Internet accessibility.

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CHAPTER ONE

GENERAL INTRODUCTION

1.1 Background to the study

There are a variety of education models worldwide, with each fulfilling different needs for different students. Learning from home, described as distance education is one of such models. The distance-learning model commenced in the mid-19th century in Europe (France, Germany and Great Britain) and the United States of America. Akinpelu, J.A., (1982). It was predominantly based on correspondence education. The distance learning education has passed through stages, these phases according to Taylor, 2002 can be summarised in five generations. The first was the correspondence model, which relied mainly on print materials; the second was the multi-media design, that utilizes print materials, audiotapes, videotapes, computer - grounded learning and collaborative video. The third phase was the tele-learning model. This model involved graphic communication, television/ radio broadcast, audio teleconferencing, video conferencing, and audio conferencing. The fourth phase was the flexible learning mode, and it utilized most especially automated response system, computer-mediated communications, Internet-based web resources interactive multimedia online, university portal access to institutional processes and resources.

The current model, that is the fifth generation, makes the most of the design structures of the Internet and the World Wide Web (www). This fifth phase is massively built on the World Wide Web and it is depicted by management organisation systems that combines managerial and logistics functions with computer-mediated communication that includes bulletin boards, newspapers, e-mail, and a host of others and online methods of course material delivery that predominantly includes the World Wide Web (www) known as virtual learning environments whose basic design creates spatial time and space between the learners and the tutors (Britain and Liber, 2002). The fifth generation has thus become an avenue for both business resolutions (such as Blackboard, Web CT) and open source solutions (such as Claroline, MOODLE, and KEWL). It builds on the use of information and communication technology (ICT). Academics can now make use of templates guides to project and design their courses. Harasim et al.1995, posit that, in these atmospheres, learning and teaching take place in a mutual workplace characterised by blurred boundaries that is devoid of the usual face to face learning mode.

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The heavy deployment of information communication and technology (ICT) to enhance teaching and learning of distance learning courses is said not to be a new concept all together in Nigeria. Akinpelu (1982) avers that the Department of Adult Education of the University of Ibadan had initially perceived the need for the introduction of distance learning model in the country and proposed the establishment of a distance-learning programme in 1960. The programme was christened 'pilot' correspondence in the science subjects to experiment in the field of science education at pre-university level and thereafter to expand gradually into certain other vital areas that require in-service training. The programme focused mainly on the use of print media, audio materials, radio, television and video for learning and teaching. However, the current discoveries and advances occasioned by the innovations in information and communication technology which has led to improved computer power, faster data/information transfer rates and the attendant reduction of costs. Also the effective integration of technology into educational curricula have been demonstrated to offer students considerable benefits, that proffer advantages, such as increased access to learning opportunities to people who will ordinarily not have access, time, space convenience and designated place. Greater varieties of learning is also made available in greater measure to the students, with enhanced teaching approaches and materials, and an improved prospects for individualised learning, teaching, invariably leading to the emergence of more powerful cognitive tools that will promote efficiency in the society (Khan, 2006).

Thus, the underlying forces of 'globalization and the emergence of information and communication technology, may have resulted in a tidal wave of information that, in many cases have overwhelmed many countries around the world in the last few decades' (Joris et al., 1995). The evolution of these dynamics may have also led to more radical changes in the educational needs of individuals and society that calls for a new approach to learning delivery which reflects in the emerging need for additional specializations in learning. Also, because the world of work and education is becoming more complex, flexible, and fluid, newer and demanding approaches to working and learning, are always being demanded. More than ever before, educational institutions are required to equip their students with functional, lifelong learning skills needed to survive and meet the changes of the twenty-first century (World Bank, 2011).

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The information and communication technology (ICT) approach to teaching and learning complements the traditional educational techniques such as the face- to- face system. The approach enables education systems to adapt and change to a different lifelong approaches to teaching and learning that meets the immediate needs of the societies and proffer solutions to the problem of access to education. Computer simulation, teleconferencing, electronic mail, CD-ROM, and educational television are some of the ways of reaching audiences larger than those of the traditional classroom process (Mudasiru 2006). The approach makes learning much more attractive, stimulating, and effective. It also enhances the building up of the 'invisible college' network of scholars for easier contact and scholarship that is more effective. Thus, the idea of distance education also becomes more feasible. The Internet- mediated delivery mode clearly sits toward the learner-focused, learning-orientated end of the conceptions of the new teaching approach and away from the tutor-centred, content- oriented and makes the learning and teaching much more flexible. It can thus be argued that its Internet-mediated approach facilitates understanding and encourages conceptual change.

1.2 Statement of the problem

In the Nigerian economy, education and training are keys to economic survival. Estimates of the number of people who need educational services to secure decent paying jobs vary considerably, but it is widely claimed that existing classroom programmes can only accommodate a mere 3 percent to 5 percent of those in need of access to the classroom (Federal Republic of Nigeria, 2010). Although increasing the capacity of classroom programmes might help, it may not meet the needs of many people that are willing, but unable to attend classes because of the constraints in their lives, which is occasioned by factors that may include their work schedule, transportation, and childcare. The distance education approach is one way to meet their aspirations. Specifically, a form of distance education built and anchored in the principle of the internet may be more promising. The approach could provide a more interactive learning experience as well as "anytime, anyplace" learning for the learners and a flexible approach for the tutors.

Nigeria, is seemingly the fastest growing economy in the world, yet there is a significant and specialised skills shortage in the country. Owing to this skills shortage, over

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the next several years there will be an increased need for outsourced staff in order to help the economy and businesses grow. What this means is that there is an opportunity to fill the gap between the supply and demand needed for skilled labour by increasing access to higher education for the people of Nigeria. Distance learning mediated by the internet will create access and provide the people with an opportunity to gain the skills and knowledge needed to give back to the country.

Information and communication technology is a facilitator of organisational activities and processes. Therefore, it is important for managers and professional staff member to learn about Information and communication Technology from the stand point of their specialised field, and from the standpoint of Information and communication Technology across the entire organisation. Most occupation in the 21st century will require some use of computers together with communication networks. So members of the workforce who are unable to use them will be at a disadvantage. Palvia, Palvia, and Zigli (1992) assert that many organisations, including higher educational institutions, are aware of these rapidly changing environments and see information and communication technology as not just a set of tools for computing, but rather as a strategic tool for bringing growth and prosperity to organisations. Information and communication technology is already seen to be playing an integral role in organisations, more specifically in universities. Because of the growing numbers of new kinds of students such as part timers and long life learners, the university has to deal with the fact that the characteristics of their students are changing and as such, higher education institutions in Nigeria should strive to maintain goals of quality, efficiency and effectiveness (Petrides,2000).

Information and communication technology (ICT)-oriented distance learning improve access to education and reduces student/teacher ratio such that there is assurance of mass literacy and the delivery of internationally recognised certificates. It lends itself to unlimited access to information and flexibility of time and removal of space barriers for teachers and learners. The deployment of information and communication technology for course delivery has the potential of supporting communication within groups, to enhance interaction, collaboration, cooperation, cohesion, and reflection during learning processes. The internet-mediated approach to learning also has the potential to reinforce the student-staff contact. Furthermore, information and communication technology in distance learning centres will

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enable flexible, instant and multiple assessments and evaluation. Experts, teachers, and instructors can distribute responsibilities in this context. Open learning is very efficient and cost effective. Its enormous potential in fostering education development through universalizing access and enhancing quality makes it attractive and compelling. Successful open learning requires students to have the ability to work adequately with the learning resources. This continuous transformation in teaching and learning brought about by the digital era, that is characterised by the use of the internet, justifies the need to include technology in teaching and learning.

Many studies have examined the importance and weakness of distance learning programmes. Most of the studies agree that distance learning is successful if a sound instructional design is used (Fetzer, 2000; Algozzine, and Spooner, 1999; Ehrmann, 1997; McHenry and Bozik, 1997; Sherry, 1996; McKenna, 1995; Spooner, Jordan, Swan, 1996; Wheeler and Batchelder, 1996; Auand Chong, 1993; Whittington, 1987). However, there is a dearth of comprehensive sociological study on the challenges and the potential of the utilization of information technology as well as its impacts on distanciation (Giddens, 1994) of relationships between the learners and the academics in Nigeria's tertiary educational system. Information and communication technology is gradually overtaking the traditional approach to teaching and learning and poses new challenges and innovations to the educational community and society. The challenges hinge on the emergence of the new approach to learning and teaching environments and instructional modalities that are more flexible and are predominantly practised in a virtual environment. The penetration and integration of technological innovation into education as a central approach to teaching and learning processes in schools will inevitably require from academics and students changes in attitude and teaching paradigms. Such changes will force the key stakeholders to adapt to innovative and methodological approaches, educational concepts and management aspects. This innovation and methodological approaches will have to be located in technology-rich environments that will support the deployment and usage of the approach. Thus, the internet-mediated teaching and learning approach will play a role to repositioning conceptions of time and space, and thus articulating the need for reshaping and reconceptualisation of the distance-learning mode of delivery in terms of social relationship in the face of emerging

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alternative time and spaces aimed at promoting communications and generating new needs and expectations to be met by educators.

Therefore, this study examined whether and to what extent the Internet mediated mode of delivery contributes to the currently changing conceptualisation of time and space in distance learning. It also investigated its role in how academics and students experience temporality, spatiality and mobility.

1.3 Research questions

The study is anchored to the following questions:

(a) What is the capability (infrastructure) of a distance oriented learning environment in Nigeria?

(b) What is the knowledge of information and communication technology of distance learners in a distance-oriented learning environment in Nigeria?

(c) To what extent do learners and academics have access to information technology that could aid learning and teaching in a distance-oriented learning environment in Nigeria

(d) What are the possible effects of virtual education in a distance-oriented learning environment in Nigeria?

(e) What challenges impede the access and adoption of Information Technology in a distance-oriented learning environment in Nigeria?

1.4 Study Objectives

The general objective of this study was to examine the prospects and the challenges of Internet-mediated distance-oriented learning environment in selected Nigerian universities.

The specific objectives of the study were to:

(1) Investigate the capability (Infrastructure) of distance-oriented learning institutions in Nigeria;

(2) Examine the impact of knowledge of information technology on learners and academics in a distance-oriented learning environment;

(3) Ascertain the access of distance learners and academics to information technology that could aid learning and teaching;

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(4) Determine the possible effects of virtual education in a distance-oriented learning environment in Nigeria;

(5) Identify associated challenges that may impede the adoption and usage of Information Technology in a distance-oriented learning environment;

1.5 Justification of the study

Information and Communication Technology (ICT) is not merely a set of tools (hardware) and knowledge (software), neither does it work in a vacuum. Rather, it is created and used by man within the context of particular social patterns (Galtung, 2009). This study is, however, justified on the ground that it has contributed to the gathering of comprehensive information on the diffusion of the new information and communication technology as a method of pedagogy delivery in Nigeria's distance learning environment. It investigated the extent and rate of its adoption and the challenges and the prospects for such adoption on the efficiency of teaching and learning in Nigeria tertiary institutions. In addition, it provides information necessary in explaining what promotes Internet usage and what hinders usage among academic and students.

The use of technologies, especially the Internet means that teaching, assessment and administration are carried out in more efficient and effective manner, leaving more time for research and leisure (Ryan, Scott, Freeman and Patel, 2000; Pew Internet and American Life Project 2005.). If universities utilise the findings of this research by planning the strategies to support Internet usage of academic and students, it is expected that they will use the Internet more in their work.

Accessing the Internet will help save time and reduce expenses, through using email for communication, and accessing information and knowledge efficiently worldwide free of charge. In addition, teaching through technology will help in changing the professional practice of academics, especially in the teaching and learning process. They can work more effectively, efficiently and productively, leaving more time for research and leisure. In turn, the quality of their working life will be better. The utilisation of the findings of this study will,

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however, help the university to achieve its educational strategies and goals of quality, efficiency, and cost effectiveness.

The use of IT will enable changes in teaching and learning processes. Under the right circumstances, teaching through technology can have several advantages over traditional classroom teaching, as learners are able to access high quality teaching and learning at any time and in any place. In addition, well-designed multimedia learning materials can be more effective than traditional classroom methods because students can learn in more relaxed environment and more quickly through visualisation, animation, different constituting materials, and increased control of and mutual interaction with learning materials. The findings from this research will help universities to plan their strategies to support and motivate academics and students to use the Internet more in their work in order to prepare to cope with any changes in teaching and learning process if universities become e-universities or change from teaching-oriented to research-oriented universities.

The findings from the study will provide additional and more useful tool for top management at the universities. It will help them to understand the determinants of usage behaviours in order to proactively design interventions (such as training) targeted at users who may be less prone to use the Internet in their work in order to prepare them to gain more knowledge and experiences of using the Internet. The findings will also, help the university to achieve its educational goals and to help support the national plans of countries. Finally, the findings of this study will provide the information necessary in explaining what promotes Internet and hinders it.

1.6 Scope of the study

The study focused on three (3) purposively selected long-standing distance-learning operators/universities in Nigeria. These universities were selected because they are the institutions licensed by the board of the National University Commission to provide open distance learning education in any part of Nigeria. Besides, the three universities also have a history of having embedded information and communication technology into their distance learning programmes. Mannheim (1952) and Whittier (1997) argu that cultural, social and

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historical conditions at the particular time of entry into the domain of activity are likely to shape organizational and individual actions and interpretive frameworks in ways that persist even when the social conditions change. Thus, tutors' world views and practices are likely to be induced by the nature of adaptation to the particular movement (information and communication technology) in learning instruction at the time they enter the profession. The purposively selected universities were:

(1) University of Ibadan, Ibadan

(2) University of Lagos, Lagos

(3) The National Open University of Nigeria (NOUN)

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CHAPTER TWO

REVIEW OF RELATED LITERATURE AND THEORETICAL FRAMEWORK

2.1.1 Introduction

Distance learning education is a growing area of interest in the literature. An explosion of articles has been witnessed in recent years documenting this trend at post-secondary institutions. The topics addressed in the literature include a brief history of distance learning education, information and communication technology and society, information and communication technology and distance learning, demand for distance education and acceptance of distance education by students and instructors.

In this information age, a significant amount of information is readily available through powerful computers, which are connected through high speed data communication networks, such as the Internet, wide area networks (WANs), and Local Area Networks (LANs). The rapid rate of change in the business environment has continuously pushed the need for technologies and acceptance of these technologies at an accelerating rate. The new technologies enable organisations to be flatter, networked, and more flexible. Organisations in the 21st century inevitably make substantial investments in information and communication technology (ICT) in order to achieve competitive advantage, by spending enormous sums of money on computer hardware, software, communication networks, databases and specialised personnel.

Consequently, information and communication technology is not only commonly found in the workplace, but has also become pervasive in the home and in public areas (Martin, Brown, DeHayes, Hoffer and Perkins 2002).In addition, according to Turban Rainer, and Potter (2001), information and communication technology is a facilitator of organisational activities and processes. The experience of time and space has significant implications for people's physical mobility and sense of identity. Thus, the changes in time and space under the influence of media technologies have provoked a heated debate among scholars. 'Time-space distanciation' (Giddens, 1994) and 'time-space compression' (Harvey, 1990, 1993) are two key theses in this debate. Central to Giddens' concept of globalisation is the notion of 'time-space distanciation, namely the process of a separation of time from space.

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This notion stems from, Giddens' (1973) sociological criticism of Marx's argument that 'even spatial distance reduces itself to time' and, the significant influence on Giddens by McLuhan's (1987) problematic concept of the 'global village' and its teleological doctrine that technological advancement allows people to interact with each other as in face-to-face interactions. Giddens (1990) notes that technological evolution has driven universalisation and liberalisation of time and space, which he considers prerequisites for globalisation in an age of post-modernity. He asserts that globalising dimensions of interactions create 'stretched' relationships between 'local' and 'distant' media forms, with 'local happenings' being, for instance, 'shaped by events that occurred many miles away and vice versa'. Non-electronic communications, oral, writing and print forms of communication, were shaped by local or inter-local contexts, as temporal and spatial span of communication was limited owing to non-advanced technology and other developments like postal services and proximity was a prerequisite. In contrast, electronic means of communication have enabled local contexts to develop communication practices and flows of exchange with geographically remote and temporally distant contexts. These practices and flows of exchange separate time from space, facilitate social interactions that are disembedded from spatial and temporal contexts, and establish stretched and distanciated communication patterns and relationships. (Atkins et al., 2003; David, 2004),

Like Giddens, Harvey (1990) identifies postmodern conceptions of space and time as the historical starting point of his theorisation. However, diverging from Giddens' idea of a separation of time from space, Harvey formulates the notion of 'time-space compression'. He uses the notions of universalisation and liberalisation of space and time differently from Giddens, arguing that universalisation and liberalisation allow time to annihilate space. In this sense, what takes place, according to Harvey, is a shortening of time and shrinking of space, so that time has the potential to diminish the constraints of space and vice versa.

More specifically, temporal shrinking, permeable spatial boundaries and the establishment of new electronic spaces draw a more complex picture of mediated time-space experiences than that suggested by technologically deterministic theses. Technologically deterministic arguments, such as McLuhan's (1964), claim that electronic media have been 'abolishing both space and time as far as our planet is concerned', thus leading people to 'live mythically and integrally' in a 'global village', do not capture the complexity of the issues of

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time and space in today's media-saturated system. Beyond techno-deterministic theses, one can argue that 'two decades of rapid technological change in global communications have made temporal and spatial concerns more paramount and more problematic than previously' (Ferguson, 1989). Different media forms and usages give rise to divergent perceptions of distance, duration and mobility in multiple contexts, mediating, re-mediating, defining and negotiating variable understandings and experiences of time and space.

These effects of globalisation and globalising events on time and space are facilitated significantly by electronic media, as the transnational span of electronic communications can extend the scope of 'mega-events, making the latter more influential on how people go about their everyday schedules and contexts of living. Here is where the notion of 'mediation' comes to the fore. Mediation can be viewed as a function and attribute of electronic media and communications. It can also be used to describe media representations of phenomena that take place in 'distant' time and space, and the ways in which such representations may give life to new phenomena like 'distant suffering' and lead to public action towards and engagement with distant others (Chouliaraki, 2008). A view of mediation as an active use of the media to link time and space, as well as to effect public action directly or indirectly, may help us understand the role of electronic media and communications in shaping contemporary experiences of globalisation (Rantanen, 2005). This is because electronic communications enable, through mediation, diverse forms of globalisation to be activated in various domains of social life. Mediated globalisation also raises questions of how the media and global electronic media in particular change our conceptions of time, space and place, as they arguably free 'communication from the constraints of the immediate and the local' (Silverstone, 2005).

An indicative example of the nature and role of mediation in (re) conceptualising and (re) experiencing time and space is Silverstone's (2006) notion of the 'Mediapolis', which he defines as: 'the mediated public space where contemporary life increasingly finds its place, both at national and global levels'. 'Mediapolis' is largely created by electronic communications, constituting the new, mediated arena where public debate and communication take place regardless of previously restrictive spatial and temporal boundaries and through incorporating experiences and perceptions of those boundaries. Consequently, 'time' and 'space' compression has created endless opportunities for people to perpetrate and

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still maintain conforming personality's offline. The established conceptual approaches to time and space, electronic media could be considered to 'mediate' time and space, problematising the multi-layered significance of how they are experienced today

2.1.2 History of distance education

Distance education is a method of studying in which the lectures are broadcast or conducted by correspondence without the student needing to attend school or college" (Harry 1999). Over time, this medium has shifted from correspondence-type delivery to delivery of courses via the Internet (Swift et al. 1997; Banas and Emory 1998 ;). Swift at al. (1997) posit that, in distance learning education, the teacher and the student are separated geographically so that face-to-face communication is absent; communication is accomplished instead by one or more technological media, most often electronic (interactive television, satellite television, computers, and the like).

Moore and Kearsley (1996) note that distance education as a planned learning that normally occurs in a different place from teaching and as a result requires special techniques of course design, special instructional techniques, special methods of communication by electronic and other technology, as well as special organizational and administrative arrangements'. Distance education is normally viewed as having developed in five generations (Bates, 1995). The first-generation models (from the 19th century to the 1960s) used only one technology and were primarily broadband in one direction, deploying mainly through correspondence. Tweney, 1999). They used the traditional model of education, which involves transferring knowledge from professor to student and in which the student is viewed as an empty vessel. These early models were delivered either in print or via radio or television and were normally broadcast once with the student having to attend class at that time. In this first generation, there was little interaction between the instructor and the student and low there was flexibility.

The second generation, which developed in the 1960s, used multiple technologies but not the computer. In addition to print, radio, and television technology, audio cassettes and video cassettes were used. Again, the communication was primarily one way, but an occasional interaction could take place by phone, fax, or mail. Two-way interactive television classrooms were also used in that generation (Hankin, 1999).

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The third generation, which started in 1985, involved new delivery methods with multiple technologies, including the computer, CDs, e-mail, chat rooms, bulletin boards, video conferencing, and audio conferencing. The teacher in this generation was often responsible for being a multimedia coordinator for the multiple delivery systems used (Hankin 1999). Many universities began to use multiple sites for delivery, and two-way communication was possible, involving more interaction between the instructor and the student. Most of this interaction was a synchronous, and a limited amount was synchronous. Synchronous learning networks are based on the following four principles: (1) availability of the teaching material to students seven (7) days a week, 24 hours a day; (2) interactivity; (3) students' active involvement in the teaching process; and (4) prompt feedback (Karuppan and Karuppan, 1999).

The fourth generation (1995 to the present) is similar to the third except for the development of high-bandwidth computer technology and the ability to provide more synchronous interactions. Owing to the limited bandwidth available today (Greco 1999), however, most delivery methods are still caught in the third generation. It is, however, expected that these new models for distance education will expand dramatically in the near future (Dolence and Norris, 1995). McCormack and Jones (1998) aver that the World Wide Web can be used in three ways: information distribution (of course material and course content), communication (e-mail, discussion groups, and chat rooms), and class management (tracking attendance, recording progress, and calculating grades). There is a mismatch between what traditional education provides and what business needs (Forman, 1995)

The model of the top-down organization has been replaced by concern for collective responsibility and collaboration among workers (Adams, Carlson, and Hamm, 1990). Today business wants to emphasize problem-solving skills, team skills, interdisciplinary knowledge, information processing, and a mastery of technology. In the traditional classroom, students produce work for which the instructor is the only audience (Alpert, 1991). Furthermore, there is little interaction with the traditional lecture format (Karp and Yoels 1976), yet interaction is related to improved learning (Fletcher 1989). Sherron and Boettcher (1997) claim that the interest in online education has come about because of the development of communication and computer technology and the need for workers to develop skills without interrupting the

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working life. The traditional education model no longer seems to be the appropriate delivery mechanism for some educational markets (Abernathy 1999; Aron 1999).

Despite the problems noted with the traditional education model, distance education still has a poor image as a learning alternative (Sherron and Boettcher, 1997). This perception is countered by Russell (1992), whose review of published studies in a variety of fields within education shows that distance learning is just as effective as traditional, face-to-face learning when measured by achievement, grades, job performance, attitudes, and cost-effectiveness. Additionally, the instructional format itself has little effect on student achievement as long as the delivery technology is appropriate to the content of the class and all participants have access to the same technology (Trier, 1996). Online learning is gaining respectability as accredited and top universities are adopting it with the same commitment to quality that they demonstrate with their traditional programmes (Greco, 1999)

2.1.3 The development of distance learning education in Nigeria

The need to obtain some forms of further education was perceived by many Nigerians, many of whom believed that education was the key to the development and emancipation of the black race and an instrument of progress. It was also seen as a means of obtaining a high standard of living through which high allowance high standard of comfort and better health delivery services could be enjoyed (Egunyomi, 2003).

The first phase of distance learning in Nigeria, according to Afolabi-Ojo (1986), was before the establishment of any university in Nigeria, when some notable Nigerian scholars studied on their own at home for degrees of universities in the United Kingdom, using correspondence colleges located in the United Kingdom. Omolewa (1982), claims that, as far back as 1887, a handful of Nigerians enrolled for the first time in the University of London examination as external students studying through correspondence without enjoying any formal ties to a conventional institution. In 1925, some Nigerians, like Eyo-Ita and O. Davies, passed the London Matriculation Examination. C.O. Ajayi and Alvan Ikoku also obtained University of London degrees in Philosophy in 1927 and 1929, respectively, while J. S. Ogunlesi had his in 1933. Besides these ones, a significant number of Nigeria's early educated individuals were products of the British Correspondence distance education system. For example, Samuel Ayodele Banjo obtained B.A Philosophy in 1933 and, in 1939, S.O.

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Adebo, A.T.O. Odunsi, and A.Y. Eke, K. Sofola, O. Chukura, M.A. Adeyemo and N.K Adamolekun also bagged B.A. (Hons) in English. Despite the establishment of University College Ibadan in 1948, many of its academic staff still passed through the higher degree programmes of the University of London as distance learners. They prepared themselves through private studies in Nigeria for various examinations of the University of London (Aderinoye, 1995).

Ajadi, (2000) aver that the second phase of distance learning in Nigeria was when the premier university in the country, the University College, Ibadan, demonstrated an interest in extramural studies within the first few years of its existence. By 1949, it took over the extra-mural work of Oxford University, which was extended to Nigeria in 1947. By 1951, the Department of Extramural Studies of the University College, Ibadan was offering courses in Child Psychology, English, Political Science, Social History, Economics, Logic and Religious Studies. It also ran vocational classes in Ibadan to satisfy urgent public demand. Most of the extramural courses were non-credit, non-examined, and led to no diploma or any academic standing. But by 1962, students in the Extramural Studies Department (especially those in evening classes) requested that the existing programmes should provide examinations and credit. Even after it became autonomous, the university delayed it. But eventually, it had to give in and offer examination-oriented extramural classes. By the 1967/68 session, half of the university's extramural classes prepared students for General Certificate of Education examinations, while students who did not seek credit courses were still admitted. In addition to its many outreach and extramural courses, the University of Ibadan (the new name dates from 1962) has been giving, since 1956, considerable thought to the issue of degree programmes for external or non-residence-based students. These innovations, however, seem to have been overtaken by other events.

Each of the other first generation universities has its success story in the field of extramural studies. The University of Nigeria, Nsukka, went as far as wanting to implement a programme of correspondence education for non-residence-based students in 1981. That firm resolve to provide distance-oriented education through correspondence, radio, television and vacation course instruction was put aside as the Open University was then in the horizon.

Ahmadu Bello University has shown much interest in, and directed a wide range of programmes towards educational innovation that is of benefit to the general public. It

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pioneered the distance teaching of Grade III and grade II teachers with a view to helping them qualify for the next higher grade. The academic structure, through which this type of training is being done, mainly by correspondence, is known as Teachers-in-Service Education Programme (TISEP). Later, TISEP provided correspondence courses leading to the National Certificate of Education (NCE) qualification. The concern of Ahmadu Bello University for distance education at the tertiary level was further articulated in November 1972, when it established a University of the Air Programme for teachers in secondary schools and teacher training colleges. The programme was designed to provide special television courses run by the General Extension Services Unit, emphasizing the urgent need for teaching aids and instruction in hygiene.

The University of Lagos has a well-defined programme, which is fairly close to what may be described as an ideal distance education unit. The correspondence and Open Studies Unit (COSU), was established in 1972, with the belief that a correspondence unit would give the university a chance to offer its course and facilities to a much wider public than is possible through regular residence-based methods. However, despite the university's determination to offer programmes, both on campus and off campus, to the general public, and its attempts to diversify its mode of tertiary education, it has been much like other Nigerian universities, mainly residence-based, and only a tiny proportion of its students benefit from the evening courses it administers. COSU was later upgraded to an institute and renamed Correspondence and Open Studies Institute (COSIT). It began initially to offer programmes in science education at first degree level in Biology, Chemistry, Mathematics, Physics and Postgraduate Diploma in Education (PGDE) for degree holders that did not possess teaching qualifications. (Akintayo,1989)

One of the major objectives of the Nigerian National Policy on Education is the provision of equal educational opportunities to all Nigerians at different levels of education. With regard to higher education, an aspect of the policy encourages distance learning to be organized and delivered by tertiary institutions. Ali (2006) observes that between 1982 and 1997, the number of universities offering distance-learning programmes increased from 2 to 8, while students' population increased from 1,760 to 27,690. This means that a significant number of learners have received their education by distance learning.

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2.1.4 Information and communication technology and society

Information and communication technology (ICT) is the name commonly given to the field formed by the convergence of tele communications and computing over the last few years, including the Internet, telecommunications reform and deregulation, extension of telecommunications services to the rural areas and the marginalized groups, community tele-facilities and civil society networks on different scales (Burke, 1999). Information and communication technology (ICT) has affected the way people live and work since the1880's. The impact of information and communication technology cuts across all sectors of and areas of work, directly or indirectly. It is a valuable resource for individuals and groups. The electronic mail system and the broadband Internet give people access to sources of information from other countries and enable exchange of information between individuals and groups. Furthermore, the electronic mail systems enable networks of human groups to function effectively and it can also facilitate the creation of forums for both formal and informal discussions specific to particular groups of people, (Burke, 1999).

It was projected that, by 2010, the number of World Wide Web users would reach 1.8 billion (Computer Industry Almanac, 2006). Similar worldwide trends are found with the mobile phone—reaching 2 billion in 2005—and with the personal computer—exceeding 1 billion in 2007. The Web, the Internet, especially e-mail, and mobile phones are extensively used in the workplace (Rice and Webster, 2002; Pew Internet and American Life Project, 2006). Now that information and communication technologies (ICTs) are an accepted part of many work situations, communication scholars have become particularly interested in how ICTs are used as forms of, and influences on, communication processes.

Most authorities, such as Daft and Lengel, (1984), Daft, Lengel, and Trevino, (1987) and Rice, (1993) have focused only on attributes of individual media, "immediate incidents" (Saunders and Jones, 1990), or structuration processes involving a single ICT (Orlikowski, 2000). Yet when we observe people in organizations using technology, we notice that people use combinations of these ICTs, such as-mail, face-to-face conversations and meetings, desk telephones, mobile phones, BlackBerry phones, smart phones, instant messaging, and fax machines (Sornes, Stephens, Browning, and Saetre, 2005). So the typical approach fails to explain how and why ICT's are actually used as part of communication over time in different work contexts and how usage of a specific ICT may be part of a more pervasive sequence of

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Information and Communication Technology usage. Researchers in interpersonal communication (Walther and Parks, 2002), psychology (Hesse, Werner, and Altman, 1988), and management (Saunders and Jones, 1990; Boczkowski and Orlikowski, 2004) have issued calls to study the phenomenon of Information and Communication Technology combinations. As Walther and Parks (2002; 534) argues, "Communication efficiency may rest on sequences or combination of media rather than isolated choices about a discrete ICT".

Recent research has begun to develop theoretical and qualitatively descriptive accounts of how people use ICTs in combination (Chudoba, Watson-Manheim, Lee, and Crowston, 2005; Munkejord, 2007; Osterlund, 2007; Stephens, 2007; Turner and Reinsch, 2007; Watson-Manheim and Belanger, 2007). Although empirical research has begun to establish the prevalence of this phenomenon, it has tended to rely on data from only one or two organizations. It has also been largely descriptive and more focused on uncovering the sequences rather than comparing discrete to sequential media use. Furthermore, there has been limited attention paid to how ICT's are used to follow up a communicative attempt.

2.1.5 Information technology and education

Until the 1980s, educational computing was seen as familiarizing children with technology as well as coaching them for their future jobs. According to Selwyn (2002), by the end of the decade, governments, quickly followed by the ICT industry, had changed the rhetoric to presenting the computer as an inherently 'educational machine' to improve education. This was an effective marketing device to convince teachers and parents. Nowadays, after this narrative has been repeated for decades, very few even dare to question whether there is any truth behind it. Once the 'myth of the educational machine' had been established, both the ICT industry and politicians were quick to capitalize on it, for, just as it created a huge market for computers, it also gave credibility to the educational programmes of politicians running for office (Cuban, 2001: 13; Facer et al., 2001; Selwyn, 2002). Later, globalization and information society discourses were used to reinforce the sense of the necessity and urgency of incorporating ICT into education. Coupled with the presumed linkage between ICT, the information society, and globalization with the 'risk of being left behind' mantra, the globalization discourse has been used to market ICT in education and

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society as a whole (Facer et al., 2001; Goodwin and Spittle, 2002; Selwyn, 2002,Clegg et al., 2003;).

The widespread consensus on globalization as an inevitable fact has granted it the status of a powerful premise in any field of policy-making, even though at the same time it is represented as diminishing the sovereignty of the nation states (Brown, 1999; Golding, 2000; Selwyn and Brown, 2000; Goodwin and Spittle, 2002;). Accordingly, Clegg et al. (2003: 40) note that globalization is too broad, vague and disputable a concept (Brown, 1999) to be used as a premise for education policy: If we are to understand the impact of technology on pedagogy we need to take account of these local conditions and the range of possible responses to particular pressures, rather than rely on over-deterministic accounts of global tendencies.

Further, authors, such as Castells (2000), differentiate between information and communication technology, in a political discourse, arguing that these two frequently merge with each other and with concepts of the information society and globalization. The transition to the information society is considered to be a profound change, on a par with the Industrial Revolution, affecting every aspect of human life and society (Garnham, 2000; Golding, 2000; Goodwin and Spittle, 2002), but its definitions in the discourse are limited to ambiguous references to knowledge being at the centre of the economy and knowledge as the new capital and as the most important factor in production. This has created a tangled web of premises, albeit a widely accepted one, to which governments have responded by issuing information society strategies without distinguishing data from information, information from ICT, ICT from knowledge, or any of these from globalization and the information society. Garnham (2000) argues that the information society is better understood as an ideology, not as a concept or a theory that illuminates the surrounding society and its change. Neglecting the similarity between the present and the earlier 'techno crazes', the information society and ICT revolution are heralded in public discourses as unprecedented societal changes and have thus been used to promote a vast number of initiatives and reforms, including ICT in education or digital television (Cuban, 2000: 14; Selwyn et al., 2001; Godwin and Spittle, 2002; Servaes, 2002; Selwyn and Gorard, 2003.)

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2.1.6 Impacts of distance education on universities

Today's new technologies, the "knowledge media," emerged from the convergence of computing, telecommunications, and the learning sciences. Daniel (1996) asserts that institutions will have to redesign themselves to provide each learner with a range of opportunities to interact with the rich resources of the university. Students will become increasingly diverse as lifelong learning spreads, the notion of an academic community will de-emphasize the physical campus, and universities will need to become adept at managing collaborative ventures with other organizations. There is a tie between how the media shape knowledge and theories of learning productivity.

What role will faculty play in the emerging distance-education and information-technology university? Noble (1997) casts these in terms of labour versus management, exhorting faculty to resist the new technology in order to protect their jobs and status. He describes the two-month faculty strike against implementation of instructional technology at York University, where the slogan of the striking workers was "the classroom vs. the boardroom. He cites the 1997 UCLA [University of California Los Angeles] Instructional Enhancement Initiative requiring computer Websites for all its arts and sciences courses, in partnership with several private corporations, as evidence that the technological transformation camouflages "commercialization "of higher education. This converts intellectual activity to capital and property commodities. He projects a dismal future landscape of digital diploma mills overwhelming the once great democratic higher education system.

Threats to the role of faculty appear most dramatically at for-profit institutions engaged in distance education. Among for-profit institutions, such as Jones International University (solely online institution accredited in 1999), the University of Phoenix, and the Open University of the United Kingdom, the traditional faculty role is unbundled and performed by different experts. Teaching is a team activity and consists of content experts, mentors or tutors, faculty, and technology experts. Content experts develop courses, curriculum, and assessment tools. Mentors or tutors serve as teaching assistants to ensure that students understand course materials, and monitor e-mail and Web-based discussion forums. The faculty monitors course quality and work with mentors and content experts to ensure that courses are successfully completed. While content experts tend to be full-time faculty at

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traditional institutions of higher education, mentors and faculty tend to be practitioners in their given fields of expertise.

In traditional institutions that have adopted information technology tools in courses, and among traditional institutions that offer distance education courses and degree programmes, the role of faculty also is changing, although not as drastically. Faculty continues to be responsible for course content and teaching, but technical staff provides assistance in a range of support services.

2.1.7 Promoting information and communication technology

Despite the considerable effort and resources put into educational computing, there is still a lack of evidence that it enhances educational standards (Cuban, 2001; Selwyn, 2002; Cox and Abbot, 2004; Cox and Webb, 2004). Far from being put off by this lack of evidence, politicians, the ICT industry and educational reformers have diverted attention to teachers, often seen as the major hindrance in implementing ICT in schools (Selwyn et al., 2001a). There is always a demand for 'just one more push' (Garnham, 2000:148) that is needed to finally realize the benefits of educational computing, while those who remain skeptical, or even unconvinced, are easily labelled as Luddites (Bryson and de Castell, 1998). As Cuban (2001) observes, both administrators and teachers were criticized for failing to take advantage of powerful technology that would, promoters claimed, greatly enhance both teaching and learning. Thus, the cycle of high expectations, acquisition of new machines, and actual use of the technology ended up with disappointment and recriminations among reformers.

Thus, it has become crucial for the Information and Communication Technology industry and for the advocates of educational computing to 'sell' information and communication technology, as well as the whole information society ideology, to teachers (Selwyn, 1999a, 2002; Selwyn et al., 2001a). Selwyn et al. (2001a) identify four, often conflicting, marketing strategies aimed at teachers; information and communication technology as problematic or as a problem solver for teachers; and information and communication technology as a futuristic or a traditional form of education. While the marketing strategies were contradictory, and often inconsistent with the information society narrative, the underlying, consistent theme in the advertising was that of disempowering

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teachers, which could well have implications for how teachers view their role in a classroom filled with computers.

According to Selwyn (2003), the discursive construction of 'the child computer user' has various functions, both in the commercial marketing of information and communication technology and in the justification of educational policy. The most obvious function is to convince parents that, in order to prepare their children for the information age, they need to provide the tools for them. Yet often 'the child computer user' serves as a role model for (non-computer-using) adults. The notion of the child computer user is, to a large degree, merely a means of persuasion and promotion on the part of the key commercial and political guiding interests of the information age.

It is then no surprise that the bulk of information and communication technology advertising presents a techno-friendly child effortlessly grasping the new technology, superseding adults in information and communication technology skills and knowledge, while their astonished parents and teachers sit by. This discourse contrasts with a dystopian view of a child as a victimized, needy or even dangerous computer user. Following the determinism and the opportunity/threat feature of the whole information society discourse, this alarmist view is a cry for adult action (Selwyn, 2003). Still, when selling computers as educational machines or artifacts, one of the most powerful rhetorical devices has been the construction of the child as a future worker or competitor (Facer et al., 2001).

Parents and teachers are obligated to give their children the information and communication technology skills that are needed in the information society. However, even Castells, one of the most prominent information society theorists, considers the production of goods to be the most important source of economic growth (Castells, 2000: 238) and, although he emphasizes the importance of information in the economy, he also remarks that 'it does not follow that most jobs are or will be in information processing' (Pg: 226). This has been widely overlooked in educational discourses that always demand more and higher skills for the workers/citizens of the information society (Garnham, 2000; Cuban, 2001; Selwyn et al., 2001).

Following these deterministic discourses of globalization, the information society and the economic competitiveness of an individual, there has also been a redefining of 'the citizen' and 'the worker". Although these redefinitions are more or less characterized by the demand

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for re-skilling people as a workforce, there has also been an emphasis on the needs and rights of the citizens. On closer scrutiny, it becomes apparent that the citizen too is defined through economic and technological determinism, as the rights and needs of citizens are related to those of the consumer (Goodwin and Spittle, 2002).

Similarly, on the societal level, the public discourse about the information society has mainly trotted out utopian views regarding economic growth, inclusive global virtual communities and more democratic, egalitarian societies, although the change has also been portrayed as a threat. Primarily concerned with economic competitiveness, this threat has been used as a rhetorical device to further different initiatives, ranging from developing technological infrastructure to remolding educational aims and institutions (Selwyn and Brown, 2000, Goodwin and Spittle, 2002;), the most common refrain being: 'Threats can be avoided, and opportunities taken, but only if we act now' (Goodwin and Spittle, 2002: 234).

In addition, by trumpeting Information and Communication Technology as a 'technical fix par excellence', discourses have been saturated by the view that technology is the only way to keep education up-to-date and relevant, thus leading to better results in teaching and learning (Selwyn et al., 2001). Information and communication technology is also seen as a way to offer education 'anytime, anywhere', thus fostering lifelong learning and widening participation, despite the fact that there is little, if any, evidence to support this proposition (Gorard et al., 2003). By bringing up educational and social issues, such as the digital divide, lifelong learning and widening participation in society, a policy originally driven by market determinism has been justified within the information society narrative by an educational and social agenda (Selwyn et al., 2001).

Students in educational institutions worldwide face a daily explosion of information resources and the challenges of using them effectively and responsibly because of lack of adequate information literacy competencies (Barrett and Danks 2003). In higher education worldwide, information literacy is being recognized as an important component of the curriculum. The concern about equipping students with adequate information literacy skills to prepare them for the information age has long concerned the universities in Africa (Tella and Mutula 2008). Information literacy, from the perspective of the Society of College, National and University Libraries (SCONUL), consists of ability to recognize a need for information and distinguish ways in which the misinformation gap can be filled.

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It is the overall determinism recurring throughout the information society discourse and failure to give alternatives that should be brought under close scrutiny. Educationists should not just stand back in the face of a political discourse that is driven by more economic than educational concerns. While the concepts of information society and globalization leave little to argue about, being as vaguely defined as they are, the initiative put forward under the umbrella of these premises should not be uncritically embraced. The initiatives are constructing strategies for locating information; locating and accessing information; comparing and evaluating information obtained from different sources; organising, applying and communicating information to others in ways appropriate to the situation; managing the information and its sources; and understanding many of the ethical, legal and socio-economic issues surrounding information and information technology. (Horrocks and Haines, 2004). Lloyd (2005) posits that information literacy involves seeking and using information for independent and lifelong learning, participative citizenship and social responsibility. Equipping students with information literacy competencies is aimed at enabling them to access and evaluate information, to think about information and to demonstrate and document the process of that thinking.

2.1.8 The Internet

The Internet was originally designed in the U.S. as a defence communication medium. At present, Internet technology is being widely used because it provides a variety of relatively inexpensive services. If technologies are to be used, they will need to offer something new to the users. They may be faster, cheaper, provide richer information, provide more information or offer sharing alternatives (Davison, Burgess and Tatnall 2003).

Information and communication technology (ICT) is defined as computer technology, both hardware and software, for processing and storing information, as well as communication technology including networking and telecommunications for transmitting information (Martin, Brown, DeHayes, Hoffer and Perkins 2002; The American Heritage Science Dictionary 2002; Free Online Dictionary of Computing, 2006). The Internet is seen to be an important aspect of information technology. The Internet is defined as a publicly available computer network consisting of a worldwide network of computer networks that use

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the TCP/IP network protocols to facilitate data transmission and exchange. Its synonyms are cyberspace and net .(Word Net Dictionary 2003).

In popular parlance, the Internet often refers to the World Wide Web (WWW), electronic mail (email) and online chat services operating on the Internet (Hyper Dictionary 2005; Word IQ 2007b). The WWW is a part of the Internet that uses hyperlinks, and so on. Sometimes, the Internet is called simply "the Net" (Davison, Burgess and Tatnall, 2003). It is a worldwide system of computer networks, that is a network of networks in which users at any one computer can, if they have permission, get information from any other computer (and sometimes talk directly to users on other computers) (Whatis, 2007). In other words, the Internet is an interconnected network of networks sometimes known popularly as the information Super Highway or Infobahn (Tatnall, Davey, Burgess, Davison and Wenn, 2002). The Internet has a three level hierarchy composed of backbone networks, mid-level networks, and sub-networks. These include commercial (.com or .co), university (.acor.edu) and other research networks (.org, .net) and military (.mil) networks and span many different physical networks around the world with various protocols, mainly the Internet Protocol (TCP/IP) (Hyper Dictionary 2005).

2.1.9 The creation of the Internet

The core networks forming the Internet started in 1969 as the ARPANET devised by the United States Department of Defense Advanced Research Projects Agency (ARPA) (Word IQ 2007b). The original aim was to create a network that would allow users of a research computer at one university to be able to talk to research computers at other universities. A benefit of ARPANET's design was that the network could continue to function even if parts of it were destroyed in the event of a military attack or other disaster, because messages could be routed or rerouted in more than one direction in the network (Whatis, 2007).

In 1983, the ARPANET changed its core networking protocols from NCP to TCP/IP, marking the start of the Internet, as we know it today. In 1986, another important step in the development of the Internet was the National Science Foundation's (NSF) building of a university backbone, the NSF Net. Important disparate networks that have successfully been accommodated within the Internet include Usenet, Fidonet, and Bitnet (Word IQ, 2007b).

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There is no central computer running the Internet (Tatnall et al, 2002). During the 1990s, the Internet successfully accommodated the majority of previously existing computer inter-networks. This growth is often attributed to the lack of central administration, which allows organic growth of the network, and the non-proprietary nature of the Internet protocols as well, which encourages vendor interoperability and prevents one company from exerting control over the network (Word IQ 2007b).

Until the important coming of the World Wide Web in 1990, the Internet was almost entirely unknown outside universities and corporate research departments. The Internet was accessed mostly via command line interfaces, such as telnet and FTP (Hyper Dictionary 2005). A programmer (Tim Berners Lee) at the European Particle Physics Laboratory (CERN) near Geneva developed the World Wide Web in 1989. It organises Internet Information using hypertext links (Tatnall et al, 2002). From that time, the World Wide Web has grown to become highly commercial and a widely accepted medium for many things, such as advertising, brand building, and online sales and services. Its original spirit of cooperation and freedom has, to a great extent, survived this explosive transformation, with the result that the vast majority of information available on the Internet is free of charge. While the web, primarily in the form of HTML and HTTP, is the best known aspect of the Internet, there are many other protocols in use which support applications such as email, Usenet, chat, remote login and file transfer. There are several bodies associated with running the Internet, including the Internet Architecture Board, the Internet Assigned Numbers Authority, the Internet Engineering and Planning Group, Internet Engineering Steering Group, and the Internet Society (Hyper Dictionary, 2005).

2.1.10 The Internet today

The Internet is viewed as an electronic community that interacts for leisure, commerce and research (Davison, Burgess and Tatnall, 2003). Today, the Internet is a public, cooperative, and self-sustaining facility accessible to hundreds of millions of people worldwide. Physically, the Internet uses a portion of the total resources of the currently existing public telecommunication networks. Technically, what distinguishes the Internet is its use of a set of protocols called TCP/IP (for Transmission Control Protocol/Internet Protocol) (Whatis, 2007). Two adaptations of Internet technology, the intranet and the

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extranet, also make use of the TCP/IP. Some of the most used protocols in the Internet protocol suit are, IP, TCP, HTTP, HTTPS, Telnet, FTP, LDAP, and SSL and so on. (Word IQ 2007b). The Internet is held together by bilateral or multilateral commercial contracts (for example peering agreements) and by technical specifications or protocols that describe how to exchange data over the network. These protocols are formed by discussion within the Internet Engineering Task Force (IETF) and its working groups, which are open to public participation and review. These committees produce documents that are known as Requests for Comments documents (RFCs). The Internet Architecture Board (IBA) raises some RFCs to the status of Internet Standard.

Some of the most popular services on the Internet that make use of these protocols are email, Usenet, newsgroups, file sharing, and the World Wide Web and Gopher. The most widely used are email, the World Wide Web and online chat, and many other services are built upon them, such as mailing lists and web logs. The Internet makes it possible to provide real-time services, such as web radio and web casts, that can be accessed from anywhere in the world (World IQ, 2007b). Since email is one of the most widely used services on the Internet, for many Internet users email has practically replaced the postal service for short written transactions (Hyper Dictionary, 2005). It could be described as the direct transfer of letters, memos and documents between computers attached to the same LAN or WAN (Tatnall et al, 2002).

We can also carry on live 'conversations' with other computer users using Internet Relay Chat (IRC). Moreover, Internet telephony hardware and software now allow real-time voice conversations. The most widely used part of the Internet is the World Wide Web ('WWW' or 'the Web'). Its outstanding feature is hypertext, a method of instant cross-referencing. By using the Web, one can access millions of pages of information. Browsing is done with a Web browser, the most popular being Microsoft Internet Explorer. The appearance of a particular Web site may vary slightly, depending on the browser used. Also, later versions of a particular browser are able to render more interesting features, such as animation, virtual reality, sound, and music files, than earlier versions (Whatis, 2007).

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2.1.11 Internet usage and the population of the world

According to Internet World Stats (2011), updated in June 2012, the total population of the world is 7,012,519,841. Internet users total 2,405,510,175, which accounts for only 32.7 percent of the world's population. Although Africa has the second highest population in the world, with a total population of 1,073,380,925 (14 percent of world's population), its Internet users number is only 167,335,676 million (6.2 percent of world users) which accounts for only 13.3 percent of Africa population (Internet penetration rate) (see Table 2.1) This Internet penetration rate in Africa is very low and is far from that of the originator of the Internet - North America. The total population in North America is only 343,280,254 (5.1 percent of world's population) but Internet users total 273,785,413 million (21.3 percent of world users), which accounts for 70 percent of the North American population. In Europe, the total population is 816,372,817 (12.4 percent of world's population), and Internet users number 518,512,109 million (28.6 percent of world users) which accounts for 38.7 percent of the European population.

It seems that there is a big gap between Internet users and the world's population because only 34 percent of the world populations are internet users, Noticeably, the people of North America have a significant higher penetration rate (78 percent), much higher than the second rank. Oceanic/Australia (67.8 percent) and the third rank, Europe (63.5 percent). Asia has the greatest number of Internet users followed by Europe and North American, which has a penetration of 27.5 percent of Internet users.

Noticeably however, the countries with highest number of Internet users (Internet World Statistics, 2012) are China (22.5 percent), the United States (10.8 percent), India (5.3 percent), Japan (4.4 percent), Brazil (3.6 percent), Germany (3.0 percent), Russia (2.7 percent), Indonesia (2.4 percent), France (2.2 percent), Nigeria (2.0 percent) (Internet World Statistics, 2012). The countries with the highest Internet penetration rate are Iceland (97.8 percent), Norway (97.2 percent), and Sweden (92.9 percent) Falkland (92.4 percent). (Internet World Stats 2012). (See Appendix. The countries with highest internet rate are Iceland (97.8 percent), Sweden (92.9 percent), Falkland (92.4 percent).(Internet World Stats 2012). (See Appendix).

It can also be noted that the countries with the highest population are China (20.1 percent of world population), India (17.1 percent), the United States (4.6 percent), Indonesia

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(3.4 percent), and Brazil (2.8 percent) (Internet World Stats 2012) (See Table 2.3). Notably, both China and India have the highest population in the world but their Internet penetration rates are rather low (9.4 percent, and 3.6 percent) respectively.

The countries with the highest number of Internet users in Africa are Nigeria (32.2 percent), Egypt (15.5 percent), India (10.6 percent), Kenya (7.5 percent), South Africa (4.7 percent), Tanzania (3.5 percent), Algeria (3.4 percent), Senegal (3.0 percent), Uganda (3.0 percent), and Tunisia (2.8 percent).

Regarding the Internet penetration rate and number of users in Africa, from 35 countries, Nigeria is ranked the first in Africa in both classifications. The Internet penetration rate of Nigeria is, however, rather low (12.7 percent) compared with her population. Although the total population is 167 million, the Internet users are about 17 million (12.7 percent Nigeria population). From this Internet world statistics (last updated on June 2012), it is very interesting to think about the future. What if the countries that have the highest population but very low Internet penetration rate, such as China (internet penetration rate 9.4 percent) and India (3.6 percent), increase their Internet usages from 172 million Internet users now to more than 1billion users within five years? How will this exponential increase in usage impact on the Internet. How will the Internet affect people's lives, and particularly in education?

2.1.12 Internet culture

The Internet is also having a profound impact on knowledge and world views through keyword-driven searching using search engines such as Google. Millions of people worldwide now have easy, instant access to a vast amount and diversity of online information. The Internet represents a sudden and an extreme decentralization of information and data compared to encyclopedias and traditional libraries. English is the most used language for communication on the Internet owing to its original creation. English is used commonly in software programming and early computers can handle characters well only in English. This presents a problem to people in Nigeria. In recent years, the Internet has developed well enough, so that native languages are available in most developed countries. Moreover, the Internet has helped many groups of people to join together. These include people with very rare diseases, scientific groups, cultural and political groups, and those with other interests. Among these benefits of the Internet, there is public concern stemming from some of the

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controversial materials it contains such as copyright infringement, pornography and pedophilia, identity theft, and hate speeches which are available and difficult to control (Word IQ, 2007b).

2.1.13 Internet access

There are various methods of Internet access. Dial-up and broadband are the common methods of home access to the Internet. Libraries and Internet cafes, airport halls and public places are available to use the Internet, sometimes just for brief use while standing. Various terms are used, such as "public Internet kiosk", "public access terminal", and "web payphone"(Word IQ 2007b). Wi-Fi for 'Wireless Fidelity' is a set of standards for wireless local area networks (WLAN) and provides wireless access to the Internet. Hotspots providing such access include Wi-Fi-cafes, where one needs to bring one's own wireless-enabled devices such as a notebook or PDA. These services may be free to all, free to customers only, or fee-based. A hotspot need not be limited to a confined location. Whole campuses and parks have been enabled, even an entire downtown area. Grass-roots efforts have led to wireless community networks (Word IQ, 2007b).

Using one's own computer has more advantages than using public computers, for example more upload and download possibilities, using one's favourite browser and browser settings (customization may be disabled on a public computer), and integrating activities on the Internet and on one's own computer, using one's own programmes and data. Another option is remotely hosted files that can be accessed from any Internet-connected machine. Companies, such as Apple, offer services that allow users to upload files, as a sort of "virtual drive" (World IQ, 2007b).

Countries with particularly good Internet access include South Korea, where 50 percent of the population has broadband access; Sweden and Canada (where 61.6 percent of households use the Internet) and the United States (World IQ 2007b). In the U.S. (the country of origin of the Internet); in 2004, three out of four Americans had Internet access, and 74.9 percent of Americans living in households with a fixed line phone had home access to the Internet. This accounts for 204.3 million Americans out of the projected 272.8 million who are at least two years old, up from 66 percent a year earlier. More than 75 percent of men,

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women and children aged 2 to 54 accesses the Internet, and 63.4 percent of people who are 55 years old and older access the Internet (World IQ, 2007a).

2.1.14 Impact of the Internet on people's lives

Despite the evolution in people's relationship with the Internet, a few things have not changed much as the Internet gets older. For example, in the U.S., email is still the number one activity and time-consumer for the vast majority of Internet users, then information searching, entertainment, and e-commerce. Even though Internet use has grown exponentially, the hierarchy of metaphors that describe it has remained constant. In addition, gaps in Internet usage of Americans still persist along multiple demographic lines, including age (the younger are much more likely to be online than senior citizens), socio-economic status (richer and better educated people are more likely to use the Internet than those with less income and education), and college students are higher Internet users than those who have a lower level of education and so on. (Pew Internet and American Life Project 2005a). Moreover, as for relying on the Internet, a large share of Internet users now say that they will turn first to the Internet when they next need information about health care or government services (Pew Internet and American Life Project,2002a).

Even though the Internet is widely used, there are some people who do not want to use it. In the United Kingdom, 44 percent of the people did not want to use the Internet, claiming that they were not interested in using it (43 percent), they had no means of access to the Internet (25 percent), they did not feel that they had the confidence or the skills required to use the internet (21 percent), and they felt that they had no need to access the Internet (17 percent) (Donnellan, 2002).

2.1.15 Impact of the Internet on education

The Internet has been implemented in universities' organisational and educational practices for almost two decades, and has shown its impact not only on people's lives, but also on education. For example, from a 2002 survey conducted in the U.S., it was found that college students seem generally positive about the Internet and its impact on their educational experience, but distance-learning projects have not found much success. There appears to be little interest among traditional college students (those 18-22 years old) to abandon the

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classroom and take courses online. Only 6 percent of the students took online courses for college credit, and of those only half thought the online course was worth their time, and another half said they believed they learned less from the online course than they would have from an on-campus one.

Based on this finding, it is clear that, for students already enrolled in traditional college courses, online education has a long way to go before it might challenge traditional classroom. About study habits, the finding showed that 73 percent of the college students said that they used the Internet as the primary site of their information searches rather than the library. The convenience of the Internet is tempting students to rely very heavily on it when searching for academic resources (Pew Internet and American Life Project, 2002b).

The survey also showed that distance-learning projects have not found much success because students can choose between study in classrooms and courses online. But in remote areas, where the classroom is not available for those who are interested in studying, taking online courses may be the only choice and may be better than nothing. In the big picture, we have many remote areas in many countries. So distance learning may help people in those areas to communicate with others and to increase their knowledge by learning via the Internet since they have no chance to study in traditional classrooms (Pew Internet and American Life Project 2002b).

According to Donnellan (2002), information and communications technology (ICT) projects run by the UK Education Department have shown that the use of ICT in education provides a number of learning benefits, including:

1) Improved subject learning across a wide range of curriculum areas, including English, mathematics, science, history, geography, modern languages, art, technology, IT and careers, as well as independent study and cross-curricular project work.
2) Improved motivation and attitudes to learning.
3) Development of independent learning and research skills.
4) Improved vocational training.
5) Development of network literacy (that is the capacity to use electronic networks to access resources, create resources and communicate with others, which can be seen as complex extensions of the traditional skills of reading, writing, speaking and listening).
6) Social development.

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2.1.16 The future of the Internet

In the future, wireless connectivity will increase through laptops, cell phones and personal digital devices, concurrently with the rapid growth of home broadband penetration and broadband speeds will improve in accordance with users' needs. Users will increase their reliance on the Internet for a whole range of activities. People are constantly reshaping the Internet, and the Internet is constantly reshaping people's information and social universe as well (Pew Internet and American Life Project 2005b). Most Internet experts expect the Internet to become more embedded in everyday and commercial life with high-speed connections proliferating with mixed results. Experts envision benefits ranging from the ease and convenience of accessing information to changes in workplace arrangements and relationships.

Moreover, the level of surveillance by governments and businesses will grow. Regarding education, 59 percent of the experts sampled in a survey agreed that virtual classes will become more widespread in formal education and that students might, at least, occasionally be grouped with others who share their interests and skills, rather than by age. Fifty-six percent of the experts agreed that as telecommuting and home schooling expand, the boundary between work and leisure will diminish and family dynamics will change because of that (Pew Internet and American Life Project 2005b).

2.1.17 The Internet in Nigeria

The population of Nigeria is estimated at 167 million, (NBS, 2011). There are 8.4 million Internet users, which accounts for 12.7 percent (Internet World Stats 2006a. Nigeria was ranked 18th in the world population in 1998 and 1st in Africa (National Statistical Office, 2007b).

The Internet is most widely used in the central part of Nigeria, especially in Lagos – the commercial capital (population 5.7 million), and the other big cities in the country. Data from the National Statistical Office of Nigeria (2007a) showed that, in 2001, the number of computers per 100 households was 5.7, the number of computers per 100 people was 1.5, and the Internet access per 100 people was 5.6. In 2002, use of computers in establishments was 10.5 percent, Internet access in establishments was 50 percent, and use of websites in establishments was 7.6 percent. Figure 2.3 presents a chart of Internet users in Nigeria

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(NECTEC 2007). The usage growth in Nigeria from 2000- 2006 was 266.1 percent (Internet World Stats, 2006a).

2.1.18 Impact of the Internet on education in Nigeria

Because of the benefits of using new technologies (Bates 2000), teaching through technology can have several advantages over traditional classroom teaching (Leidner and Jarvenpaa, 1995). In Nigeria, the government perceived the benefits of ICT in facilitating teaching and learning processes, as shown by various Nigeria's National Plans issued to motivate and support ICT usage.

1) National Education Plan (2002-2016) (Office of the Education Council 2004), aims to develop human learning into a learning society, and to increase knowledge leading to a knowledge-based society by development of technologies for education to support continuous human learning.

2) The National IT Policy (2001-2010) or information technology 2010, targets that, in the next ten years, Nigeria will move from being a "Dynamic Adopter" to "Potential Leader" on the basis of the United Nations' standard (NECTEC 2001). This policy stipulates five (5) specific strategies, such as e-Education. One of the strategies of e-education is to increase ICT usage. In respect of those strategies, two goals must be achieved:

• By 2010, all schools will be able to connect with the IT network.
• Computers or IT will be used as part of the teaching-learning process at all levels.

3) One of the strategies of the National ICT for Education Master Plan (2004- 2006) (Office of the Education Council 2004), specifies that, basic educational institutes will be able to access the Internet by covering all primary schools by 2005.

Nigeria National Plans, as shown above, all have targets consistently in the same direction. They aim to develop human learning in order to increase people's knowledge by using Internet technologies to support continuous learning in education. The critical issues of how to increase usage or how to make full use of ICT are one of the national concerns. It is essential for all academics in higher institution to use ICT, especially the Internet, since the students that they deal with will all be equipped with the knowledge of how to use the

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Internet, including experiences in using this technology at the basic educational level of study (Federal Ministry of Education, 2004).

2.2 Theoretical framework

The understanding of human social actions is based on some existing theories and models. Application of theoretical explanation will foster our understanding of distance learning environment supported by web-based information technology. Anthony Giddens structuration theory was adopted for explanations on the issues under study. The theory was used to explain the evolving structures in the mode of delivery in distance learning environment where students and lecturers are acting to reproduce new relations.

2.2.1 Structuration theory

Structuration theory is one of the best-known theories and most articulated efforts to integrate agency and structure. Anthony Giddens developed it (Held and Thompson, 1989; Craib, 1992; Bryant, and Jary, 2000; Cohen, 2005, 1989). The basic domain of the social sciences, according to the theory of structuration, is neither the experience of the individual actor nor the existence of any form of social totality, but social practices ordered across time and space. Every research investigation in the social sciences or history is involved in relating action (often used synonymously with agency) to structure; there is no sense in which structure determines action or vice versa (Giddens; 1984:219).

The theory of structuration shares a powerful connection with the work of Karl Marx. It sees the constitution of the society as an extended reflection on Marx's inherently integrative dictum that 'men make history, but they do not make it just as they please; they do not make it under circumstances chosen by themselves, but under circumstances directly encountered, given and transmitted from the past' (Marx, 1869/1963:15). In the context of this study, structure could refer to aggregate of an entity in their relationship to other, while d*ialectics* can be seen as the way in which aspects of a situation affect one another.

As its core, Giddens's structuration theory, with its focus on social practices, is a theory of the relationship between agency and structure. According to Richard (1989:23), 'the very heart of the theory of structuration is intended to illuminate the duality and dialectical interplay of agency and structure". Thus, agency and structure cannot be conceived separately

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from each other; they are two sides of the same coin. In Giddens's term, they are duality. All social actions involve structure and all structure involves social actions. Thus, agency and structure are inextricably interwoven in ongoing human activity or practice (Ritzer, 2008).

The concept of structuration is premised on the idea that the constitution of agents and structure are not two independently given sets of phenomena. The structural properties of social systems are both medium and outcome of practices they recursively organise. The moment of the production of action is one of the reproductions in the context of the day-to-day enactment of social life (Giddens, 1984:25, 26). It is clear that the structuration involves the dialectical relationship between structure and agency (Rachlin, 1991)

Giddens analytical starting point is human practices. He, however, insists that such practices be seen as recursive, activities which are not brought into being by social actors but are continually recreated by them through the very means whereby they express themselves as actors. In and through their activities, agents produce the conditions that make these activities possible (Giddens, 1984:2). Thus, activities are not produced by consciousness, by social construction of reality nor are they produced by social structure. Rather, in expressing themselves as actors, people are engaging in practice and it is through that practice that both consciousness and structures are reproduced.

Time and space are crucial variables in Giddens's structuration theory. Both, however, depend on whether other people are present temporally or spatially. For the purpose of this study, the primordial condition that existed in the delivery of teaching and learning in distance-oriented learning environment is face-to-face interaction, whereby others are present at the same time and in the same space. However, social systems are extending in time and in space, and so others may no longer be present. Such distancing in terms of time and space is made possible in the modern world by new forms of communication and transportation.

However, underscoring the importance of space, Saunders, (1989: 218) contends that 'any sociological analyses of why and how things happen will need to take account of where and when they happen". The central sociological issue of social order depends on how well social systems are integrated over time and across space. Structuration theory has a strong behavioural element. The theory assumes that, when someone forms an intention to act, he/she will be free to act without limitation. In the real world, there will be many constraints, such that may limit or put constrained to the freedom to act.

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The Internet and the various activities in which people are involved when using it has fundamentally changed the meaning of temporal differences and their implications for physical mobility. Contacts between distant locations can take place on the Internet at the same time. Internet activities, such as e-mail, alter the dimension of time in work and in social interaction, releasing rigid time-patterns in the organisation of work and other everyday life activities. In Negroponte's (1995:193) words: 'nine-to-five, five days a week, and two weeks off a year starts to evaporate as the dominant beat to business life. Professional and personal messages start to commingle: Sunday is not so different from Monday; with all industrial settings of work and living now revised by flexible and shifting post-industrialist modes of time management.

In this sense, information technologies and the Internet, in particular, help 'diminish the importance of time frames generally accepted as appropriate for performing a given activity' (Failla and Bagnara, 1992: 678). This weakening of time constraints, in terms of communication between remote places and within the everyday organisation of life, goes even further, offering people a new virtual reality that 'allows "future" or inexperienced experiences to be experienced' (Lee and Liebenau, 2000:50). In doing so, the Internet 'allows simulation of the future and thereby modifies the time-frames which are no longer relegated to repetitions of the past with little variation' (Lee and Liebenau, 2000:50). Examples are Internet spaces, such as Second Life, social networking sites and interactive online games, all of which allow shifts of conventional offline temporal boundaries through fitting in these boundaries online time schedules and activities that operate in parallel and which are located in 'virtual' temporal frameworks, challenging users' identities and life time frames.

Regardless of the re-negotiation of time frames and the creation of a parallel 'Internet time', temporal limitations still exist even in this emerging virtual world of communication, exchange and mobility. For instance, while Internet users have a sense of instantaneity, the inefficiency of web surfing and delays in connections make time matter. Empirical studies on Internet non-usage have illustrated that one of the main reasons for people not adopting or abandoning the Internet is time spent inefficiently searching online materials (Katz and Rice, 2002). Thus, even if one accepts the view that the old order of measurable and firmly demarcated time 'is being shattered in the network society' (Castells, 2000:463), Castells' notion of 'timeless time' and the idea that mobile or wireless technologies have enhanced

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even further the timelessness of time (Castells et al., 2006:174) should be problematised. Temporality, lag in time and deadlines still matter, even if they are mediated by new technologies, with the latter altering the parameters of influence, dimensions, flexibility and aspects of urgency of time in everyday life.

Although the Internet has provoked a shift in definitions and perceptions of temporality, the incorporation of time into people's lives is historically rooted in different cultural environments. Time is still a consideration that people cannot ignore in their daily lives, as it is tightly attached to the complex notion of people's cultural identities and lifestyles. Nowotny (1994:16-44) notes that, at a very early stage of the development of Internet communications, there was 'the illusion of simultaneity', while the notion of subjective time – the evaluation of temporal quality by different individuals – contests the claim of instantaneity of today's social life. In this respect, the movement of temporality along technological change demands a structural reconsideration of the old-fashioned notion of time that takes seriously into account socio-cultural drivers and media technology parameters that mediate the concept and experience of time.

Agency, according to Giddens, is intimately connected with power. In fact, this is one of its defining characteristics, since the loss of the capacity to make a difference is also powerlessness. In practice, human agents usually retain some transformational capacity. Power involves the exploitation of resources. 'Resources are structured properties of social systems, drawn on and reproduced by knowledgeable agents in the course of interaction' (Giddens 1984: 15) Resources are 'of two kinds: authoritative resources, which derive from the coordination of the activity of human agents, and allocative resources, which stem from control of material products or aspects of the natural world' (Giddens 1984). Power is not itself a resource. Actions have intended and unintended consequences. Structure refers, in social analysis, to the structuring properties allowing the binding of time and space in social systems, the properties which make it possible for discernibly similar social practices to exist across varying spans of time and space and which lend them a systemic form. To say that structure is a virtual order of transformative relations means that social systems, as reproduced social practices, do not have 'structures' but rather exhibit 'structural properties' and that structure exists, as time-space presence, only in its distanciations in such practices

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and as memory traces orienting the conduct of knowledgeable human agents (Giddens 1984:17). Giddens regards structure not merely as constraining, but also as enabling.

Time and space constitute intrinsically inseparable elements of physical reality. Time engages space and space requires time, such that we have the sense of space because we can move and of time because, as biological beings, we undergo recurrent phases of tension and ease'. On the one hand, space exists in time, changes through time and it is depicted differently at different temporal points in history, whereas distance often involves time length. On the other hand, the sense and measurement of time are heavily dependent upon space and spatial distances. Consequently, time is associated with the spatial dimensions of the world and vice versa, while these two structural aspects of reality 'coexist, intermesh, and define each other in personal experience. Space becomes place when it acquires symbolic meaning and a concrete definition, marking the whole spectrum of identity and sense of belonging. Thus, place is also associated with the concepts of time and space. (Tsatsou, 2009).

These close links and their crucial importance for the evolution of reality in teaching and learning bring forward the issue of the role of Internet-mediated learning in teaching and learning, thus re-defining academics' and students' experience of time, space, and place. Before the advent of the Internet, students were bound by oral communication and physical travel, whereas, today, students are able to cross and adjust temporal and spatial distances largely because of the usage of the Internet.

However, much as the structuration theory is a powerful vehicle for sensitising understanding of the social system, its apparent limitations is that it could individualise thinking, encourage individualisation of learning and teaching, severe social systems or collectivities, regularise relations of relative autonomy and dependence, promote routinization, and weaken the analytical power of students.

The teaching-learning situation includes four elements, as proposed by Wedemeyer: teacher, student, communication system or model, and course (Keegan, 1990; Simonson et al, 1999). Various combinations of these may accommodate spatial distance better and give more freedom to learners. The model in the figure below combines these elements in a manner that suits better spatial distance. The advantages lie in the fact that the teaching flow meets the demand of any place, any time, as well as giving lessons to one student or more and providing more freedom to the learners.

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2.3 Conceptual Framework

The conceptual framework (Figure 1) is derived from structuration theory. This framework is predicated on the assumption that students enrol for distance learning in Nigeria enrolled because of the dearth in the number of available regular universities in Nigeria. Some basic assumptions need to be made in the explanation of the conceptual schema. (1) The available sitting capacities in the regular Nigeria universities will not allow all people seeking for admission into the Nigerian universities to gain admission. (2) Distance learning institutes will provide those who seek admission into the regular universities but are denied because of space, opportunities to fulfil their dreams of having higher education. (3) Distance learning centres that support good knowledge of technology and skill, and offer professional development on appropriate models of technology integration and also institutional and structural changes for technology integration will produce competent teachers. (4) Distance learning institutions that are supported by adequate technology will alleviate the challenges of access to education in the country, students' academic performance will also be improved considerably, their ability to use various forms of information and communication technology tools will also be enhanced, and graduates attendance rate in the country will also be boosted. With the above conditions met, Nigeria will be able to produce youths/students who are seriously engaged in the pursuit of academic.

Using information technology in education favours interaction and collaboration among participants and the World Wide Web fosters new means of communicating and interacting both in real and asynchronous time and provides authentic material and resources that can be easily exploited. However, the deployment of the Internet into the educational system (distance learning) will help bring about a widening gap between the students and the academics and thus reorder the social interactions while promoting the culture of indivialisation as against the culture of communality.

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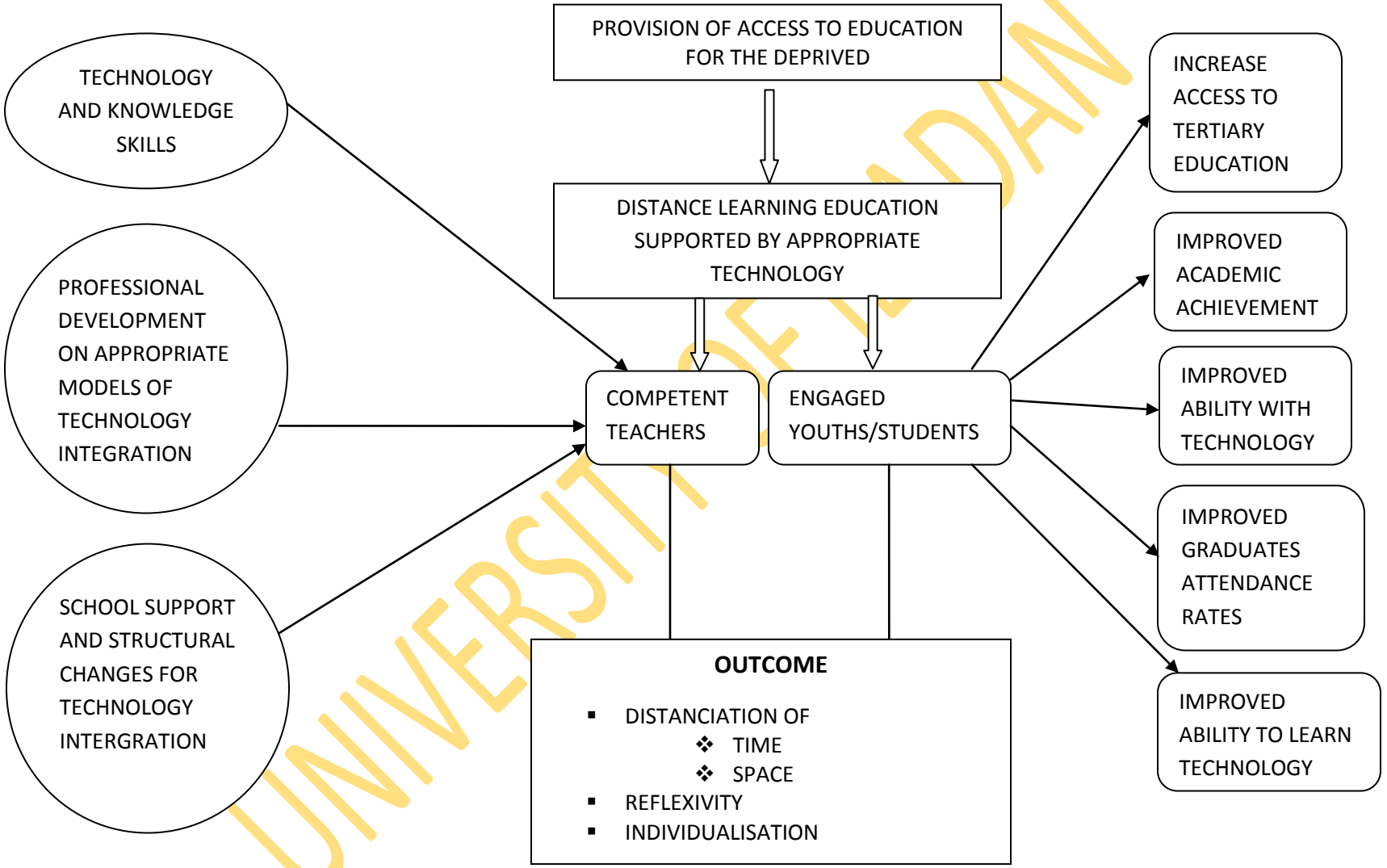
(Figure 1) **CONCEPTUAL FRAMEWORK**



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CHAPTER THREE

METHODOLOGY AND METHOD

3.1 Introduction

This section of the study focuses on the methodology for data collection adopted in this study. Issues discussed include research design, research process, the study locations, and the study population, sampling techniques, methods of data collection, research instruments, validity and reliability tests for research instruments, methods of data analysis, ethical consideration, field experience and limitations of the study. This study adopted the use of triangulation of qualitative and quantitative techniques, since they were the best instruments to measure the opinions of the subject for the study. Efforts were made to get familiar with the study group to really understand their disposition to the topic.

3.2 Research design

For this study, a cross-sectional survey design was adopted. The study was descriptive, combining both qualitative and quantitative methods. The utilization of a descriptive methodology allows the researcher to gather and analyse information from an exploratory perspective. There are several types of descriptive studies; evolutionary, survey-based studies, case studies and observational studies, among others (Aron, 1999). The quantitative technique is particularly strong at studying large groups of people and applying generalisations from the sample being studied to broader groups beyond that sample. Qualitative methods on the other hand are particularly strong at attaining deep and detailed understanding about a specific group or sample but at the expense of generalizability. Each approach has its strength and weaknesses and each is valuable, depending on the purpose of the research (Holton and Burnett, 1997). The adoption of both was to allow the researcher and the study take advantage of both methods with a view to using the strength of one to support the perceived weakness of the other.

The quantitative aspect of the study involved the administration of a semi-structured questionnaire to students and academics. The qualitative method component comprised the conduct of In-depth interview (Idi's), focus group discussion (FGDs), key informant interview (Kiis) and observation methods. The principal survey instrument (the questionnaire) was used to generate data that measured the distribution of certain characteristics in the population with

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a view to offering explanation for their occurrence. In this regard, the survey design adopted for this study was 'set up specifically to explore associations between particular variables' (Oppenheim, 1992:21).

The research design was devised following a number of researcher's decisions associated with the purpose of the study (exploratory, descriptive,), where the study would be conducted (that is the study setting), the type of study it should be (type of investigation), the extent to which the researcher manipulated and controlled the study (extent of researcher interference), and the temporal aspects of the study (time horizon). Others were the level at which the data would be analysed (unit of analysis), sampling design (the type of sample to be used), how the data would be collected (data collection methods), how the variables would be measured (measurement), and how they would be analysed (data analysis). In other words, the research design was the step aimed at designing the research study in such a way that the essential data can be gathered and analysed to arrive at a solution

As this research is a correlational study, it was conducted in non-contrived settings, whereas rigorous causal studies are done in contrived laboratory settings. Organisational research can be done in the natural environment where work proceeds normally (that is, in non-contrived settings) or in artificial, contrived settings. For this study, the unit of analysis was an individual student, academic, administrators and the other relevant stakeholders in the selected distance learning centres. The unit of analysis refers to the level of aggregation of the data collected during the subsequent data analysis stage. The researcher treated each response as an individual data source.

This research study is classified as a one-shot or cross-sectional study because it collected data just once. Data were collected over a period of months in order to answer the research objectives. It is different from a longitudinal study, where data on the dependent variable is gathered at two or more times to answer the research questions. This research was conducted in the natural environment of the organisation and so would consequently minimize interference with the normal flow of the work by the researcher, compared to that caused during causal studies.

Therefore, relying on the advantages of qualitative and quantitative methods of data collection as espoused by different scholars, this study engaged in total issues in information and communication technology and distance learning delivery mode. The issues explored

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included social demographics, facilities required, students' and tutors' knowledge of information and communication technology, access to information and communication technology tools by students and tutors, effects of virtual education in a distance learning oriented environment and the challenges that may impede the access and the adoption of information and communication technology.

Table 3.1: MATCHING OF OBJECTIVES AND METHODS

Research Instrument	Specific Objectives				
	Objective 1	Objective 2	Objective 3	Objective 4	Objective 5
Survey			*	*	*
FGD	*	*	*	*	*
IDI	*	*		*	*
KII	*			*	*
Observation	*				

3.3 Research process

This research was conducted in accordance with a research process based on the concepts of hypothetical-deductive method, which has eight steps.

3.3.1 Observation (it was conducted, and was used as a research methodology).

3.3.2 Preliminary information (data) gathering through semi-structured interviews in order to gather information on what is happening and why. The researcher got an idea of what happened. The information from this step helped in designing the questionnaire.

3.3.3 Obtaining more information through literature survey. A literature survey was conducted in order to obtain more information so that the researcher could identify how such issues were tackled in other situations. This information gave additional insights into various possibilities, sometimes including some that had not surfaced in interviews, and helped to confirm that these variables were good predictors of usage behaviour and behavior intention.

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3.3.4 Theory formulation (theorising) is a step in developing a theory incorporating all the relevant factors contributing to the usage behaviour and behaviour intention of academics to use the Internet. It was an attempt to integrate all the information in a logical manner, and was a collection of theories and models from the literature to help conceptualise and test the reasons for the problems. In other words, it explained the research questions or and made variables clearly identified and labelled (Hussey and Hussey, 1997).

3.3.5 Hypothesizing: this step was not used.

3.3.6 Data collection: A questionnaire was developed, based on various theorised factors, to determine the use and intention to use the internet. This was then deployed as a survey tool to collect data. This was in addition to focus group discussions, In-depth Interview, key informant interview and observation method

3.3.7 Data analysis: Data obtained through the questionnaire were analysed to see the factors that influenced the behaviour of the subjects. Other information about the students' and academics' characteristics and background of Internet usage was also obtained from this stage.

3.4 The study locations

The study focused on three (3) purposively selected and long-standing distance learning operators/universities in Nigeria. These universities were selected because they are the institutions licensed by the board of the National Universities Commission to provide open distance learning education in any part of Nigeria. Besides, the three universities also have a history of having embedded information and communication technology into their distance learning programmes. Mannheim (1952) and Whittier (1997) argue that cultural, social and historical conditions at the particular time of entry into the domain of activity are likely to shape organizational and individual actions and interpretive frameworks in ways that persist even when the social conditions changes. Thus, tutors' world views and practices are likely to be induced by the nature of adaptation to the particular movement (information and

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communication technology) in learning instruction at the time they enter the profession. The purposively selected universities were:

(1) University of Ibadan, Ibadan

(2) University of Lagos, Lagos

(3) National Open University of Nigeria (NOUN)

Brief histories of the study locations

3.4.1 University of Ibadan

The University of Ibadan is the premier and remains one of the foremost universities in Nigeria, located in Ibadan, Oyo State, southwestern part of Nigeria. It was founded in 1948 as an external college of University of London. It gained autonomy in 1962.

The Department of Adult Education of the University of Ibadan conceived the idea of distance education in 1972. The proposal for the commencement of the various programmes was presented to the Senate of the University in 1976. Later, the National Universities Commission gave its approval on the condition that it would be a self-financing programme. Hence, the present-day distance learning programmes started as the external studies programme of the Department of Adult Education in 1988, with courses from the parent department (Adult Education) and two other departments, Guidance and Counselling and Teacher Education.

By 1993, four more departments: Special Education, Library Science, Educational Management and Physical and Health Education joined the original three departments to offer courses leading to the award of the Bachelor of Education (B. Ed) degrees. In 1998, the programme was extended to the Faculty of Agriculture. In order to keep pace with global developments, its name was changed from Centre for External Studies to Distance Learning Centre in 2002. Since its inception, the Centre has graduated over 4,000 students.

Administratively, the University of Ibadan Distance Learning Centre is headed by a Director who is usually a professor and reports to the Vice-Chancellor. The Centre has seven units; each unit is headed by a head of unit. The units are Admissions, Examinations, Records, Educational/Publication, Store, Account and General Operations. The Director is also the head of the Academic Unit of the Centre. (www.uidlc.edu.)

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3.4.2 University of Lagos

University of Lagos is also a federal university located in the Lagos metropolis, southwestern part of Nigeria. It was founded in April 1962. One of its objectives is to train professionals for the manpower needs of the country. In fulfilling this objective, it was required to provide facilities for part-time studies in such fields as Law, Business Administration and Accounting as well as Education through correspondence and distance teaching techniques. It was for this purpose, among others, that the Correspondence and Open Studies Institute (COSIT) renamed Distance Learning Institute (DLI) in December 1997, was established during the 1973/74 session as a Unit of the Continuing Education Centre (CEC). It became autonomous in 1980 and was upgraded as an institute in 1983 with its own Management Board empowered to formulate policies and supervise its day-to-day affairs.

In 1997, the senate of the school reaffirmed the autonomous status of the Institute following a reorganization exercise in the university. The institute is being restructured such that, the frequency of study centre meetings, for example, would be reduced essentially to tutorials and assignments at interactive centres, providing opportunities for students' informal group study meetings to complement their studies on individual basis. The Institute provides support learning materials such as course texts, audio cassettes and video cassettes as well as computer learning aids, and academic counselling. In effect, the existing face-to-face mode of interaction, that is, interaction with lecturers is de-emphasised as students are expected to engage in self-directed study with the aid of multi-media and e-learning technology. The Institute is managed by the DLI Management Board, which oversees the activities of the Institute, while the Academic Board of the Institute is responsible for academic programmes, examination results and related issues (dli.unilag.edu.ng)

3.4.3 National Open University of Nigeria (NOUN)

The National Open University of Nigeria was originally founded on 22nd July, 1983 as the launch pad for open and distance education in Nigeria. The government stopped the university on 25th of April 1984. The university was launched again on 12th April 2001, because of its significant roles in the education system of Nigeria.

The National Open University of Nigeria is Nigeria's leading and only specialist provider of open and distance learning at tertiary level. It is also the country's largest tertiary

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institution in terms of student number. It operates from its Administrative Headquarters located in Lagos, Nigeria, with study centres throughout the country. At the take-off of the university, pioneer student enrolment was 32,400 the university currently offers over 50 programmes and 750 courses at diploma and degree levels It maintains a strong commitment to internationalization. Educating the workforce of today and tomorrow is a key focus.

The National Open University of Nigeria consults with industries and employers in developing courses. It also brings international programmes from universities around the world. The National Open University of Nigeria (NOUN) expertise in programme design, course development, learner support systems, and great spread of study centres nationwide, focus on lifelong education and online education make it well suited to making excellent contributions to Nigeria's Universal Basic Education effort and Education for All programmes (www.noun.edu.ng).

3.5 Study population

The study focused on students, lecturers as well as the technical officers involved in the operation and utilisation of information and communication technology unit of distance learning centres / universities in Nigeria. It involved all the students and the faculties in the universities selected for the study. The study also extended its coverage to include programme administrators and key stakeholders in the area of study. Recruitment and participation were subject to availability and willingness of respondents. However, to ensure greater level of participation, the researcher used the avenues of meetings of lecturers and general gatherings of students in such places as lecture rooms and hostels for collection of quantitative data.

To provide a robust, statistically valid and reliable data, 870 copies of a fully structured questionnaire were administered to the students and 200 copies to the lecturers. Respondents involved in the study included policy makers, administrators, teaching staff, and students of distance learning education from all the faculties and departments in the three universities. The allocation of sample was further broken down using the numerical strength of each university in terms of number of registered students.

In-depth interviews were held with prominent educationists in the three university towns and other “knowledgeable” individuals in the field of distance learning. Focus group

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discussions were also held with the students to get their views on the topic. These sources of information supplied rich insights into the concept under study.

3.6 Sampling technique

The systematic sampling procedure was adopted for the study. Systematic sampling envisions the list as a set comprising mutually exclusive samples, each of which is equally representative of the listed population. Systematic sampling is an appealing method because it embodies the requirements necessary to obtain a probability sample and derive unbiased estimates of the population characteristics.

To make the sampling representative of the population, effort was made to get the number of registered students for distance-learning programme from the selected universities. Upon collection of the students' list, the researcher clustered the list into faculties and departments in each of the selected universities (although such list is said to be tentative since admission of students and recruitment of academic staff is an ongoing phenomenon). This was to ensure that no department of the universities was left out in the study. Exit interview was used and this necessitate the researcher and the research assistants employed to repeatedly attend the classes and programmes in the study locations so as to be able to administer the sets of questionnaire until the desired sample size for each university is selected..

The researcher took advantage of the various meetings that were held by the academic staff in each university to administer the questionnaire to the respondents. With the aid of the purposive sampling technique, the researcher selected four programme coordinators and two workers in the ICT department of each of the study location for the in-depth interview.

Focus group discussions were also used to gather preliminary information during the exploratory stage of the research Sekaran (2003) suggests that this is a useful data collection method to include at this stage. The focus group discussions were conducted in environments suitable for such. Discussion guides were used to collect information from the students. This method has advantages, in that the interviewer can adapt the questions as necessary, clarify doubts, ensure that the responses were properly understood by repeating, probing and or rephrasing the question, establish friendly relationships and motivate respondents. By using

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this technique, any other body language unconsciously exhibited by the respondent could also be detected.

To ascertain the claim of infrastructural capabilities by the universities, the researcher employed the method of observation. Visits were made to the sites of the facilities. In the case of the National Open University of Nigeria, the researcher visited the head office of the Internet provider that provides the university with examination facilities. (CHAMs Centre Victoria Island and Maryland, Lagos)

3.7 Sample size determination

On the level of access and adoption of the new information and communication technology among the students in the study area, the sample size for the study was determined by using the comparison of proportion formula. In all the selected universities had a total population of sixty one thousand, four hundred and sixty three (61, 463). The National Open University of Nigeria, as at the time of this study, had a total number of thirty-two thousand, four hundred students (32,400), the University of Lagos had about sixteen thousand three hundred and nine (16, 309) students and the University of Ibadan has a total of twelve thousand, seven hundred and fifty four students (12,754). Thus, using the comparison of proportion formula, 870 students was arrived at with the National Open University of Nigeria having four hundred and sixty-one (461) samples, the University of Lagos had two hundred and thirty samples and the University of Ibadan had a total of one hundred and seventy-nine samples.

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Table 3.1.1 Selection of sample size for students using comparison of proportion formula

Selection of sample size for students using comparison of proportion formula		
Names of Universities	No of Registered students'	Students Sample allocation
NOUN	32,400	461
University of Ibadan	12,754	179
University of Lagos	16,309	230
Total	**61,463**	**870**

The procedure for selection of academics for the in-depth interview was based on simple random sampling. Having collected the 'estimated' number of teaching staff in the distance learning centres, academics were selected based on the strength of number of staff engaged in the programmes. This method enabled us to arrive at the number of academics selected for this study (200) as shown in the table below: For example the National open University of Nigeria that had 461 students had 93 academics, the University of Ibadan that had 179 students only had 35 academics, while the University of Lagos had 72 academics sampled.

Table 3.2: Selection of sample size for lectures using simple percentage

Selection of sample size for lectures using simple percentage		
Names of Universities	Number of Academic staff	Academic Staff Sample allocation
NOUN	461	93
University of Ibadan	179	35
University of Lagos	230	72
Total	870	200

In-depth Interview was used because the level of complexity of the issues involved was rather high, and the estimated duration of the interview was rather lengthy (at least 30

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minutes to 60 minutes). Each university was located in a similar geographical area in Nigeria, which made conducting the interviews convenient. Tape-recording of semi-structured or in-depth interviews is commonly used, although, in some cases, it might be felt that such a procedure could inhibit respondents. If tape-recording is not possible then notes must be taken, either at the time or immediately afterwards.

Because the academics allowed tape recordings, this helped introducing complete verbatim transcripts of interviews. This is however a laborious process as one hour of interview may take as much as six hours to transcribe (Ticehurst and Veal 2000). In practice, transcribing the tape-recording for this research took more than ten hours for each one hour of tape recording. Such transcripts can be used to analyse the results of interviews in a more methodical and complete manner than is possible with notes (Ticehurst and Veal 2000). However, this technique has some disadvantages. They include the geographical limitations that the researcher may deal with on the surveys, the vast resources needed if such surveys need to be done nationally or internationally, respondents may be concerned about confidentiality of information given, they can introduce interviewer biases, and respondents can terminate the interview at any time (Sekaran, 2000). In the case of this study, there was no geographical limitation because the interviews were conducted within three universities in Nigeria and the respondents were informed that the information they gave would be kept strictly confidential.

3.8 Research instruments

3.8.1 The questionnaire

The principal survey instrument was the questionnaire. The instrument was administered as a structured interview schedule. It was designed on the basis of the insights gained from the initial focus group discussions (FGDs) that were held as part of a pilot component of the investigation. Other methods that were used during the pilot session included unstructured interviews, informal discussions and unobtrusive observation.

A questionnaire is a pre-formulated written set of questions to which respondents record their answers, usually within rather closely defined alternatives (Sekaran 2000,2003). The reasons behind the use of the questionnaire method as a major survey tool in this research are given below:

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1) It was used because it is an efficient data collection mechanism when the researcher knows exactly what is required and how to measure the variables of interest. Field studies, comparative surveys and experimental designs often use questionnaires to measure the variables of interest (Sekaran, 2003).

2) It was used because quantified information is required concerning a specific population and academics' behaviour and attitudes are acceptable as a source of information (Ticehurst and Veal 2000).

Sekaran (2003) suggests that the advantage of the questionnaire method is that administering questionnaires to large numbers of individuals simultaneously is less expensive and less time consuming than interviewing. It also does not require as much skill to administer a questionnaire as to conduct interviews. Nevertheless, there are a number of problems associated with the use of questionnaires, relating to the issue of confidentiality (Hussey and Hussey 1997). It was stated in the covering letter to all academics that the data collected would be strictly handled inconsideration of issues of anonymity and confidentiality.

Questionnaires can be personally administered or by mail. The former technique was used to collect primary data for this research, for two reasons. On,e personally administered questionnaires are a good way to collect data when the survey is confined to a local area and the organisation is willing and able to assemble groups of employees to respond to the questionnaire at the workplace. Second, personally administered questionnaires always records a high volume of return rate compared to mailed questionnaires, whose return rate is low, making it difficult to establish the representativeness of the sample. Mailed questionnaires also have another drawback, in that, if the respondents have any doubts, their doubts cannot be clarified (Sekaran, 2003).

The effective administration of the questionnaire required the prior training of research assistants (Interviewers and supervisors) over a period of five days. The sixth day of the training was reserved for pretesting the instrument. Changes to the structured interview schedule arising from the pretest were minor, possibly owing to the procedure used in designing and constructing it. The questionnaire and structured interview schedule consisted of separate sections for the students and the academics. The type of question used was based on the 'funnel approach'. In this approach, each module may be started off by questions of a general sort, which are progressively narrowed to specific points. Filter questions were

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introduced to exclude some respondents from questions that were not applicable to them, on the strength of previously recorded information. The questions asked were organized centrally around the main study objectives with specific focus on the research questions.

The questionnaire supplied quantitative information on the personal, socio economic and demographic attributes of the respondents. It also provided the characteristics of respondents who attended distance learning in Nigeria, as well as gender and behavioural issues pertaining to the use of information technology in Nigeria. Open-ended questions were designed to promote the use of this instrument for qualitative purposes. The respondents were required to clarify preceding responses in an open-ended manner for which adequate space was provided in the instrument. The questionnaires for the students and facilitators were divided into various parts. Part A addresses respondents' socio-economic and demographic characteristics. Part B will seek to elicit respondents' general awareness and usage of information and communication technology. Part C addressed the extent of utilization of information and communication technology and learning and teaching output of such activities. The other section addressed the factors that hinder and or enhance the use of Information and Communication Technology for teaching and for learning.

Questionnaire development:

The structured questionnaire used for the study went through a series of draft before it got to the acceptable final form. Before the questionnaire was designed, the researcher reviewed alternatives questions format and responses from the focus group discussions and the in depth interviews to decide which ones were best suited to the study's objectives. As the questionnaire began to take shape, the researcher continually evaluated each question and its response options for face validity. Changes were made, and the questions wordings were reevaluated to make sure that they addressed the focus of the study. Also, the researcher tried to minimize question bias.

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Questionnaire Administration:

This involved the administration of the questionnaires by trained interviewers to the selected respondents. The questionnaire for the survey were structured, it was designed to ensure that all variables were adequately explored. In-depth interviews were held with the respondents after the questionnaire survey.

For the proper administrations of the questionnaires, a team of qualified interviewers was engaged. The interviewers taken through series of training on the codes of administration of the questionnaires. To checkmate no-compliance with the instructions on the questionnaire, quality control team was raised to guide against any shortcomings noticed in the field and outside the field.

3.8.2 Focus group discussion

Eighteen focus group discussions sessions were conducted. Discussants were distance learners. Each FGD was made up of at least seven discussants and based on the levels of education. The distribution of the FGDs is shown below.

Table 3.3: Matrix of methods

Level/ Universities	100	200	300	400	500	600	Total
NOUN	01	01	01	01	01	01	06
UNILAG	01	01	01	01	01	01	06
UI	01	01	01	01	01	01	06
Total	03	03	03	03	03	03	18

Focus group discussions are in-depth exchanges in which groups of participants talk about topics relevant to a particular set of research objectives. The size of a focus group varies with both practical and substantive consideration. The size may be 4-12 (Morgan, 1988), 6-10 (Nigeria, 1999:10), or 8-12 (Khan et al., 1991:145). Focus groups are useful in survey research because they may be used to construct questionnaires (Rossi et al., 1983; Converse and Press 1985; Isiugo-Abanihe, 1996). Morgan (1988:33), however notes that, "in the case of social science surveys the absence of explicit descriptions of how to triangulate focus groups and surveys is probably a result of the relative rarity of this combination. Thus, for this study, a total of eighteen focus group sessions were held. The participants comprised the distance-

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learning students in the selected universities. There were six FGD sessions in each of the universities and the sessions had 6-10 students per group in each of the universities. The focus group discussion sessions maintained a homogeneous balance on the basis of sex, levels in the programmes and age groups.

Exploratory focus group discussions were particularly useful for generating in-depth insights into the design features in form of social interactions among distance learning students, and for facilitating the design and development of the questionnaire, which was the main survey instrument. Focus group discussions have been classified into three types, viz, exploratory, clinical and phenomenological focus groups 'The rational of exploratory focus group is that considering a problem in terms of everyday explanation will somehow facilitate a subsequent scientific approach"(Calder, 1977). Hence, FGDs can be used to provide insights into the why a certain event seems to be happening, or people's understanding of it. Talking to a group of people, in a free-flowing way, about their experiences of what they are doing in responses to a situation can often start some very important thinking in the mind of the researcher. Used in this way, "exploratory focus group can be a starting point for a large-scale research, especially of the quantitative nature" (Isiugo-Abanihe and Obono, 2000).

The phenomenological nature of the focus groups in this investigation was informed by the necessity to understand the prospects and the challenges associated with the introduction of IT in the selected distance learning centres in Nigerian universities. In addition, it was important to probe the emotional reactions of the students and the academics to the specific social development areas, such as the introduction of IT into pedagogy. We found that phenomenological focus groups were quite suitable for these purposes (Folch-Lyon and Trost, 1981), especially since they facilitated the presentation and representation of knowledge as conscious lived experience. The focus groups mixed well with conventional ethnographic methods, such as unobtrusive or participant observational techniques, because the latter methods are predicated on varying degrees of involvement of the researcher in the daily life of the subjects. By facilitating interaction with the people, phenomenological FGDs provided a sense of involvement that left both the discussants and the researcher with a better understanding of how the students and the academics were adjusting to the introduction of IT to their world view and how it was bound to conflict with their traditional face-to-face method they were used to. The focus group discussions helped to unveil the complex emotional

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scaffolding which the introduction of the innovation could be associated with. They, thus enabled the researcher to focus on the lives of the respondents and relive with them all of the satisfactions, dissatisfactions, rewards, frustrations of the particular situation (Mcdaniel, 1979). In addition to generating such insights, the focus group discussions effectively complemented the quantitative data supplied by the survey instrument. They offered an explanation on numerical data when the data interpretation was not clear. They revealed behaviour or attitudes that might otherwise pass unexplained (Folch-Lyon and Trost, 1981).

Using the methodology in this manner was of enormous benefit for the present study. During the exploratory phases of fieldwork, the discussions provided clues on the language and concepts with which respondents were most familiar. It was these clues that aided the construction and design of the survey instrument, and also facilitated entry into the socio-cultural and mental worlds of the subjects. In serving as a follow-up data collection method during the main fieldwork, the FGDs helped clarify issues that emerged from the responses to the survey instrument.

The analysis of the focus group discussions took the form of manual content analysis and the use of prose. According to Morgan (1988), these are the two basic approaches to analyzing focus group data (that is quantitative or ethnographic summary and systematic coding or tallying via content analysis). In his words, 'the principal difference is that the ethnographic approach relies more on direct quotation of the group discussions, while the content analysis typically produces numerical descriptions of the data' (Morgan, 1988:64), but not necessarily in a quantitative or statistical manner. We combined these two approaches in this study, utilizing the manual content analysis to elicit emphases, patterns and direction of the discussion. This was achieved by identifying who said what, when (that is, in what sequence), why (was it is in response to someone, or was the discussant muttering under his/her breath?), how, and how frequently.

Tallying the conversations in this way produced fascinating insights into the orientation of the discussants, threw light on the focus in the focus group discussions. The two approaches are complementary modes of analysis. Morgan (1988:24) observes that "a large ethnographic approach may benefit from a systematic tallying of one or two key topics, while a basically quantitative summary of the data is improved immensely by including quotes that

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demonstrate the points being made". The quotations that we included especially depended on their relevance to the issue at hand.

3.8.3 In-depth interview

For the in-depth interview, in line with the objectives of the study, university administrators who were relevant stakeholders in the adoption and utilization of the information and communication technology in the universities were also purposively selected for the study. Nine (9) in-depth interviews were conducted with the deans of school, heads of department and technical officials involved in the running of distance learning programmes, and the operators of the distance learning programmes in the selected universities.

In-depth interviews may be distinguished from structured interviews by the fact that they are unstructured. As a result of their unstructured nature, they are immensely flexible and can permit open probes of responses. They are friendly to the respondents because, within the bounds of a general research design, in-depth interviews are oriented towards the interviewee's knowledge, feelings, recollections and experiences. To a large extent, the directions of probes are ruled by the assent placed by the respondents on certain issues, rather than the investigator's own preconceived ideas, notions or intentions.

As the term itself connotes, in-depth interviews are 'quasi-anthropological/ethnological intensive studies aimed at understanding a phenomenon, particular of a social, cultural, and attitudinal nature' (Kamuzora, 1989: 17). It is a relatively new form of data collection procedure in population studies although its utility has grown more imperative since "the disclaimer of the famous theory of demographic transition by research findings that the theory sparked in Europe (Kamuzora, 1989: 17). In our investigation, the method deepened comprehension of phenomena that appeared vague and ambiguous. A degree of time-consuming introspection and meditation was sometimes necessary for the respondents to articulate their responses, and for their meanings to become clear. The management of silence is essential to the art and science of probing.

The interview generated in-depth information from "knowledgeable" members of the university administrators on the socio-cultural contexts in which individual behaviour occurs and the extent to which it conforms to societal norms. In-depth interviews were also conducted with older people (mostly lecturers), for insights into intergenerational trends in

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distance learning. They promoted the inter disciplinary convergence of demography and anthropology that we sought at a methodological level.

3.8.4 Key informant interview

For the key informant interviews and the in-depth interviews, interview guides were prepared and pretested in the selected universities. A total of six (6) KIIs were conducted amongst the directors of distance learning, former directors and relevant stakeholders in the area of distance learning in Nigeria universities.

3.8.5 Unobtrusive observation

This study required the observation of certain infrastructures, for which reason the researcher negotiated access to many of the facilities. The observations were carefully recorded in a logbook that was consulted and updated from time to time.

3.9 Methods of data analyses

Data analysis was carried out using both quantitative and qualitative methods. The data generated with the questionnaire were analysed with SPSS 11. Data entry errors were minimized by double cross-checking the entries. Reliability analysis was based on calculation of Cronbach alpha, focusing on the different subsets of the questionnaire items. Quantitative data analyses involved the use of descriptive statistics and inferential statistical tools for the examination of the factors that promote or hinder the adoption of the new Information and Communication Technology. The quantitative analysis adopted the EPI data entry format, while the data was edited and analysed using the Statistical Package for Social Sciences (SPSS).

The analysis ranged from the univariate to multivariate forms of analysis. While univariate analysis was adopted in interpreting and describing socio-demographic characteristics of the respondents, bivariate analysis was employed in cross tabulation of variables. The multivariate analysis involved the use of correlation and multiple regression analyses to examine the challenges of adaptation and utilization of the information and communication technology approach to teaching and learning in the distance learning centres.

The qualitative analysis involved categorization into the objectives of the study, which they matched. The qualitative data were sorted, transcribed and described. This was

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subsequently followed by content analysis. The open code qualitative data analysis computer software was of remarkable help in this instance. The open code content analysis was adopted to transcribe recordings followed by examination and isolation of various responses according to the respective objectives. However, some aspects of the face-to-face interviews with coordinators and operators of ICT were described and necessary comments from the respondents were quoted verbatim to bring out important points.

3.10 Ethical consideration

In compliance with ethical standards on research work involving human subjects, the researcher obtained the approval of all relevant authorities and attempts were made to uphold the principles which aimed at protecting the dignity and privacy of every individual who in the course of the research work was requested to provide valuable information for the study. In addition, pressure was not exerted on any of the respondents to be used for this study and their identity as well as the information they supplied were kept strictly confidential.

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CHAPTER FOUR

DISCUSSION OF FINDINGS

4.1 Introduction

The results presented are based on the data collected from a sample of eight hundred and seventy (870) distance learners and two hundred (200) academic among the selected established distance-learning offering institutions in Nigeria. The framework of the presentation of results is based on the objectives of the study. The first part is the socio-demographic characteristics of the respondents. The results reflected the status of distance education in Nigeria considering the format or model of distance education in Nigeria, the instruction, the nature of the interaction with learners and students' demographics. In addition, the presentation placed more emphasis on the actual usage of information and communication technology (ICT) and the types of information technology (IT), used. Lastly, the researcher explored the perception of the respondents as to the perceived potential of information and communication technology (ICT) in distance education and the attendant challenges, performance and consequences of its adoption.

4.2 Socio-demographic characteristics of the respondents (Students)

The respondents' demographic and socio-economic characteristics are presented first to facilitate the interpretation of the key variables in the study. Tables 4.1 and 4.2 present the demographic characteristics. The result presented in the tables give a clear picture of the demographic characteristics of the sampled distance learners in the selected universities in Nigeria. The University of Lagos, Lagos, University of Ibadan, Ibadan and the National Open University of Nigeria (NOUN). The three selected universities offers both science and arts courses. Of the total number of the students sampled, well over 62 percent of them were students combining work and study. The majority of the students had been working for over five years. The jobs are important to assist the students develop the skills and commercial experience that employers look for in their employees. Some of the distance learners basically enrolled for the programme in order to get a better job or in the hope that the degree enrolled for, when taken will enhanced their position even with their current employer. Some distance learners, however, considered the use of the degree to transfer what they learn in their courses to the real world by adapting the working environment into what they learn during study. This

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was done in such a way that they can work on related activities and task, and even can ensure that those activities contribute towards uplifting them to higher positions in their place of work or even make them authorities in their areas of study. By doing this connections can be made between the study assignments and job activities by utilising the same set of results and re-using them in both situations.

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Table 4.1.1: Socio – demographic characteristics of students

Characteristics	Number	Male	Female	Total
Gender				
Male	367			42.1
Female	503			57.8
TOTAL	870			99.9
Marital Status				
Married	234	21.6	29.5	26.8
Single	544	75.5	52.6	62.5
Divorced	48	0.6	8.79	5.5
Widowed	44	1.1	8.01	5.1
TOTAL	870	98.9	99.0	99.9
Institution				
University of Ibadan	185	26.3	17.5	21.2
University of Lagos	222	35.8	18.2	25.5
National Open University of Nigeria	463	38.6	63.6	53.2
TOTAL	870	99.9	99.3	99.9
Educational Attainment				
Secondary	469	62.5	47.7	53.9
Grade II	73	4.82	10.7	8.3
N C E	156	15.5	20.4	17.9
University (Undergraduate)	82	5.04	12.6	9.4
University (Post Graduate)	16	0.56	2.71	1.8
Others	74	8.82	2.52	8.1
TOTAL	870	97.3	97.6	99.6
Age				
17-21yrs	153	18.6	16.5	17.6
22-26yrs	287	33.5	31.6	32.9
27-31yrs	193	25.1	19.8	22.1
32-36yrs	95	9.04	12.1	10.9
37-41yrs	55	4.14	7.8	6.3
42-46yrs	28	2.00	4.04	3.2
47-51yrs	24	1.59	4.34	2.7
52yrs and above	25	2.42	2.47	2.8
No Response	10	2.03	1.03	1.1
TOTAL	870	98.9	99.7	99.9
Employment Status				
Yes	536	49.6	69.7	62.2
No	334	49.9	30.0	37.5
TOTAL	870	99.5	99.8`	99.7

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More of the distance learners were female (57.8 percent) and 42.2 percent were male. The age of the singles ranged from 17 to 70 years. Over 66 percent (575 students) fall between the age ranges of 22 to 36 years. This age bracket is economically more active than the others; this may be why the majority opted for a distance learning education and because this age range is economically more active, mobility is higher among them. They could afford to leave a job for another and will do anything that will make them achieve their target goals. Twenty-five (25) distance learners, representing 3.2 percent of the sampled distance learners were 51 years old or more. This could account for the people who have resolved to get university education to boost their social and economic standing in the community or those who are studying to either get promoted at work or to seek a more robust social status in the society. It should also be noted that those in this age category may be nearing their age of retirement and are planning for what they will do after their retirement. They are people who wish to have a sense of achievements, persons who are desirous of acquiring university education, persons who need to improve on their work and individuals who are willing to satisfy societal pressure of acquiring education. Eight (8) out of ten (10) of the respondents (83.6 percent) clustered around 17 and 36 years of age, with an overall mean age being 34.5 years old. It is, thus, apparent that most of the respondents are very mature, being in their mid-age. Because they are mature, they desire a kind of education that will accommodate them, thus their decision to pitch their tent with the distance learning mode of delivery.

Although they are mature, a good number of the distance learners (62.5 percent) claimed to be single while 26.9 percent of them were married, why most of the distance learners were not married yet, could be attributed to the fact that in Nigeria, especially in the Yoruba-speaking area where 71 percent of the respondents originated from, society often expect that middle-class persons and would-be middle-class persons would have attained a certain level of educational attainment, either formal or informal, before getting married. It could also be asserted that the rather mature age of the average student (about 34.5 mean years) will enable them to cope with their studies. Distance learners' mature age would not be surprising, since most of the students were employed (62.2 percent), and a good percentage (29.6 percent) had one form of tertiary education certificate before seeking admission to the distance learning programmes, while 53.9 percent represented Senior School certificate holders. The high number of secondary school graduates who enrolled for distance learning

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clearly indicated the deficiency in the access to tertiary education in the country. Had the country been able to provide enough spaces for these set of respondents most of them would not have sought admission into distance learning programme perhaps they would have opted to attend the regular institutions.

This picture indicated that most candidates attending distance-learning programmes in Nigeria are doing so apparently because of their being denied admission in the regular universities across the land. Prior to the admission for the programmes, 469 of the respondents, or 53.9 percent had secondary school leaving certificate (SSCE) as their highest qualification, it is interesting that a good number of the respondents that were within this age limit still flocked distance learning offering institutions, instead of the regular university programme. The surge in registration into distance learning confirmed the shortfall in the admission capacity of the regular universities in Nigeria. One hundred and fifty six (156) respondents (17.9 percent) had NCE, 82 respondents (9.4 percent) had university degrees, while 8.3 percent had grade II certificate. Only 16 respondents (1.8 percent) had postgraduate degrees. This huge number could account for respondents who were inaccessibly underrepresented as a result of inadequate access to the regular programmes or seeking for a move upward in their various professions. A considerable number of the respondents, 544 of the 870 sampled (62.5 percent) reported being single, while two hundred and thirty four (234) (26.8 percent) stated that they were married. Of the remaining, 48 respondents representing (5.5 percent) were divorced while 44 respondents representing (5.1 percent) claimed that they were widows/widowers. Of the single respondents, 75.1 percent were male, while 23.5 percent were female.

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Table 4.1.2: Socio – Demographic characteristics of the Students (Cont.)

Characteristics	Number	Male	Female	Total
Parenthood Status Before admission				
Yes	333	21.53	49.6	38.4
No	537	78.05	54.3	61.6
Motherhood Status During Programme				
Yes	252		50.3	49.5
No	244		49.4	49.1
No Response	7		1.41	1.74
Number of Children				
1 Child	90	27	63	27.0
2 Children	85	18	67	25.5
3 Children	63	15	48	18.9
4 Children	45	7	38	13.5
5 or more Children	45	7	38	13.5
Refused	5	4	1	1.50
Level in School				
100 Level	95	37	58	10.9
200 Level	294	136	164	33.7
300 Level	255	123	132	29.3
400 Level	138	53	85	15.8
500 Level	78	21	57	8.97
600 Level	7	3	4	0.80
Others	3	0	3	0.34
Coping Strategy of Mothers				
My mother/mother in-law was/is always at hand to look after the baby	75			29.6
I had/have a housekeeper to look after the baby while studying	51			9.65
Baby was kept with a day minder, not far from my home	47			17.5
I had/have no helper, I simply found time for both study and baby	65			26.7
No Response				5.50

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Three hundred and thirty-three distance learners (38 percent) admitted that they were parents prior to their admissions to the programmes, while 61.6 percent (537 respondents) said that they were not parents before and after gaining admission to the programmes. This further corroborates our submission earlier that people who are incapacitated by their work schedule and their inability to gain access to regular universities attend distance-learning programmes. Given the fact that most of the students were women, 20.6 percent of whom were married; a question was designed for those who were nursing mothers during the course were asked to indicate how they cope with combining their work with attendance at school. Of the 503 female distance learners, a total of 252 distance learners, 49.5 percent stated that they were nursing mothers while in school; whereas 244 respondents (49.2 percent) said that they were not practising motherhood. Seven (7) distance learners refused to answer this question.

However, when asked to indicate the number of children they had a few of the distance learners skipped this item. Their unwillingness to disclose the number of children they had is however understandable: in the African culture, most people would never indicate the number of children they have, as they fear that such a statement could have severe consequences on their family. Of those who indicated the number of children they have 10.6 percent stated that they had only one child each, 29.3 percent stated that they had two children, 20.5 percent claimed that they had three children, 24.8 percent stated that they had four children, while 10.9 percent said they had five or more children. If the figures returned by those who had four or more children are anything to go by, it may be acceptable to say that most students in a distance learning programme are just like typical Nigerians – who crave for a relatively large number of children.

With the large number of distance learners who were also mothers, we designed a question to ask how the student-mothers cope with their studies in view of their motherhood status. Most distance learner-mothers (29.6 percent) said that their mothers or mothers in law was involved to take care of their children while in school. Another 26.7 percent confirmed that they combined their studies with the motherhood activities, since they could not afford to pay salaries for the service of helpers and their mothers or mothers-in-law were not readily available. A total of 17.5 percent of the respondents said they engaged the services of

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housekeepers while they devoted their attention to their studies. Similarly, 9.6 percent of the distance learners stated that they gave their children to day minders while in school but the remaining (5.5 percent) refused to respond to the question. Two hundred and ninety-four respondents (294) representing (33.7 percent) who filled the questionnaire were in their second year of the programme, another 255 subjects, representing 29.3 percent stated that they were in 300 level of their academic pursuits in the various institutions. Also, 138 students (15.8 percent) claimed to be in their fourth year, while 10.9 percent (95) were in the first year, while, and the remaining seven distance learners (0.8 percent) were in their sixth year at the different universities.

Table 4.1.3 presents a descriptive statistics measuring the student's academic performance, effectiveness of distance education, self-regulation by distance learners and overall achievement of the students' academic goals. The mean of student's academic performance was M=58.1; Age M=28.4; self-regulation M=38.2; performance goals M=33.5.

Table 4.1.3 Descriptive Statistics of Academic performance

	M	N	SD
Academic performance	58.2	870	7.86
Effectiveness of distance education	20.4	870	5.83
Self-regulation by distance learners	38.2	870	5.90
Achievement of academic goals	25.5	870	3.40

In order to examine relationships among and between various variables, Pearson correlation was deployed and was used to examine the relations between Internet usage, self-regulation and goal achievement of distance learners.

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Table 4.1.4: Pearson correlation coefficients between student's characteristics and academic goal achievement

	Academic achievement
Age	0.2
Effectiveness of distance education	0.2**
Self-regulation by distance learners	0.2
Students' academic achievement	0.01
*Significant at the P< .05 level of significance **Significant at the P< .01 level of significance	

The results as presented in Table 4.1.3 indicated that the academic performance of the students correlated significantly with the effectiveness of distance education in Nigeria, (r=. 870, p < .001). Although, there was no significant relation between age and academic and other variables, such as age, self-regulation, and achievement goals. The findings of the non-correlation in age and other variables clearly revealed the fact that a lot of students enrolled for this programme are secondary school students who are denied admission into the universities because of the unavailability of spaces in the universities to cater for their needs. For the other demographic variables with the exception of age however, effectiveness of distance learning education, self-regulation of the distance learners, and student's academic achievement purposes significantly correlated. Age and some other tested variables such as self-regulation by the learners, effectiveness of distance education, and student's achievement goals, again did not offer a significant correlation among themselves. However, the variable measuring the effectiveness of self-effectiveness of distance education indicated a very significant correlation with self-regulation (r=. 870, p < .001) and with student's academic achievement goals (r=. 870, p < .001). Student's academic achievement goals also correlated highly with achievement goals (r=. 870, p < .01).

Furthermore, Z tests were also conducted in order to determine the level of correlation between gender and other demographic variables such as employment/unemployment statuses of distance learners. They displayed effectiveness of distance education, academic achievement goals and self-regulation.

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Table 4.1.5: Z Test Ratios By Gender

Variable	Z	P
Academic achievement	-1.30	.24
Effectiveness of distance education	.444	.63
Self-regulation by distance learners	2.235	.2*
Achievement of goals by distance learners	1.041	.32
*p< 0.05		

As described in Table 4.4.4, a significant difference was identified solitary on self-regulation by distance learners Z-test =3.235, p < .005 (S =42.3 for females and 36.6 for males). A further analysis for the remaining variables such as the distance learner's academic achievement, distance education effectiveness and goals achievement by distance learners did not indicate any significant difference for male and female distance learners. Interestingly, the Z tests analysis outcome carried out to determine existence of differences revealed by employment/unemployment distance learners over the similar variables could be seen at Table 4.1.6. The result indicated that no significant relationships existed in employment/unemployment status of distance learners in relation to academic achievement, distance education effectiveness, and self-regulation by distance learners in addition to the variable describing their goals achievement by distance learners.

Table 4.1.6: Z Ratios for Working Status

Variable	P	Z
Academic achievement	.36.6	-.775
Effectiveness of distance education	.32	-1.01
Self-regulation	.80	-.253
Achievement goals	.46	-.732
*P< 0.05		

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Finally, regression analysis was done to explain the factors that combined to affect motivational characteristics of distance learners. The factors tested included learners self-regulation, learners' perceived effectiveness of distance learning education and goals achievement on academic performance. As described in Table 4.1.6, we observed significant difference in the effectiveness of distance education ($p < .001$). The outcome further revealed that distance-learning effectiveness positively and significantly projected academic achievement by students.

Table 4.1.7: Academic achievement of distance learners

Variable	Standardised Beta	T	sig
Effectiveness of distance education	.238	2.72	.005*
Self-regulation	.157	1.875	.064
Achievement goals	.014	.156	.762
*P< 0.001			

In summary, demographic characteristics, like gender, age, and employment/unemployment status of the distance learners did not correlate significantly with the academic achievement of learners. This finding is in agreement with the outcome of Wang and Newlin (2002) research, which revealed that socio-demographic characteristics (such as gender, age, employed and unemployed status in a particular period,) indicated no correlation with results at the end of degrees in an online institution. Though, positive and significant correlations were observed between student's level of achievement in their academic pursuit and their beliefs in the effectiveness of distance education that was discovered to be one of the factors that combined to motivate students' in their studies. Distance learners' perceived effectiveness in the programme was believe to have a positive and strong inspiration on their achievement academically. Following the discovery of the research, students who had higher level of believe in the effectiveness of the study, appeared to perform better academically achievement. This result has backing in a lot of former findings, which have documented a level of significant relationship between effectiveness and academic achievement of students (e.g. Chemers, Hu, and Garcia, 2001, Joo et al., 2000, Pintrich and De Groot, 1990).

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This study however, recorded zero level of significant relationship between academic achievement and self-regulation. This discovery is a clear contradiction to the previous works done by Pintrich and De Groot, and Zimmerman and Martinez-Pons, (1990) which contradict the fact that learners who responded to the elements of the questionnaire in this studies could probably not have designed the approaches that support their scholarship in distance education by self-regulation; as a result of this, distance learning students academic achievement may not have necessarily been in a quite sufficient level. Therefore, there ought to be measures in educational institutions that operate the distance-learning technique that could improve the self-regulated proficiencies of learners.

The study observed that a significant relationship between belief ineffectiveness of distance learning and achievement of goals by distance learners existed. These finding corroborated with that of Schunk (1991) who noted that, personal goals, oftentimes help to influence or develop effectiveness in certain tasks as also exposed in this research. Pintrich and De Groot (1990) in a work that is related to the one done by Schunk (1991), aver that a significant relationship existed between effectiveness in distance learning education and learners regulations. When the outcome of the findings was placed side by side gender, (male and female) distance learners did not exhibit any disparity in effectiveness of the programme that is. both genders had strong belief in the programme and this singular factor also contributed to their belief in what the programme can do for them (effectiveness of the distance learning education), the belief further rubbed off on their academic performance, and their goal achievement. Furthermore, Joo et al., (2000) and Zimmerman and Martinez-Pons, (1990) found that, self-regulation by distance learners was characteristically more significant for the females. In the study, women were reported to have more affirmative responses than their men counterparts when the issue of regulation comes up. This research however, uncovered that, employed/unemployed statuses of students as socio-demographic features failed to exhibit a level of significant difference in the learner's academic achievement and other factors such as effectiveness of distance education, self-regulation by the learners, and academic goal achievement of the learners. The result of the regression analysis of the factors that influence the learners in terms of effectiveness of the programme indicated, a positive and significantly envisaged better student's academic performance by students. Joo et al., (2000) also shared similar results.

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4.1: The capability (infrastructure) of Distance-Oriented Learning Environment

TABLE 4.2.1: OBSERVATION CHECK OF AVAILABLE FACILITIES

FACILITIES	UI	LAGOS	NOUN
Classrooms	√	√	√
Furniture and Fittings		√	√
Fully equipped and up to date computer suites	×	×	×
Community/University radio station	√	√	√
Overhead Projector	√	√	√
Audio Visual Gadgets	√	√	√
Clusters of computers in many department	×	×	×
Interactive whiteboard or a data projector	√	√	√
Library computer facilities	√	√	√
Computer-based testing (exam) facilities	√	***	***
Computer access room facilities	√	√	√
Interactive video conferencing facilities	√	√	√
Mobile learning facilities	√	×	×
CD – ROM	√	√	√

KEY:

√= AVAILABLE

× =AVAILABLE BUT NOT FUNCTIONAL

***=AVAILABLE. NOT THE PROPERTY OF THE UNIVERSITY

Table 4.2:1 above provides an insight into the actual presence of facilities on ground for the programme in each of the universities. The table shows that all the universities had enough classrooms, furniture and fittings to accommodate the number of students enrolled for the programmes. However, the University of Ibadan and University of Lagos distance learning progammes provided 'borrowed classrooms' from the other arms of the universities. Classrooms, furniture and fittings are among the basic facilities needed for the programme. However, as regard community/university radio, all the three universities have and use community/university radio. It was however, observed that the radio stations are mainly used for commercial purposes to rake in revenue for the universities and to cover social and academic events in the university. The University of Ibadan radio teacher may, however, be exonerated, although not fully, from this practice, the University radio station allocated more air time to the airing of more educational programmes than those of the other two universities. It was also observed that the radio stations only broadcast to their immediate environs and do not go out their immediate environment because, technically, a community radio station is operated on the lower end of the FM dial and it has lower signal strength than the larger commercial stations. This practice will not allow students outside the immediate environment of the universities to have access to the broadcast. Students of the University of Ibadan Distance Learning Centre (UIDLC) residing in Lagos may not be able to listen to the radio teacher at Ibadan because of the distance between Lagos and Ibadan. This also applies to the University of Lagos and the National Open University of Nigeria.

With regard to overhead projectors, all the universities have them. The researcher could not, however, authenticate the state of functionality of the equipment, as he was not allowed contact with the facilities. The University of Ibadan was observed to have provided good enough audiovisual facilities for the learners by the provision of CD ROM for the use of its students. Although the National Open University and the University of Lagos had some of these (audiovisual) facilities, the ones sighted could not be said to be adequate. Because the Distance Learning centre of Universities of Ibadan and Lagos used 'borrowed' classrooms, they could not have provided clusters of computers in many departments, but NOUN had an appreciable number of computers in each of its study centres visited in Lagos State. The

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University of Ibadan, Distance learning Centre at Moniya can boast of a computer lab, while the University of Lagos on its part makes use of the University of Lagos Virtual Study Centre.

All the three Universities had interactive whiteboard or data projector in good order. However, they all did not have library computer facilities. But University of Ibadan and University of Lagos made good use of their central library facilities. We could not ascertain the availability of a standard library computer facility at the National Open University of Nigeria.

None of the centres could boast of having computer-based testing facilities in their centres. However, two of the Universities had worked out an alternative computer based testing facilities. The National Open University of Nigeria engaged the services of a private company (CHAMS Nigeria) to provide testing facilities for the generality of the students, with the cost being borne by the students. The University of Ibadan, Distance Learning Centre made use of the computer-based testing facility provided for the use of University of Ibadan. The researcher could not ascertain who bore the cost of this facility. The University of Lagos, Distance Learning Institute did not have this facility. We could not determine if the university also makes use of such facility with a private partner or used that of the university (subject to the availability of such in the University). The universities all had computer access rooms, but we could not ascertain their functionality, because no student was seen around the rooms when we visited. Because the universities had not fully embraced the integration of the Internet in the delivery of courses in their centres, all the three universities did not have Podcasting, Blogging and satellites. These facilities performance were complemented by the availability and functional Internet system.

In sum, the researcher's opinion is that the physical facilities present for the distance learning programmes in the selected universities are grossly inadequate to meet the standard of distance learning institutions elsewhere in the world. This could account for why only few students have taken advantage of the existence of the programmes in the country. It is time the distance learning centres aim for much larger student enrolment in the distance learning programmes. The very many aspiring students who fall short of JAMB cut-off mark, but who can otherwise qualify for admission, should be given an option to transfer to the distance learning programmes

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Considering the first generations of distance education and making a comparison between them with the present method of delivery in the Nigeria nation vis-a-vis there human capability, one might conclude that the design adopted in the implementation of distance learning education still faces some constraints relating to by non-deployment of latest technology. The distance learning delivery mode in Nigeria is still very essentially dependent on radio communication, published/printed modules, and sometimes mobile telephony technology augmented with the face-to-face mode of delivery. The deployment and usage of information and communication technology (ICT), although present, remains limited to such technologies which were used in the third and fourth stages. The use of Internet-based IT is hardly present. The finding above is supported by Taylor's (2002) model. Following his findings, it may be safe to conclude that distance learning education in Nigeria could be described or seen as predominately in the first generation model. This point to the need for a restructured picture of the contemporary approaches and a more detailed analysis of strategic features of distance learning education from different perspectives that have its orientation in the modern-day technology.

The three selected universities adopted varying strategies in implementing their distance learning education. The differences are in the position of the dominant or the mother organisation, the nature of the teaching in the distance learning education courses, and the role and position of their study centres. For instance, the University of Lagos deploys the main university facilities like the university premises, to organise admission for students, and students' administration, and to set up face-to- face sessions. For the National Open University of Nigeria (NOUN), lecturers start by taking a central refresher course, and then commence teaching with groups of students in their different study centres that are found across the length and breath of the country. The National Open University of Nigeria (NOUN) operates approximately close to sixty-five study centres – spread around the country, each offering face-to-face modes of delivery sessions, making available venues for group work and offering links with the university and the distance learners. The University of Lagos and the University of Ibadan distance learning education centres organise regular tutorials for distance learners in their various study centres and on their main campuses when the regular students are off campus. The admission and administration of the students are carried out in these centres. The University of Ibadan distance-learning centre has a permanent structure that

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houses its administrative department, store, a reading room and a few classes, but these facilities and offices are not enough for the centre.

The universities simply operate what can be referred to as 'blended and dual mode learning. Such practices do not really fall within the broad ambit of distance education, as it is internationally understood and practised. Basically, blended learning as practised in Nigeria can be described as that system of learning which combines a varying system of learning modes that include but not limited to the face-to-face approach of learning and teaching with virtual learning and teaching. Blended learning as system of pedagogy employed in most distance learning centres, combines varying modes of delivery that are sometimes used to explain an approach that combines a number of diverse methods of delivery, which may include technology such as collaboration software, radio, web-based courses, and other knowledge management practices. Put succinctly, the blended mode of delivery combines tradition with modernity. The blended mode of learning could also be used to describe learning that maximizes merits of numerous event-based activities to form a new set of model; these event-based activities include live learning, self-paced learning, and face-to-face interaction and classroom teachings.

The National Open University of Nigeria (NOUN) operates a form of 'outreach' centres around the country, which has generally been described as distance education centres. These centres have been established in the capital of each of the thirty-six states and the federal capital (Abuja). The predominant practice at the National Open University of Nigeria (NOUN) is to sub-contract local tutors on local versions of university programmes. The tutors, (they are addressed as tutorial assistants) arrange face-to-face lectures, and provide assessment of learners. Successful students are then awarded university qualifications. The Deputy Registrar National Open University posited that study centres in the institution are the backbone for teaching and learning. According to him:

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'Study centres are the main source of contact or location for our students learning activities at National Open University of Nigeria. The centres avail the our students of the opportunity to meet up with their Tutors, interact with their colleagues students and most importantly receive tutorials where need be. These centres can be described as the power house/backbone of the distance learning delivery method of the National Open University of Nigeria at the moment. Presently, the university has over forty-one study centres spread across the breadth and length of the federation. Initiallly we had about eighteen study centres approved by the Federal Ministry of Education for the smooth take off of the institution in the year 2002. The National Open University of Nigeria, combines a curriculum that shares a portion of traditional face-face teaching instruction with other models of teaching and learning that incorporated the use of Information and Communication Technology systems that includes such approaches that make use of broadcast medium (radio) learning, some aspect of e-teaching and learning and the deployment of multiple mass media—synchronous or asynchronous to achieve an optimal integration of instructional approaches that are rooted strongly on sound instructional design'

Male/ Deputy Registrar/ IDI /NOUN
(May 14, 2011)

Further probe into the capability of the study centres also revealed that, they are equipped with basic ICT tools with staff recruited in the communities to cater for the needs of the students. According to the Deputy Registrar Academic:

'Each National Open University of Nigeria centres is equipped with a standard computer laboratory/cyber café that could boast of at least a twenty five (minimum) set of computers with a local area network (LAN) configuration. The study centres are not connected to the central National Open University of Nigeria's reproduction, repository, distribution and administration headquarters (REPRODAhq) through a wide area network (WAN) to encourage both our students and the academics the opportunity of mainstreaming teaching and learning, assessment and testing,

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> internet interactive sessions, communications (e.g. chat, blogs, forums, e mail, etc, virtual space library and other computer application technologies. The National Open University of Nigeria maintains and uses the WAN to teach distance-learning curriculum/courses to all of our study centres that is spread across the country. Each of our study centre can boast of qualified facilitators (instructional and tutorial) and student counselors who are specially trained and responsible for mentoring, guidance and counseling services for the students. These facilitators and counsellors are employed from within the host community or nearby communities and thus indirectly generates employment for the citizen'
>
> Male /Deputy Registrar/ IDI /NOUN
> (May 14, 2011)

He added that the applications in each of the centres are used for the purpose of management records of students, admission, and registration and examination procedures. He asserted that:

> The National Open University of Nigeria's Information and Communication Technology (ICT) services/applications embraces all aspects of, management and administration of student records that includes online application into the university, eventual admission of students, registration of students, and examination and examination procedures. The application system is e-learning and e-library. Communication between the university and the students is strictly on-line based. For example we engage our students and tutors through for examples, Flickr, SMS, e-mail, video-conferencing, and Internet. .The target at the National Open University of Nigeria is to be able to make maximum use of our REPRODAhq application to at the long run reproduce all course materials in electronic format for the use of our students for the purpose of reviewing for their courses.
>
> Male/ Deputy Registrar/ IDI /NOUN
> *(*May 14, 2011)

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Table: 4.2.2: Existing methods of interaction in distance-oriented learning environment in Nigeria

Methods	TOTAL	UI	LAGOS	NOUN
Tutorial sessions / face to face sessions	21.5	40.0	59.9	34.7
Study Group Meetings	2.2	8.9	6.0	20.6
Assignments	20.2	47.5	40.5	20.6
CD ROM	16.3	54.8	35.4	38.7
Printed Materials	31.6	55.6	44.6	49.8
Access to referenced resources	2.7	16.7	11.9	0.5
Radio Services	1.5	1.0	0.9	11.6
Internet	3.5	13.5	8.6	5.5

* Multi response question

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The study found that the predominant and present-day delivery mode of distance learning education in Nigerian universities remains largely the printed or published material and the foremost approach of interaction in the classroom is still face-to-face. Information and communication technology (ICT) hardly or rarely support this approach. The face-to-face approach supports the need for person-to-person activities and strengthens the traditional interaction design of instruction (Trindade et al., 2000).

In Nigeria, the face-to-face approach or interaction is usually organized for the students during regular school holidays to enable full time or in-service academics and or university administrators to attend the lectures and the need of the students when the regular students are on holidays. Because of this arrangement, lecturers and students are put under intense pressure. Lectures that are supposed to be taken in twelve months are taught in four (4) weeks, this makes these periods to be intense for stakeholders. This approach could be counterproductive to a well-developed interaction between learners in the face-to-face learning environment in a distance learning mediated environment. This approach, which could be described as a teacher-centred methodology of delivery and or interaction, is prevalent in the three selected universities. In general, the method of teaching and learning in the selected distance learning universities in Nigeria involved, in summary, face-to-face sessions, the use of printed modules, study group meetings, broadcast media (Radio), CD ROMs and take home assignments. In addition to the face-to-face approach mode of instruction is interaction between stakeholders, that is, lecturers and students, planning and harmonisation of the programme, admittance to reference, materials, that is strongly anchored to the use of information and communication technology (ICT) for administrative purpose.

The ethnography method was supported by the result of the quantitative. As shown in table 4:2:2, the principal approach to instruction for distance education in the selected universities in Nigeria is print (31.6 percent). This approach is supplemented with face-to-face (21.5 percent) sessions either centrally or in study centres. The face-to-face sessions according to the students, are an opportunity to encourage student-to-student and student-to-teacher interaction, and to enable students to have access to additional learning materials, particularly library books and materials. Similar trend is observed across the institutions sampled. At the University of Ibadan, the use of CD ROM (55.6 percent) and assignment (54.8 percent) topped the method of existing interaction; study group (47.5 percent) face-to-

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face interaction came next (40.0 percent). At the University of Lagos, face-to-face method (59.9 percent) leads; it was followed by printed materials (44.6 percent), while assignment came next (40.5 percent). At the National Open University of Nigeria, printed materials (49.8 percent), CD ROM (38.7 percent) and tutorial sessions/face-to-face sessions were the three top existing methods of interaction in the university. The result from the qualitative data further threw light on why printed materials topped the list of instructional materials being currently used in Distance Learning Centres across the universities sampled.

This finding was complemented by the results of the KII. The Deputy Registrar Academic at the University of Ibadan Study Centre shed light on the infrastructural capability of the University of Ibadan Distance Learning Centre:

> 'The distance learning centre operates a programme that operates predominantly on printed materials, that is developed by university academics. The Ibadan Distance Learning Centre has also adopted the usage of radio to broadcast lectures to the students. To the DLC, the use of the CD ROM also forms one of the modes of giving lectures at the University of Ibadan Distance Learning Centre. At the conclusion of registration, which is done on-line, printed lecture materials are given and taken home to study, and by the time the regular students are proceeding on holidays, the distance learning students are recalled to the University for a six-week intensive residential session, employing the use of the University of Ibadan facilities, such as classrooms, library, etc. At this session, revisions are held and the students also write examinations at the end of the six weeks. The University of Ibadan, distance learning centre established study centres in some cities in Nigeria to support students (where they are able to register their courses, collect course materials, and organize teaching practical's for the students who major in education courses .Before now, the Distance Learning Centre besides ran tutorials, but has had to suspend these study centres because of administrative problems.'
>
> Male/Deputy Registrar/ IDI /UI
> (November 16 2011)

He further elucidated that the bulk of the study materials being used by the distance learners is a product of deliberate efforts of the academic staff of the university:

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> University lecturers perform the task of writing course materials. The university administration, through the Distance-Learning Centre generally set up a process that has been adjudged successful; the process takes off with the organization of writing workshops. The University of Ibadan Distance-Learning Centre in its bid to show the seriousness it attached to the workshop ensures that at the workshop, training is provided for the participants and lecturers who are involved in the workshop are quartered in guesthouses for the rigorous writing period that sometimes take up to a week or more. During the period of the workshop, participants are encouraged and motivated to the writing of the course materials. In order to show appreciation, the lecturers who participated in the workshop are paid some stipends for the period of the workshop. Aside from the stipends given at the workshop, lecturers that participated in the teaching of the distance learners in the face-to-face sessions also get remunerated for their roles. Some royalties are also given on the materials produced by the lecturers.
>
> Male/Deputy Registrar/ IDI /UI
> (November 16, 2011)

However, while responding to the question of infrastructure capability of the institute (Distance Learning Institute) of the University of Lagos, the Assistant Registrar in charge of the institute explained that the University had access to limited infrastructure because of a combination of different factors. These include inadequate finance, interference from the university management and other factors that might come up individually or collectively. He claimed that:

> Since its inception, the DLI has been subject to certain infrastructural limitations. The institute still shares basic facilities with the regular university. This is not the global standard. Ordinarily, this institute should be self-financing but it is contrary. We still take directives on our finance from the regular university management authority. Aside from the lecture hall built and managed by the institute, facilities such as classrooms, library and other key facilities are still the sole property of the University of Lagos. In fact, our students make use of the university hall of residence when regular students are on break.
>
> Female Assistant Registrar/ IDI /UNILAG
> (*June* 9, 2011)

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Table 4.2.3: Capabilities of distance learning environment and students access to the internet.

Variables		Capability of distance learning		Total	Df	X^2	P
		Low	High				
Internet access	High	263	213	476	1	64.81	<.05
	Low	152	242	394			
Total		415	455	870			

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As shown in Table 4:2:3 above, there was significant positive association between internet access and Internet capability (X^2 = 64.81; df = 1; p<. 05). This result implies that the higher the ICT capability, the higher the students' access to ICT. The participants who indicated higher capability (Internet infrastructure) had higher access to the Internet. Moreover, while a significantly higher number of participants reported high capability their counterparts who reported low capability had lower access to the Internet. This result indicates that there was high Internet capability in terms of infrastructure in Nigerian universities. But this may not be the situation on ground, as many of the universities still adopt the face-to-face learning mode, implying that they are low in IT capability.

4.3 Knowledge of information technology of distance learning students in Nigeria

In this section of the study are items designed to elicit responses from the subjects through which their awareness and the use of the computer and the Internet could be evaluated. These two very important instruments, in particular the latter, are becoming the chief tools for distance learning. Indeed, with the trend of things, it will be virtually impossible for any student to function effectively without a good mastery of them. There are instances in which students may not be able to accomplish properly certain course requirements owing to lack of equipment both at home and at school. Connectivity is another factor, which prevents students from following online.

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Table 4:3.1: Students Computer Knowledge and usage – (*N* = 870)

Characteristics	Number	Total
Have you Ever Seen a Computer?		
Yes	870	100
No		0.00
Ever Learnt to Use a Computer?		
Yes	452	52.5
No	408	47.4
Do you Use a Computer?		
Yes	383	44.8
No	392	45.7
Do you Own a Computer?		
Yes	226	26.3
No	635	73.6
How Well do you Use a Computer?		
Use it to some extent	278	32.2
Do not use it at all	469	54.6
No response	113	13.2

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The first item in this section asked respondents if they have ever seen a computer. Predictably, all the students responded affirmatively. The affirmative response indicated that the computer is no longer an item for the super-rich; it is a pointer to the fact that the computer is now everywhere. In response to the item asking if they ever learnt to use the computer, 52.5 percent of them responded in the affirmative, while 47.4 percent confirmed that they had never done so. It is very interesting to note that despite the commendable of level awareness of the respondents to the question asking them if they have ever seen a computer before, that 47.4 percent of the respondents had never made attempt to use computer. So, the question to ask is who assisted the students to go through the process of admission and registration of courses if about 47.4 percent of them have never learnt to use the computer? Again, when respondents were asked if they now use a computer, 44.8 percent responded affirmatively, while 45.7 percent said they did not use a computer. To the question asking respondents if they own a computer, 26.3 percent claimed to own one, while a staggering 73.6 percent admitted not owning a computer. Another question asked is "if you claimed to own a computer, how often do you use it"? A total of 32.2 percent of the respondents claimed that they used it largely; 54.6 percent admitted not using it all; and 13.2 percent declined to answer this question. From the above findings, we can conclude that not all the students sampled had the skill to operate a computer, even if they owned one at all.

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Table 4:3:2: Students' Uses of IT in distance education

Characteristics	UI	LAGOS	NOUN	Mean	SD
Information and Communication Technology usage					
Admission	22.5	52.6	24.2	3.35	3.75
Teaching and Learning	26.5	13.8	27.6	3.33	3.64
Examination	49.6	32.7	47.0	3.56	3.72
Types of Information and Communication Technology use in the University					
The Internet	12.5	9.86	19.6	1.61	2.63
Video	27.0	27.6	24.4	1.90	2.76
Audio	30.0	27.5	31.6	2.53	3.35
Computer	24.6	15.5	34.3	1.87	2.67
CD Rom	12.1	14.4	13.5	1.25	2.05
Printed Modules	35.4	31.5	31.0	3.46	4.08
Reasons for Not Using Information and Communication Technology					
Not a priority	10.5	8.91	7.8	2.1	3.3
Inadequate finance	57.6	75.7	61.6	2.9	3.8
Lack of expertise	62.5	63.5	61.6	2.7	3.5
Resistance to change	18.7	20.6	14.7	1.9	3.04
Inadequate infrastructure	68.0	57.4	62.5	3.4	3.5
Not an added advantage	25.6	16.5	19.6	2.2	3.3

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The major university functions that seem to be supported by information and communication technology are examination and student admission. The table shows a varying usage of information and communication technology in each of the universities. For example, at the National Open University of Nigeria and University of Ibadan, examination and admission took the lead, while at University of Lagos, admission was on the lead. The data could be linked to the extra information found in Table 4.7. The differences in opinion between the respondents are reflected in the large standard deviation values. The differences in the means and the standard deviation are also high when focusing on values of different usages. Teaching and learning recorded the lowest ratings (3.33 percent), in relation to the functional uses of information and communication technology by the students. Admission and Examination recorded higher levels of information technology and communication (ICT) use. Further analysis using Kruskal Wallis test for the third confidence confirmed that there was a significant difference between admission, examination and instruction.

A further examination suggested that the respondents could hardly specify what kinds of information and communication technology were being used. From the figure, it is clear that printed modules and audio seemed to be predominantly used. Again, it is interesting to note that the standard deviations in the reported values (4.08 percent) were high.

In addition, reasons reported by the respondents for not using information and communication technology in distance education are listed. The respondents differed in their observations. The large standard deviations are clear pointers of these differences. However, for the third confidence rating, there were no significant differences between the different actors. A general observation is that the ratings for the reasons presented to the respondents were generally rather low.

Lack of infrastructure and inadequate finance were the most important challenges, next to doubts about the benefit of IT, resistance to change and lack of IT expertise. The students of the University of Lagos especially mentioned lack of finance and lack of infrastructure. The differences among the actors were not significant.

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Table 4.3.3: Students' internet knowledge and usage

Characteristics	Number	Total
Do you know what the Internet is?		
Yes	678	78.2
No	78	9.5
No response	104	12.1
Are you Connected to the Internet?		
Yes	330	38.2
No	469	54.3
No response	61	7.5
Do you Have Access to the Cybercafé?		
Yes	652	75.1
No	200	23.8
No response	8	1.2
Do you use the Internet Nowadays?		
Yes	556	64.8
No	308	35.5
No response	6	0.7
How Often do you Use the Internet?		
Several times daily	39	7.0
Once a day	89	16.0
2-3 times a week	78	14.0
Once a week	67	12.8
2-3 times a month	83	15.8
Very rarely	133	24.5
No response	56	10.1
TOTAL	555	
Do you Seek for Assistance When Browsing?		
Yes	390	70.0
No	161	29.5
TOTAL	551	
Do you Seek for Assistance When Browsing?		
Yes	528	95.3
No	23	04.4
TOTAL	550	

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The first item related to the Internet sought to discover if respondents had knowledge of what the Internet is. To this question, 78.2 percent of the students said they did, while, 9.5 percent said they did not, and the remaining 12.1 percent skipped this question. On the question, 'Are you connected to the Internet? Thirty-eight point two (38.2 percent) said they were, 54.3 percent said they were not; while 7.5 percent of the respondents skipped this question. On the question that asked if respondents had any access to the cyber café where they could access the Internet, a surprising high number of (75 percent) affirmed the availability of such, 23.8 percent stated that they did not and the rest (1.2 percent) refused to answer the question. The item asking respondents to confirm the usage of the Internet nowadays revealed that 556 respondents (64.8 percent) used the Internet nowadays, 35.54 percent indicated that they did not use the Internet nowadays, 6 respondents skipped the question.

Further examination confirmed our findings. Only 7.0 percent of the respondents asserted their authority on the usage of the Internet by browsing several times daily; 16.0 percent also stated that they browsed the net at least once on a daily basis; 14.0 percent browsed 2-3 times a week; 12.8 percent (61 respondents,) asserted that they browsed once a week, 15.8 percent 2-3 times a month, 24.5 percent seldom browsed, while 10.1 percent (56 respondents) skipped this question. Most of them (70 percent) browsed without the assistance of anybody when browsing, while others engaged the service of café attendants, friends and colleagues to browse. A good number of the respondents spent less than 1 hour on a daily basis to browse the net. From this, it is clear that most of the respondents do not really know what the Internet is.

Although 78.2 percent of the respondents confirmed that they knew what the internet is, further examination revealed that only 20.1 percent of the respondents had proficiency in information and communication technology (ICT) skills, with the majority being male. Another 17.3 percent claimed to have an excellence skill in information and communication technology (ICT) use, the bulk of this being male again. Another 23.4 percent claimed to be beginner while majority of the respondents (36.5 percent) acknowledge that they were just competent in information and communication technology (ICT) skill. Most (34.5 percent) of the respondents stated that they browsed daily, the majority again being male. Also 30.6 percent of the respondents browsed 2-3 times a week, 11.5 percent confirmed that they

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browse just once in a week, while the rest (21.8 percent) browsed less frequently. Access to university information and communication technology (ICT) facility was limited. Just a few (20.7 percent) respondents affirmed that they had access to the university information and communication technology (ICT) facility on a daily basis, most respondents (47.7 percent) only have access to the university information and communication technology (ICT) facilities some days in the week, while 27.1 percent of the respondents rarely had access to the university information and communication technology (ICT) facility. Most (25.6 percent) of the respondents browsed less often, while the others spent a little about or below an hour on the Internet per browsing occasion.

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Table 4.3.4: Percentage Distribution of Students IT skills, Frequency of Use of ICT, Usage etc. *(N = 870)*

Characteristics	Male	Female	UI	LAG	NOUN	Total
It Skills						
Beginner	20.8	23.7	26.6	22.7	21.3	23.4
Competent	39.6	35.8	41.5	51.5	28.6	36.5
Proficient	18.7	19.5	15.7	12.5	25.2	20.1
Excellent	17.5	16.6	14.9	13.4	20.9	17.3
No Response	1.5	3.7	0.9	0	4.6	3.4
Frequency of Browsing						
Daily	42.4	30.3	34.1	33.1	36.5	34.5
2 - 3 times a week	32.6	29.6	36.5	44.6	21.5	30.6
Once a week	10.5	12.7	10.6	8.5	13.5	11.5
2 - 3 times a month	2.4	7.5	3.6	1.5	8.5	5.6
Once a month	3.5	8.3	6.1	3.5	6.5	5.8
Less often	6.4	5.2	7.5	6.5	3.5	5.7
Don't know/Can't remember	0.4	1.6	0.6	0.1	1.5	0.6
Others	0.3	2.4	0.3	0.4	1.7	0.7
No Response	1.7	2.1	0.2	0.2	2.6	1.6
Methods of Browsing						
Do it by myself	82.6	60.5	88.5	84.5	55.5	69.6
My friends do it for me	4.4	13.5	3.4	5.4	15.1	9.6
Seek help from others to do it	6.1	10.8	5.7	7.6	11.3	9.3
Pay someone to do it for me	3.6	6.7	1.9	3.3	8.5	6.4
Others	1.4	5.6	1.1	0.2	7.8	4.1
No Response	0.6	1.4	0.4	0.3	1.7	0.7
Access to University IT						
Daily	18.6	22.5	8.3	18.6	27.5	20.7
3 to 4 times a week	27.1	19.5	20.8	22.7	24.6	23.1
1 to 2 times a week	25.5	24.7	30.5	34.1	18.7	24.6
Once a month	11.6	13.7	16.6	11.7	11.5	12.6
Less often	13.6	15.6	23.5	12.8	12.6	14.5
No Response	1.8	0.5	0.3	0.2	3.1	0.9
Hours Spent to Browse						
Less often	28.3	23.9	35.8	26.6	20.7	25.6
4 to 6 hours	27.5	29.5	26.1	27.5	29.6	28.8
8 to 10 hours	20.6	14.6	6.2	17.8	20.6	16.7
11 hours or more	6.1	11.4	8.1	8.8	10.2	9.2
Can't say/Don't know	13.5	17.6	20.7	16.5	13.5	17.1
No Response	1.9	1.6	2.6	0.1	2.8	2.3
Number	**372**	**508**	**185**	**222**	**463**	**880**

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Table 4.3.5: Knowledge of ICT and availability of ICT in a Distance-learning Environment.

Variables		Knowledge of IT		Total	df	X^2	P
		Low	High				
IT Availability	Low	211	321	532			
	High	167	171	338	1	55.58	<.05
Total		378	492	870			

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As shown in Table 4:3:5 above, there was significant relationship between ICT availability and knowledge of information and communication technology (ICT) ($X^2 = 55.58$; df = 1; $p<.05$). This result implies that the availability of information and communication technology (ICT) has significant association with the depth of knowledge of information and communication technology (ICT) among distance learners. Therefore, participants who reported high availability of information and communication technology (ICT) significantly had more depth knowledge of information and communication technology (ICT) than those with low availability of information and communication technology (ICT) in their distance-learning environment. Therefore, the higher the availability of information and communication technology (ICT), the higher the depth of knowledge of ICT in the distance-learning environment.

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Table 4.3.6: Multiple Regression Analysis of ICT Effectiveness of Distance Learners on

effectiveness of distance learning, ICT Usefulness, and Ease of Use

Variables	**β**	**T**	**P**	**F**	**R^2**	**P**
Effectiveness of distance learning	0.42	6.47	<.001			
Internet usefulness	0.12	-1.94	<.05	25.60	0.48	<.001
Ease of use	0.26	0.97	<.001			

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Table 4:3:6 above shows that the exogenous variables (self-efficacy, Internet usefulness, and ease of use) were significant joint predictors of Internet effectiveness among distance learners ($F (3, 869) = 25.60$; $R^2 = 0.48$; $p<001$). The predictor variables jointly accounted for 48 percent of the variance in effectiveness. Furthermore, self-efficacy ($\beta = 0.42$; $p<.001$); usefulness ($\beta = -0.12$; $p<.05$), and ease of use ($\beta = 0.26$; $p<.001$) were significant independent predictors of Internet effectiveness among distance learners.

This result implies that the higher the internal dispositional level on self-efficacy, the higher the perceived usefulness is, and the greater the ease of use, the higher the Internet effectiveness among distance learners. Moreover, effectiveness of distance learning contributed most to the explained variation of Internet effectiveness among distance learners, followed by ease of use and Internet usefulness.

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Table 4.3.7: T-test summary of IT knowledge by institutions

Institutions	No	$\overline{X}$	SD	df	T
University of Ibadan	185	2.18	4.10	.58	0.88 ns
University of Lagos	222	2.15	4.01		
National Open University of Nigeria	463	2.48	3.98		

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On the examination of the differences in IT of the sample in the institutions, the above table shows that the t-value of 0.88, df 58 was not significant at 0.05. An attempt was further made to determine if any differences existed within and between the sampled institutions using one-way ANOVA. The findings described in the table below revealed that there was a significant effect of IT skill and IT knowledge among the universities and among distance learners in the respective universities.

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Table 4.3.8: One-Way ANOVA Showing the Effect of Current Universities attended on ICT Skill.

Source	SS	df	MS	F	P	Remarks
Between groups	19.30	2	10.14	9.91	0.000	Sig.
Within institutions	75.43	842	1.03			
Total	94.73	844				

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The result in the table shows that there was significant effect of current universities attended by distance learners on their IT skill ($F(2, 844) = 9.91$; $p<0.000$). Despite the differences between and within institutions and between students' experiences, most of the students in the three institutions agreed that they were eager to learn and yet seemed unable to participate actively because of large classes and inaccessibility to computers. At the University of Lagos, one teacher was in charge of over 300 students. This made the class very noisy and boring. Besides, not a single computer was used for demonstration. This finding is in line with Otagburuagu (1991), who confirms that large classes remain the cause of students' performance in classes.

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Table 4.3.9: Least Significant Difference (LSD) Showing the Difference among the Universities of Distance Learners on IT Skill

S/N	Groups	N	$\overline{X}$	1	2	3
1	University of Ibadan	183	2.18	-	0.27	-2.95*
2	University of Lagos	222	2.15		-	-0.32*
3	National open university	440	2.48			-
	Total	845	2.33			

Key: *<. 05

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The result in Table 4:3:9showed that distance learners sampled from the National Open University ($\overline{X}$ = 2.48) reported significantly higher level of IT skill than those from the University of Ibadan ($\overline{X}$ = 2.18) and those from University of Lagos ($\overline{X}$ =2.15). However, there was no significant difference between distance learners from the University of Ibadan ($\overline{X}$ =2.18) and those from University of Lagos ($\overline{X}$ =2.15).

4.1 Academics and ICT for Distance learning education

4.1.1 Demographic characteristics of the academics

The socio- economic demographic characteristics of the sampled instructors indicated that the male academics almost doubled the number of the female academics (male = 60.0 percent and female = 40.0 percent) that were engaged in imparting knowledge to the distance learners in the selected universities. Majority of the selected instructor engaged in the institutions fell between 27 and 40 years of age. This set of much younger academics took 61.6 percent of the total number of the academics employed in the selected universities. The other set of academics that were much older than the later groups are in the age bracket 41 years + with 37.3 percent of the total instructor engaged by the universities. The percentage of the younger set of instructors to older academics was approximately two to one. The deliberate employment of a large pool of younger lecturers by the university management could indicate willingness on the part of the management of the universities to formulate plans for the future which will naturally translate to limited expectations from the older academics who are likely to have some other activities lined up for them and are nearing their retirement ages. In particular, younger male academics were twice as numerous as their younger female counterparts (younger male lecturers = 60.8 percent, younger female academics = 37.5 percent, but not in older academics (much older male academics =57 percent, older female academics= 43 percent). From the findings, we can assume that the younger male academic had already played significant parts in teaching and teaching-related activities in the Nigerian educational system, particularly in the distance learning centres. Nevertheless, it was not implied that younger male academics or older male academics also played important roles in the top management teams of these distance-learning centres. It is possible that the proportion of females to males in the management teams may be different.

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The number of academics with master's degree (82.9 percent) was far higher than those with doctorate (12.8 percent), and Bachelor's degree (1.8 percent). On the average, only 13.8 percent of the females and 19.2 percent of the males had doctorate degree. Looking at the result of the findings of this research, one would want to query why there was a disparity in educational opportunities at the highest education level between males and females in Nigerian universities. The group of instructors with doctorate degrees comprised 71.6 percent much older instructor and 28.6 percent younger instructors. Additionally, in the younger academic age group, only 5.7 percent had doctorates and in the older group, 23 percent had doctorate degrees. The lack of doctorate degrees in universities is clear (only 14.1 percent) had it doctoral degree. The number of doctorate degrees should be a lot more; at least 50 percent of the academics should as a matter of professionalism possess the doctoral degrees. It is anticipated that the more the academics with doctorate degrees, the greater the expectation of realistic prospects for the universities in achieving the goal of research-oriented university will be. The knowledge and experience of academics with doctorates will benefit the teaching and learning process. It will also be beneficial to the students, the university and the country at large.

Although the government has provided many palliatives in form of scholarships to academics in the Nigerian public university sector, these are still not enough to fulfil the academic demands of the system. Most Nigerian academics wish to study abroad (in Malaysia, South Africa, Great Britain, Australia and USA.) Studying in these countries will be 4 to 5 times more expensive than studying within the country. Therefore, if the government or the universities do not give any support, it will be impossible for them to support themselves. Moreover, not only are there not enough universities that could provide the study at this level in Nigeria but they also cannot provide the specific areas of study in Nigeria to suite the demand of academics. Unfortunately, because of this, some people remain at the Master degree level until time for them to retire.

Finally, only 24.5 percent of the instructors were in the senior cadre in the universities, they occupied the positions of either professor/associate professor or senior lecturer whereas large majorities of 76.3 percent were lecturers 1, and II, and assistant lecturers. In the Nigeria environment, teaching orientation occasioned by lack of proper training still affect the performance of the academics most of whom habitually devote maximum number of their

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time to teaching or in undertaking organizational responsibilities and spend fewer hours doing research or writing books or journal articles for publications. Interestingly, book chapters and journal articles are the basic requirements of getting promoted to the next grade. All universities have a singular vision: to be recognised as a research-oriented institution in the nearest future and proffer solutions to the myriad of challenges confronting their immediate society. Sometimes, however, to achieve the goal of a research-oriented university goes through a process of transition, especially in relation to the dispositions of the instructors themselves toward achieving the visions of the university. It is also expected that the average percentage of instructors that have lower academic qualification of Masters will be gradually elevated to higher degrees as well. Instructors should spend more time on research and writing journal articles, as this will assist them to be promoted to higher academic positions.

As at the period the data for this study were collected, distance learning instructors in the selected universities that had deployed the use of the internet for any activities in the last 6-10 years were about (57.8 percent). This category formed the majority of Internet users among the academics. On the other hand the number of academics, who had made use of the Internet for a period of time that was 10 years and more, was 21.7 percent, whereas those that had used the internet between 1and 5 years were 18.3 percent. It is however, worrisome that some academics (0.7 percent) in the universities had used the Internet for less than 1 year. It could, however, be observed that this set of academics, who had used the Internet some 6-10 years just commenced the use of the Internet just at the time the Internet was introduced and became popular among Nigerians (around 1996) and have continued the usage of the Internet for more than three years. The frequency of usage of Internet discovered was utterly unexpected, the study found that the frequency of usage of the Internet by the academics range from "several times a day" (60.8 percent) to several times a week for the instructors that had cultivated the habit of using the Internet "about once a day" (15.6 percent). The remaining 11.5 percent rarely used or used the Internet less often. A high proportion of the instructors 70.2 percent considered themselves as having moderate Internet experience. About 20.6 percent noted that they had some high experience of Internet, whereas another 9.8 percent academics asserted that they had a low Internet experience. Interestingly, the majority of the academics confirmed that they used the internet enough (49.3 percent) to cater for their teaching and research needs. This number was just a little above the academics who assumed

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that they did not use the internet well enough (48.7 percent). Only 2.4 percent of the academics believed that they had generally make judicious use of the internet to help in both their research and teaching needs, these set of the academics falls in the category of academics that affirmed that they 'used almost all the time'.

In addition, when academics were asked questions on level of experience of internet usage, 31.0 percent of the male instructors asserted that they had a high internet understanding, Only 14.5 percent of the females confirmed that they had a high Internet experience. From these findings, we can assume that male instructors on average have higher Internet proficiencies than their female counterparts. The reasons may just be that men are generally more prone by nature to embrace challenging activities, in this case, the new technology, than their female colleagues. Men are more active in adapting to or trying improve their experience with fresh innovation or technology than their female colleagues. Furthermore, approximately a quarter of the younger academics (24.8 percent) considered that they had high Internet experience, whereas 11.4 percent of the older academics claimed to have a high knowledge of the Internet. These findings clearly indicated that younger academics on had a higher Internet knowledge than the older instructors. Thus, almost three thirds of the younger lecturers (73.6 percent) deployed the use of the Internet more habitually than their older colleagues; "use internet several times daily", whereas approximately 43.8 percent of the older lecturers use the Internet several times daily. A greater number of the younger lecturers used the Internet several times a day more than the number of the older instructors.

Also, most of the male instructors (56.8 percent) said that they made use of the Internet in their teaching and research activities, just as did 43.1 percent of their female colleagues. Also, 37.7 percent of the male lecturers noted that they are still not making use of the internet the way they would have wished, whereas 55.2 percent of the female lecturers claimed that they had indeed made judicious use of the internet, the way they had wished. The female lecturers need to be encouraged to make use of the internet the more. Also, 50.9 percent of the younger lecturers who falls between aged 27 and 40years hinted that they used the Internet just the way they wished, whereas 46.2 percent of the older lecturers who are aged 40 years and more used the Internet just the way they would have wished to. However, 45.4 percent of the much younger lecturers said they were are unable to use the Internet the

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way they would have wished compared to about 54.4 percent of the older lecturers. Expectedly, the findings of the research indicated that the much younger lecturers used the Internet more than the older lecturers.

The findings from this study indicated that some lecturers unexpectedly rarely make use of the Internet. This category of respondents confirmed that they make use of the Internet just some few times in a week for the purpose of teaching in class and even for research purposes (mean = 3.45) and also in the activity that expected lecturers to have individual web based site for facilitating teaching and research (mean = 3.4). But they claimed to have the intention to make use of the Internet the more in the nearest future. (Some few time in a week) in the future (mean = 4.87 for teaching activities (mean = 4.9) that require lecturers to provide passwords. Some lecturers had previously used the Internet relatively often (five-six times a week) in five activities that included enhanced teaching experience, search for information for research, activities, individual activity, enhanced personal Internet knowledge, and use of email to address personal contact and they also intended to use the Internet a little more in the future (five to six times a week), still following in the same category.

The findings revealed that the advent of ICT has had an effervescent influence on Nigeria's educational sector. Greater numbers of instructors have access to the computer in Nigeria. The study found that 85 percent of the staff of the selected universities owned their computers. The attendant increase in the population which has somehow affected the number of willing candidates seeking admission into the higher institutions in Nigeria over the period of time and thus the growth of the accompanying positive result has somewhat been accomplished by university lecturers taking on an increasing administrative assignments. Also, the advents of innovation in technologies were seen as encouraging production of well researched journal articles and book chapters. The increased deployments and usage of technologies by instructors has not always been accompanied sufficiently by training and re-training facilities that is however commensurate with the deployment ('Centre for Staff and Educational Development, 2000'). At the University of Ibadan, primarily, academics hardly ever attend such training, despite their being available to all. Attending training workshops was treated with levity by the staff in the past.

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Table 4.4.1: Background of Academic Personal Internet Usage

Characteristics	Groups	Cases	percentage percent
Years In Using the Internet			
1	Less than 1 Year	2	0.9 percent
2	1- 5 years	40	19.8 percent
3	6-10 years	117	58.5 percent
4	More than 10 Years	42	20.9 percent
Frequency of Internet Usage			
1	Don't use at all	0	0 percent
2	Use about once each month	2	1 percent
3	Use a few times a month	1	1 percent
4	Use about once a week	9	5 percent
5	Use a few times a week	15	8 percent
6	Use five to six times a week	17	8 percent
7	Use about once a day	29	15 percent
8	Use several times a day	123	62 percent
9	Other	3	1 percent
Self-Assessment			
1	Low experience	22	11.0 percent
2	Moderate experience	139	69.3 percent
3	High experience	39	19.6 percent
Adequacy of Using the Internet			
1	Not Enough	96	47.8 percent
2	Enough	98	48.9 percent
3	Too much	7	3.3 percent

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Overall, most of the academics (24.4 percent) currently used the Internet in all tasks "about once a day" and the number of lecturers (30.2 percent) who intended to use the Internet more in all tasks was higher. For those academics who use the Internet "several times a day", the majority (29 percent) currently used the Internet for enhancing personal knowledge, 26.3 percent used email for personal contact, while 25.1 percent used the Internet for enhancing teaching knowledge (task 4).

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Table 4.4.2: Academics' Internet Usage and Intention

Items Internet is used for	Activity	Usage	Intention
Teaching in classes	1	3.49	4.84
Accessing my personal web-base for facilitating teaching	2	3.49	5.09
Preparing teaching materials	3	5.21	5.83
Enhancing my teaching knowledge	4	6.02	6.38
Using email for student contact and giving my advice	5	4.64	5.84
Searching information for my research	6	5.73	6.40
Assisting administrative tasks	7	4.98	5.82
Personal tasks	8	6.08	6.16
Enhancing personal knowledge	9	6.32	6.48
Using email for personal contact	10	6.15	6.20
Overall, I use/intend to use the Internet in all of my work		6.17	6.46

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The intentions of the lecturers to use the internet were a little bit different from usage behaviour. The majority of them (28.7 percent) intended to use the Internet for enhancing personal knowledge, but 27.9 percent intended to use the Internet mostly for their research, and 27.2 percent intended to use it for improving teaching knowledge. Lecturers also intended to adjust their behaviour by paying more attention to academic activities in the universities such as research. Remarkably, 25.4 percent of the lecturers did not see importance of the Internet for teaching in class, and 24.1 percent of them did not use a personal website for facilitating teaching at all. Fortunately, they intended to use the internet more for teaching and teaching-related activities and in the other activities as well. Collectively, the academics did not use the Internet very much in either teaching in classes or teaching related activities (excluding enhancing teaching knowledge) but they used the Internet more in other activities. However, no matter how often academic currently used the Internet in their work; they intended to use it more often in all of their work in the future. They intended to use it to prepare teaching materials, improve their level of teaching knowledge, cultivate the habit of using e-mail for student contact and give advice more frequently and increase their use of the Internet in searching for information for research. They will also deploy the use of the internet to improve their performance on the administrative functions, improve personal activities, enhance personal knowledge generally and use email to further their relationships with their contacts in at least five to six times a week, their teaching activities, and access personal web-base for facilitating teaching task a few times a week since this will not ordinarily happen everyday of the week.

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Table 4:4:3 Frequencies (Mean) of Internet Usage and Intention to Use

Items	Activities	Usage	percent	Intention	percent
Teaching in classes	1	1	24.8	5	25.5
Accessing personal web-base for facilitating teaching	2	1	23.9	5	23.0
Preparing teaching materials	3	5	19.8	7	22.0
Enhancing my teaching knowledge	4	8	25.1	8	26.5
Using email for student contact and giving my advice	5	4	17.6	6	22.1
Searching information for my research	6	8	21.3	8	27.9
Assisting administrative tasks	7	4	19.9	6	20.3
Personal tasks	8	8	23.8	6	24.3
Enhancing personal knowledge	9	8	29.0	8	29.4
Using email for personal contact	10	8	26.3	8	23.1
Overall, I intend to use the Internet in all of my work		7	24.4	7	30.2

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Table 4.4.4: Chi-Square Table Showing the Relationship between Types of Respondents and Access to Information Technology by academics and students

Variables		Access to IT		Total	df	^{2}	X^2
		Low	High				
IT access	Academics	67	134	201			
	Students	345	525	870	1	32.74	<.05
Total		215	285	500			

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As shown in the Table above, there was significant positive association between type of participants and information and communication technology access (X^2 = 32.74; df = 1; p<.05). This result implies that type of participants and ICT access have significant relationship. The academics reported higher access to ICT than the distance-learning students. Therefore, the higher the number of the academics, the higher there access to ICT, and the higher the distance learners the lower the access to ICT, is.

4.1.2 How lecturers make full use of the Internet

Most of lecturers disclosed that they were yet to make maximum utilization of the internet at work and in the other schedule they were involved in, but they had the intention to deploy and make a maximum usage the of the internet more often in all other categories of activities in the near future (x^2= 6.01). Concerning factors that could motivate them to make judicious and maximum use of the Internet in all of their, the instructors noted that three factors could spring up motivations that would enable them to use the Internet and stimulate their intention to use it more often,:

a) Availability of good facilities to support the usage of the internet (x^2=5.7) (for example. wholesome communication network, availability of adequate software and suitable computer hardware.

b) If the university's policy support a research-oriented institution (x^2=5.5).

c) Federal government vision or policy is to make universities/institutions e-university (x^2=5.6).

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Table 4.4.5: Motivations to Make Full Use of the Internet

The Motivation to make full use of their internet facilities in all of academic' work.	Mean
Overall, I still have not made full use of the internet, so I Intend to use the Internet more in all type of my work in the future.	5.31
If technicians are available when I have difficulties.	4.75
If updated Internet trainings are available when necessary	4.80
If good facilities (e.g. good computer hardware and software, good communication network etc.) are available.	5.86
Because of my strong intention for student contacts in order to close the gap between my students	5.42
The university's policy to be a research-oriented university in the future.	5.67
The university's policy to be an e-university in the future	5.59

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4.1.3 Internet Usage and Academic Professional Practice

The lecturers all confirmed that the deployment and usage of the Internet would help improve their proficiency in their teaching and research-related practices (x^2 =6.0), and, in particular, help in them in preparing teaching materials (x^2 =5.9) and also assist them to advance their research expertise (x^2 =6.0). However, the lecturers were not quite in agreement with the statement that suggested using the Internet will ease the challenges of teaching in the classrooms (x^2 =5.69), and or increase their administrative shrewdness (x^2 =5.9).

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Table 4.4.6: Internet usage Affected Academics' Professional Practice

Internet usage affected academics' professional practice	Mean
Using the Internet helps me to improve teaching in classes.	5.69
Using the Internet helps me to improve teaching related- tasks, e.g. preparing teaching materials,	5.89
Using the Internet helps me to improve my research.	6.01
Using the Internet helps to improve my administrative tasks	5.59
Overall, using the Internet helps me to improve my professional practice	6.01

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4.1.4 Internet Usage and lecturers' personal development and quality of life

The lecturers all confirmed that Internet usage has affected their personal development one way or the other (x^2 =6.09) it has also helped in improving their scholarship experience (x^2 =6.1) and also helped in developing personal knowledge of the Internet (x^2 =6.22) Theyalso asserted that the Internet would facilitate improved quality of their working life (x^2 =5.96), particularly by (a) saving them extra expense by getting information free of charge from e-journals, for example (x^2 =5.81), and (b) saving them cost in communication with others by using e-mail (x^2 =5.8). Nevertheless, the instructors were less convinced that using the Internet assisted them to have more time for leisure (x^2 =4.91). Furthermore, the instructors were not somewhat fully agreed that using the Internet assist them to save expense, such as 'I can get information from e-journals free of charge and get information from various websites for free'.

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4.5 Possible effects of virtual education in a distance-oriented learning

Societies follow a similar pattern of development over time from which evolved changes in the educational landscape that is woven around evolving innovations in technological breakthrough around the world. Fresh and innovative challenges are required as a result of globalization and modernity in view of the emergence of a new and different context occasioned by the new technology, which does not seriously deviated from the instructional experience or curriculum of 10-15 years ago. The motive of the innovations incorporates the need to transform the current educational patterns. They aim is to integrate elements of technological breakthrough in teaching and learning, starting from the methodology to the actual delivery of classes, just as the idea was conceived, and specific patterns of curriculum developed, that clearly need to be revised with the introduction of the new changes.

Khan (2007) observes the assertion that (ICT) introduces technical functionalities that support instruction. Once the innovations are applied in distance learning education, the methodology and delivery modes support enhanced effectiveness is assured, efficacy of the distance learning mode of education is promoted, and an improvement in a more broad way, in the distinct but innovative instructional approaches deployed. As far as the findings in this research are concerned, the academics and the students appeared to agree on the requirement for the rejuvenation of the methodological patterns to teaching and learning. Because today's world hinges on changes in the twenty-first century, educational development poses a great challenge to academics and students. Understandably, the academics are also mindful of the changes that transfer their roles from a mere set of people that merely transmit knowledge. In the focus group discussion (FGD), distance learners were requested to give information on the ways communication and interactions in the new methodological approach that dwelt more on information and communication technology environment had influenced their normal way of interaction in relation to the present traditional mode of delivery in the new learning environment and whether the ways they were being taught had any influence on their interaction with their instructions. The distance learner's verbatim responses in the focus group discussions were collected along some basic tenets.

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In the area of active involvement, students mentioned what the individual student could do in the virtual learning environment and the motivation to do so. A respondent commented that the introduction of (ICT)

> Would enable me post messages on the net to my course mates at school, which we could discuss and improve in meaning. This will help improve my IT skills and thus prepare me for the very competitive job market in the country and make us compliance with the world's standard.
>
> Female/Student/ FGD/ Lag, 100L
> (June 5, 2011)

The functions of stimulus or motivation in distance learning education cannot be undermined. The association concerning stimulus and scholarship was or measured but the review of previous studies in showed most often inconsistent outcomes (Clark and Salomon, 1986). Though, lecturers would perhaps concurred with the view of Wlodkowski (1985), that once stimulus or motivational factors to learning is the lowest ebb, it would be generally harmless to accept that possible learning attainment, to some degree, may not be moderated. While instructors might anticipate that their students are encouraged with the collaborative approach employed, the motivational characteristics can certainly be questioned and categorized as a development requirement for distant learning institution students. Acceptable motivating forces active in traditional (face to face) classroom methods such as peer pressure, learning situation that is familiar and societal influences; are often non-existent in the distance learning educational environments. Exclusive of these features of technological driven environment as given, developers of distance learning education as necessity shape their consciousness of motivational approaches and persistently assimilate methods to augment learner 'enthusiasm. Keller (1987) address the methodical improvement and usage of the motivational teaching approaches.

Asked to comment on whether the individual's attitude, curiosity, confidence and enthusiasm would promote their participation... One of the respondents said;

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> There would be an internal drive to participate in class activities, this will promote and encourage active participation in given tasks because you are working as an individual. The urge to fulfil any task will be driven by the fact that you are on your own
>
> Female/Student/FGD/ NOUN, 400L
>
> (June 5, 2011)

The attention of students initially may not be easy to catch or even poses a little challenge to maintain over an entire duration of a course. Upholding equilibrium between hyperactivity and boredom that learners is likely going to be subjected to the need to occupy the thinking of the developers of the programme. Particular approaches for acquisition of learners' devotion to classes and other activities and sustaining it comprise the usage of inaptness, for example, best owing proof of incongruous to an established theory or performing the function of 'devil's advocate.' Additional devotion approaches may comprise difference in the pace or style of presentation of the course materials, using humour, and organization of events that command student involvement, such as games or simulations. A respondent had this to say.

> The Internet will enable me to see simulations; it will serve as a form of teaching aid that will increase the rate of assimilation by us, students, and for example, if you are studying a course on the human heart and you assess the Internet, the Internet will provide you with opportunity of seeing the heart pumping
>
> Male/Student/FGD/ UNILAG, 200L
>
> (June 5, 2011)

The most important of Keller's model of motivational consideration, is building learners' confidence. This fifth model is conceivably the most efficient and important of all of Keller's motivational factors. It can also be viewed as the most important model to the distance learning education. Keller's hinge this factor on the fact that distance learning settings often lack self-confidence required to triumph in a non-traditional face-to-face setting (Wagner and Riddle, 1990). The assertions are supported by the simple reason that the majority of distance education students are adults who combined their studies with the programme they enrolled for, seeking to better their social status through promotions in their

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current jobs or a change of job entirely or students who are denied admission or failed to secure admissions in the regular universities. Both categories of students have lost faith in their academic abilities as a result of their not being able to secure admission at the nip of time. A beneficial approach for self-assurance building is to plan for successful opportunities early on in the programme. An activity at which students are likely to succeed, but that requires some effort should be designed. If assignments are too simple, students will then attribute their success to the easy assignment or luck and the effect will be lost. Other strategies for increasing student confidence include helping students to set realistic goals for themselves, providing clear and specific criteria for evaluation, and attributing success to learner effort when giving feedback, 'your hard work really shows in this assignment -good job or these answers show a great deal of insight; it's clear you've been reading very carefully'.

Collaboration, according to the students, will be deduced from the way they valued the multiple perspectives from the classmates. In particular, they will appreciate the questions from their mates most especially. A student summed this up thus;

> Information and communication technology will stimulate learning: in such a way that teaching and learning becomes a little bit interesting and exciting thus causing us to become alert and active in our studies. We can even continue to work without any form of hindrance to our studies.
>
> Male/Student/FGD/NOUN, 300L
> (June 20th, 2011)

Collaboration with others was seen as a source of encouragement to the students. The response below captures this;

> We will have shared problem solving and most of the group mates will have different opinion from different sources of information with divergent views that could then be harmonized to form the basis of a valid argument for or against a particular topic.
>
> Male/ Student/FGD/ NOUN, 200L
> (June 20, 2011)

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Interaction with students was expressed through statements that applaud the fact that ICT-based learning environment enabled interaction with distant members, as captured below

> We would have one-to-one and one- to-many communication at the same time, and horizon becomes wider
>
> Male/ Student/FGD/ UI, 400L
> (June 14, 2011)

Interaction with resources was noted, in relation to their availability, ease of access and possibility to reuse. They stated that they could rely on many resources such as group-mates and books and would be able to interact with free resources on the Internet. The excerpt below revealed this.

> The learning environment will be made more flexible. I could access course materials on the Internet anytime and on any computer even outside the college.
>
> Male/Student/FGD/ NOUN, 300L
> (June 20, 2011)

Another of the students stated that

> The approach will be self-centred, so we may not need the services of teachers frequently for a problem or assignment to be so involved.
>
> Male/Student/FGD/ UI, 300L
> (June 14, 2011)

The key supportive resources will be books from the library, the Internet, and availability of computers, course booklets, course guidelines and search engines, like Google. Self and peer evaluation, flexibility, threaded discussion, and the questions within the structure of the activity will enhance reflection. A discussant in a focus group discussion noted that:

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> I can use the checklist provided at the beginning of the semester to evaluate myself and also other seek other members of my class reactions to our woks done on the net. This will enable us to know if we are on track or not.
>
> Male/Student/FGD/ UNILAG, 300L
> (June 5, 2011)

Challenges to the level of interaction in the learning environment were the workload, no Internet or poor speed, too few computers, lack of time and time management. Some negative attitudes in some students and the interferences of an unforeseen examination during the study period. The responses below capture this;

> It is good but requires more time for interaction. It will also require or place an additional burden of looking for finance or money to access the Internet. Furthermore, we should place it on record that the country as a whole lacks the technical manpower to support this initiative now.
>
> Female/Student/FGD/ UI, 400L
> (June 14, 2011)

> Computers could jam or could even be faulty and most of the time they are few we and we have to complete the task.
>
> Male/Student/FGD/ NOUN, 400L
> (June 20, 2011)

> Some tutors had negative attitudes and they would harass us and send us away from the computer labs.
>
> Male/Student/FGD/UNILAG, 400L
> (June 5, 2011)

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Students in the focus group discussion were asked about their perceptions in a traditional learning environment as compared to those in the IT oriented learning environment. Relevance is especially important in motivating distance learners, since competing priorities, such as careers or families, reduce the amount of time available for learning skills information gained through education or training must be perceived as usable beyond the classroom setting. Gagne (1968) view this as the need for learners to be aware of the 'larger meaningful context' of instructional events. A distance education designer emphasizes course relevance by relating the content to learner experiences or the learner's future goals. Modelling enthusiasm for the subject matter also builds awareness of relevance. Conversely, lack of perceived relevance may significantly reduce learner motivation. The excerpts below make the foregoing clear;

> The learning environment in the traditional class is different from the electronic learning environment in that it is poor with no learning aids to stimulate the mind, it does not promote incidental learning and the classrooms are crowded.
>
> Male/Student/FGD/ UI, 200L
> (June 14, 2011)

> The normal learning environment (face-to-face) is rather boring, however, IT approach will provide room for a fresh air, the room will ordinarily be spacious, and students will not have to converge in a crowded room, in addition, we have a calendar, nice seats, a ceiling, flexible structures, fan and good lighting in the room
>
> Female/Student/FGD/ NOUN, 400L
> (June 20, 2011)

The students perceived the ICT-based learning environment to be resourceful, stimulating the mind with authentic tasks and resources, and encouraging active involvement of students through collaboration. However, the changes – reported in the qualitative study – could yet not be detected in the quantitative part of the study. This is attested to by the following comments of students in the focus group discussions.

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> It will enable and encourage the use of different learning materials, yet in class, you can use only the tutor and a book
>
> Male/Student/ FGD/ UNILAG, 200L
>
> (June 5, 2011)

> There will be less human interaction, collaboration; free expression and reduced shyness. However, there may be a challenge to inactive members, lack of Internet and log in problem
>
> Female/ Student FGD/ UNILAG, 300L
>
> (June 5, 2011)

The students' juxtapoxed that their normal classes with (ICT) oriented learning environment. They preferred instruction that is student-centred (active involvement), interactive and collaborative. This clearly reflects elements of the information technology (IT)-oriented environment.

> Learner centred active participation, increased thinking and increased memorization. This can be achieved through the introduction of IT-based learning facilities in Nigeria
>
> Female /Student/FGD/ NOUN, 300L
>
> (June 20, 2011)

> In a normal face-to-face, class as an individual student sit in a lecture room and listens to the tutor but in an Internet-approach lecture, it will be everyone for himself, God for us all.
>
> Male/Student/ FGD/ UI, 300L
>
> (June 14, 2011)

The information and communication technology (ICT)-oriented learning environment enables flexibility in the mode of study by encouraging the student to take control of the learning.

Learners feel satisfied when success is rewarded intrinsically in cases where the learning is in itself desirable, and extrinsically when tasks are less interesting (Keller, 1987). Distant students who feel at least moderately in control of their learning experiences, and concomitantly assume greater responsibility for their own learning, are also more likely to

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have feelings of satisfaction (Moore, 1977). To increase the chances of learner satisfaction, designers of instructional programmes should provide activities that allow new skills to be used in realistic settings; transfer of learning is intrinsically motivating. Flexibility and choice within the instructional programme by providing options for objectives, study methods, and/or evaluation, can increase the learner's sense of control. Providing extrinsic rewards for progress and verbally reinforcing students' intrinsic feelings of pride will also strengthen learner satisfaction.

In distance education, the components of attention, relevance, confidence, and satisfaction may determine whether a student successfully completes a course. These factors need to be considered as part of the development process. A third affective consideration for designers of distance education is ethics. Among educators building ethical awareness and sensitivity (that understands that one's actions can affect the welfare of others) among educators is important for the long-term success of distance education.

Three areas of ethical behaviour will be addressed: marketing programmes, admission of students, and preparation of materials. The first issue, marketing, could concern any new programmes, product, or service. The question to be considered is, "Are efforts to 'sell' distance education by highlighting its advantages and downplaying any disadvantages fair to potential students?" In other words, should distance education programmes be marketed with a 'let the buyer beware' attitude? (Reed and Sork, 1990).

The second issue is related to the admission of students. Distance education programmes are often linked to 'open learning' systems, in which admission is granted to all who apply. If, however, educators know (or strongly suspect) that attributes such as learner self-directedness or a high degree of motivation is necessary for success, should they be obligated to discourage students who do not exhibit those characteristics from enrolling? (Ehrman, 1990; Reed and Sork, 1990).

The preparation of appropriate instructional materials is the final ethical issue for consideration. In a traditional school setting, a variety of educational resources related to the course content can be found in a library or media centre. This may not be the case for students in remote sites who do not have easy access to information. Should educators be obligated to

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use materials that reflect a variety of viewpoints, since distance learners may not have the opportunity to discover these competing perspectives on their own? (Reed and Sork, 1990)

These questions regarding ethics in admission of students, and instructional materials may not have right answers, but the answers that are conveyed based on programme standards may influence a learner's success. Ethical issues are important in any type of educational endeavour. In distance education, the situational unknowns preclude stock responses and deserve fair consideration. A student observed that;

> Information technology encourages expression especially of own perspective… than in the normal class at times we may need to search for answers through search engines and there are times we have to reason it out. The learning will be relevant with daily experiences and present us with knowledge that is relevant to our own area of specialisation. The structure of the task presented cases that were real that could be related to classroom
>
> Female/Student/FGD/ UI, 200L
> (June 14, 2011)

Another one said:

> We would not see emotions like harshness, shyness and therefore there will be no hindrance to learning as a result of emotions.
>
> Male/Student/ FGD/ UNILAG, 200L
> (June 5, 2011)

Flexibility in relation to study materials could be related to unlimited access and the large variety in sources. For example, one student said,

> In class when you get a question you may be required to go to the library and may fail to get the answer
>
> Female/Student/FGD/ UI, 300L
> (June 14, 2011)

They acknowledged having access to, as presented by this student

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> Up-to-date content, instant source, readily available, resources were many unlike the case of only the teacher like classmates and books.
>
> Male/Student/FGD/ UI, 300L
> (June 14, 2011)

That communication is important to learning is an unarguable point. Its role in distance education is especially critical. Holmberg (1983) describe distance education as a 'guided didactic conversation' and emphasises, the idea that the components of a distance education programme (media, assignments, and texts) should primarily facilitate two-way communication.

There are several important differences between the classroom communication patterns of distance education and its traditional counterpart. One of these is that, because of the mediated nature of the communication, verbal contact is often highly structured and may seem impersonal (Cropley and Kahl, 1983). This sense of formality tends to suppress spontaneity and make group discussions and other learning activities difficult to implement successfully. Another major difference is that nonverbal cues may be absent from the distance learning setting. A raised eyebrow, a smile, or puzzled expressions all carry important messages when learning occurs face-to-face. Finally, students learning in remote sites, separated from the larger learning group, may miss out in informal discussions as a result of low social involvement (Daniel and Marquis, 1984; Sewart, 1984). Each of these distance delivery characteristics creates communication patterns, unlike those found in more familiar learning settings, and requires deliberate strategies for facilitating a 'guided didactic conversation.'

Perhaps the most obvious strategy for facilitating interaction is to incorporate activities that require learners to actively participate, using whatever communications media are available. Some examples would include conducting audio conferences, during which all of the students participate in discussions, or setting 'telephone office hours', during which students can (and may be expected to) call. Occasional group activities (seminars, meetings) can be held for students to feel more of being a part of the learning group, if the travel distance is not unreasonable. In designing instruction for any distance education system, communication, especially that initiated by learners, cannot be taken for granted.

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The learning environment, physical and psychological, in distance education programmes challenges our most basic 'school schemata' and requires a new perspective on what we know about teaching and learning processes. Traditional education is not necessarily better or worse than distance education, but students know how to 'do' traditional school. If designers begin to develop a broader, more holistic view of instructional planning to include affective considerations, learners will more easily deal with the unfamiliar and learn to 'do' distance education, too.

4.6 Access and adoption challenges of IT for distance-oriented learning environment

One goal of integrating computers and information and communication technology (ICT) into distance education is to reach new levels of productivity. Distance learners have both positive and negative reactions to the introduction of (ICT). Some of the positive reactions of instructors to (ICT) may have resulted from exploiting the potential of interactive technology, changing teaching style, assisting classroom management, and having greater feelings of self-worth. However, the adoption of IT will create an artificial barrier between the academic and the student, thus it may be save to say that the introduction will not offer immediate feedback. Unlike the traditional, face to face approach of learning. This fact was buttressed by the response given by key informants. One of them noted that

> The adoption of IT in distance learning will not offer immediate feedback in a learning environment**.** In a traditional classroom setting, a student's performance can be immediately assessed through questions and informal testing. With distance learning, a student has to wait for feedback until the instructor has reviewed their work and responded to it just like the teacher, the learner definitely has to adjust to a new role in the learning process. S/he must take on new responsibilities, often working without any supervision whatsoever
>
> Male/Professor/KII/ Ibadan
> (March, 2012)

Distance learning does not require commuting to and from learning centres. This saves students money and time that they could otherwise spend on travelling from and to school. In addition, students can schedule learning around other aspects of their personal and

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professional lives. They can also complete most of the classes at their convenience. Most of the classes are asynchronous, which means students do not have to attend a lecture at a particular time and place. Learners can review their assignments independently and do their homework during off-hours or from home. Distance learning also encourages students to live anywhere and study from anywhere while pursuing the education of their choice, such that they do not have to live in the same city or the same country to attend the learning institution of their choice. Students can study wherever they have access to a computer and Internet connection. However, the types of courses that can be enrolled for by students limit the choice. This fact is corroborated by a key informant who asserted that

> Distance learning does not always offer all the necessary courses online. Students pursuing a specific certificate or degree programme may not have all the necessary courses available through distance learning so it is not suited for all subjects. While you can study a history lesson completely online, you cannot perform nursing clinical online. Thus physical classroom attendance will be necessary to complete the course.
>
> Female/Professor/KII/ Lagos
> (March 2012)

Another key informant said:

> Learning online is different from learning off-line in another important way: there is much more learning and much less teaching, at least there is much less teaching as it is typically done in the offline settings
>
> Male/Professor/KII/ Ibadan
> (March 2012)

An informant further submitted that the introduction of IT into distance learning curriculum does not give students the opportunity to work on oral communication skills and that it will cause social isolation amongst the students. He said:

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> Students in distance learning environment will not get the practice of verbal interaction with professors and other students, and this could lead to social isolation, whereby, students most often will be studying alone. Distance learners may feel isolated or miss that social physical interaction that comes with attending a traditional classroom.
>
> Male/Professor/KII/ Ibadan
> (March 2012

The introduction of IT into distance learning curriculum may help students gain extra knowledge**,** in such a way, that they can transfer the knowledge of computer and Internet skills gained in the process of distance learning experience to other facets of life. This will also encourage self-paced learning. This reduces stress and increases satisfaction. Online classes address physical accessibility issues that some people with limited mobility encounter when taking traditional classes. Students do not have to worry about gaining access to a classroom or sitting on uncomfortable desks. Instead, they can use the comfortable furniture in their homes while enjoying free movement and a chance to further their education. The options also are laced with limited choices that could lead to discrimination of distance learners by employees and sometimes by tertiary institutions. Another key informant noted that;

> Not all employers may acknowledge distance-learning certification. Although most employers do acknowledge distance learning, certain employers do not. Students who want to work for a specific employer upon graduation should be sure of that employer's perspective about online education before seeking for the job.
>
> Female/Asst Director/KII/ Lagos
> (March 2012)

Although, the attitudes of academics towards the use of IT in their teaching sometimes are positive, a large number of academics still face barriers in using IT in their teaching. The increase in student number and the rise in associated productive output may have partly been achieved by academic staff taking on increasing administrative workloads. New technologies are seen as a method of encouraging the output of publishable materials given the pressures of the Research Assessment Exercise. It is evident, as scholars like Romero (2002) have

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highlighted, that the lack of technical knowledge and a successfully implemented habit and good practice in the use of ICT into teaching and learning processes would become one of the main objectives when trying to elicit from teachers a positive attitude towards the use of technology.

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Table 4.5.1: Key challenges of ICT

	Total	Male	Female	UI	LAGOS	NOUN
Key Challenges						
Slow internet connectivity	10	11	10	14	13	8
Expensive to manage/Not cost friendly	6	7	6	10	5	6
Technical support needed	4	4	5	4	2	6
Not quite understanding/Language difficulties	3	2	4	0	3	5
Not interactive/boring when not properly oriented	1	1	2	3	2	0
Computer not readily available to everyone	1	1	2	1	2	2
Time wasting	1	2	1	2	1	2
Limited access	1	2	1	1	1	2
Needs constant practice	1	0	2	1	3	0
It's stressful	1	1	1	1	1	0
Learning facilities poor/Inadequate equipment	1	1	2	1	0	2
Inconvenient	1	1	1	0	0	1
It makes people lazy especially teachers	1	0	1	1	1	1
Interaction with lecturers not good enough	1	1	0	1	0	1
Lots of people at business centres/Cyber café	1	1	1	1	0	1
Long processing before getting the derived information	1	1	1	1	0	1
NUMBER	880	367	503	185	222	463
TOTAL	100	100	100	100	100	100

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Table 4:5:1 above indicates that the three (3) major challenges that impede the access and adoption of information and communication technology in a distance oriented learning environment in Nigeria by students are slow internet connectivity (9.6 percent), the additional cost the course will bring to the students (8.5 percent) and lack of technical experts (4.4 percent).

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CHAPTER FIVE

SUMMARY AND CONCLUSION

5.1 Summary of findings

Current distance education approaches give access to a number of people who are unable to attend classes because of constraints in their lives, such as denial of admission, their work schedule, transportation, and childcare. Distance education in Nigeria supports a wide variety of programmes; from the science to arts curricula. The data for this study showed a critical characteristics of the student population; the majority of them were employed and most of them for more than five years. The distance education programme intended to favour the upgrading of teachers. This is reflected in the age levels: a large percentage was between 31 to 40 years. Since most of the students did not live close to the institutions centre, they clearly experienced a distance barrier.

In view of this format and the varying student demographics established, we wonder if the flexibility and interaction of this current distance education are able to offer to the different students without IT use in instruction. This view is supported by structuration theory, which posits that the more sophisticated the use of new information and communication technologies, the shorter the transactional distance in the teaching and learning process will be. Hence, the more flexible the role of the structure, the more effective the communicational process will be. Therefore, digital communicative media would undoubtedly have a significant positive impact on dialogue and structural dimensions. Giddens (1984, 1991) postulates the existence of a new space, characteristic of late modernity, which transcends the traditional physico-geographical spaces typical of the modern era. Castells (2010) presents the concept of the space of flows that denotes “the idea that there is a new spatial form characteristic of social practices that dominate and shape the network society”. New contexts, beyond the geographical and social spaces, are created by the interaction of human agency with structure. The current convergence of time and space, affected by communication technologies, is producing different dimensions. New places emerge beyond the geographical locus, hitherto unknown in the traditional time-space relationship

As far as the opinions in this field are concerned, teachers seem to agree on the need for renewal of methodological patterns. The 21st-century changes in the education pose a great challenge to teachers to overcome. Obviously, teachers are aware of the need to change their

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role and move from the mere figure of knowledge transmitter to the figure of knowledge mediator, who accompanies the student along his or her learning process. It is the process in which both teacher and student learn from each other.

Training is seen as the solution that will help them introduce changes in their teaching practices. Otherwise, the requirements to succeed in this methodological change require teachers to spend enormous amount of time training and preparing themselves for the change, and also adapting materials, redesigning them and getting accustomed to new environments: the computer-room, the virtual spaces and the new media. However, as it was discovered, not all lecturers agreed on the need to include ICT within the methodology. They proposed that the methodology has to be put at the service of lecturers and in accordance with the teacher's profile. This need to change embodies the appearance of both positive and more pessimistic attitudes. Related to this, the sense of disorientation and fear exists in many teachers who fear the loss of their traditional role. The lecturers viewed as negative the attitude of many colleagues who do not want to hear about change and stated that age factor might be one of the causes of this reluctance of many to confront change both in their teaching practices and their processes of self-training. However, others manifest from the very beginning their availability to face change and to adapt to new times. One of the academics aptly captured this:

> I like the new proposals regarding the teacher's role: the teacher as designer of the student's learning scenarios and orchestrator of the learning process.
>
> Female/Tutorial Assistant/IDI/ Ibadan
> (March 2012)

The emergence of new instruments and languages challenges teachers and reveals the necessitpy for them to be updated and well trained and to combine new tendencies and resources with old and traditional ideas. The fact of living in a different society embodies the need to face new opportunities and to confront the harnesses of change. Another concept that is highly valued by teachers is the enhancement of collaboration. Teachers see the need to share and collaborate in order to benefit from the knowledge and experience of others. This process will lead to a positive improvement of teaching quality. Thus, the culture of

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collaboration becomes highly praised and valued. It is from this recognition that a strong community of practice is grounded. This community will take benefit from the richness of the different collaborations and will have access to knowledge, which is in constant change and evolution.

The efficiency of the current distance education approach (mainly, face-to-face) was rated poorly. The student's expressed positive reactions on the efficiency of the current approach and in addition were positive about the efficiency of IT use in distance education. They anticipated that ICT in distance education would enhance the efficiency of the programme by demanding less human resources and by enhancing flexibility in terms of location of the study, the study materials, the study programmes and the nature of the interaction between students and their lecturers.

The efficacy of the deployment of IT in distance education was rated high, when focusing on the potential to support the acquisition of knowledge, skills and competences. It is not surprising that the lecturers consequently rated the potential of IT use to enhance the efficacy of distance education rather low. The divergent views by the students and the academics is a further confirmation of structuration theory, which posits that interaction between human agency and structure in the context of late modernity is influenced by a new set of phenomena, which shape new relationships of teaching and learning in a context permeated by information and communication technologies: separation between time and space; development of disembedded mechanisms; and reflexive appropriation of knowledge. Therefore, distance education mediated by use of new technologies could be regarded as a phenomenon in which a group of new conditions stemming from the context of late modernity significantly affects teaching and learning relationships. The concept of distance within this new context manifests radical change in the locus of education.

The study found teachers apparent limitations in relation to the use of ICT, which included lack of technical knowledge on how to technically use different tools and the need of pedagogical exploit. The need to integrate IT-based proposals, to design and adapt learning spaces to the present necessities in order to approximate IT to teaching in the classroom was seen by the most of the teachers, although there was confusion on how to do it. Furthermore, many of the students and teachers seemed to have a cultural prejudice that did not allow them to understand that ICT tools are not only mere tools, but other ways of perceiving cultural and

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conceptual relationships. The idea of changing such deep-rooted perception constitutes another challenge to overcome. In many instances, students and teachers seemed to relate ICT to the idea that things have to be quick, easy and dynamic and that ICT is against reflection.

The claim to use ICT under both a conscious and critical perspective was widespread among the students and their teachers who did not see the utility of using technology at all. Furthermore, some of them viewed the proposal of making the use of ICT into teaching and learning processes optional, stating that there were educational need more important than ICT and its integration into teaching practices. Therefore, education mediated by information and communication technologies assumes a new array of signs and meanings derived from the communication process created by technological mediation. All of these alterations revolve around the central notion of late modernity or informational society-symbols of the new context – and how new technologies transform the central concept of distance. These are no longer bound by the norms and standards associated with the earlier notion of geographic distance, but subject to a new set of conditions and characteristics.

The need to give prestige to ICT is another aspect that worried the teachers and their students. In many instances in which students did not see the fact that ICT can contribute to developing their improvement of skills and abilities. The fact that ICT and the Internet do not constitute a lucid tool is something that needs to be overcome in order to succeed; implementing ICT rigorously is another aspect in which the teachers who participated in this research agreed completely. The conception that ICT may cause a social divide was something which worried the stakeholders since they witnessed the situation in which all students have access to technological resources and advances.

The assumption of moving towards a natural integration of technology in teaching and learning processes is a shared concept, which many of the teachers and students agreed on. The invisibility of the means accounts for this concept, as articulated by one of them:

> We, as teachers, will not succeed in integrating ICT until we are aware of the tool that we are using.
>
> Male/Tutorial Assistant/IDI/ Lagos
> (March 2011)

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Thus, the fact that students' are more aware and conscious of the use of ICT-based tools and resources helps to reinforce this idea and see the presence of the different media in the classroom in a more natural way. The need to homogenize the use of ICT in the teaching centres together with the need to establish parameters, which can contribute to the increase of quality standards in learning and teaching is a need which many of the teachers agree with. The lack of protocol and the necessity to take the realities of the teaching centres into account was extremely important to them. The teachers emphasised the need to work with ICT as essential, the need to work collaboratively as urgent, and the necessity to undergo a deep change as far as methodological criteria are concerned as very urgent.

Among the initial attitudes of the teachers regarding the introduction of technology into their teaching and learning practices there were answers which ranged from the most extreme reluctance and refusal to the excitement to try and face new challenges. Among the more pessimistic attitudes, the teachers exposed their reluctance on the fact that the introduction of ICT would lead to waste of time, waste of energy and waste of effort. The sense of not feeling secure enough made them feel even restless and anxious. Before taking students to the computer room or before starting with students any type of didactic activity carried out with the use of any technological tool, teachers should have designed and developed this activity, and they need to know how to do it in terms of pedagogical use of the tool in question. The attitude of students who, in many cases, and, owing to ignorance, perceived ICT as the source to carry out wrong activities constitutes another aspect, which provoked unease among teachers. Related to this, there was the concern that ICT could transform students into lonely and unsocial individuals, and that the learning mode does not help students to dig deep into the objects of their study.

The teachers shared the view that they had to take advantage of ICT and its communicative possibilities. However, some of them mentioned the need to use them from very conscious and critical perspectives. The teachers noted that they would spend much time preparing and learning how to use the different tools, but that the effort was worth making. According to them, ICT potentialities could account for better results by students, enhance communication and student's active participation in class. The efforts carried out by

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educational institutions to support and provide infrastructure and resources to promote the introduction of teaching and learning practices were highly valued and praised. The need to acquire competences regarding the use and deep knowledge of communication tools and resources was basic to becoming critical, challenging imaginative and IT consumers, with the capacity to evaluate the materials and select attending to quality standards.

As far as the teacher's role is concerned, the change that teachers have to undergo in order to succeed in the implementation of technology affect teachers and causes them some despair. The need to receive training in order to confront challenges in role changing was made evident in many contributions made by the teachers. Some teachers vindicated the traditional role of teachers: they exposed the feeling that, with the use of IT, the teacher loses power and that the importance of many values will be lost. It seemed to them that if technology permeates the whole of the educational process, and then highly praised traditional values, such as the development of a critical sense to face life by students can be lost.

Another factor which prevents teachers from clearly seeing the need to use IT in their teaching, is that they do not perceive how they can directly apply IT in their teaching area. More optimistic teachers stated the need to be ready and prepared in order to provide good response to teachers who are still reluctant and refuse IT. They stressed the idea that they have to be convincing and ready to provide suitable responses. They viewed technology as essential and that it cannot be isolated from other practices, but deeply integrated in them.

As far as the barriers for a successful IT integration are concerned, emphasis will be put on aspects which range from the access of teachers to computer rooms to the type of conditions that teachers have to confront in order to guarantee a satisfactory integration of IT into their daily teaching practices. Regarding the different types of barriers, which impede teachers from satisfactorily integrating technology into teaching and learning processes, there are different opinions from the teachers. The differences in opinion of the different teachers participating in the courses were in most cases directly related to the facilities they possessed in their teaching centres in terms of infrastructure, connectivity. Student-computer ratio, access to the computer room, existence of computers in the class, support and help to carry out activities using IT. The barriers, according to this fact, are divided into attitudinal and infrastructural barriers.

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5.2 Conclusion

This study investigated whether the implementation of an innovative learning environment is able to prop up the perceived flexibility of distance education. The innovative arrangements represent the implementation of IT-based tools that students can use at anytime and anywhere and allow them to communicate asynchronously with one another and to study a range of alternative electronic learning environments.

We conclude that the attributes of the IT-oriented learning environment, supported by ICT, will promote flexibility of students with regard to time, study location, mode of study, study materials, communication and interaction. A central characteristic of this approach is the promotion of the close interaction between the teacher educator and the (student) teacher and the interaction among (student) teachers.

Distance learning mediated by the Internet increases access to higher education. It offers an alternative for students who want to begin or continue their studies at any stage in life, have family responsibilities to consider, or want or need to continue working while earning a degree. The model also exposes students greatly to the asynchronous online environment that allows students to learn on their own. Another benefit of the distance-learning environment is the opportunity learners have to network with classmates and faculty from different backgrounds.

The information and communication technology-oriented learning environment – supported by the Internet was found to have an impact on most of the dependent variables: student perceptions, levels of interaction and levels of cognitive processing and perceived study flexibility. The environment seemed to promote student interaction. The learning environment influenced student teachers perceptions, since they preferred more communication, interaction and student-centred learning. Certain perceptions of the learning environment and tenets help to predict the average level of cognitive processing.

5.3 Recommendations

It is clear from the study, that, for Nigeria to be able to compete in the current global environment, she must provide its citizens with education and skills that would enable them to tap into the global economy. The world is fast becoming a global village in which nations are

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losing control of flow of capital and skills and, very importantly, the definition of standards is now global.

Internet-mediated distance learning is the solution if Nigeria is to achieve the higher education appreciable participation rate. It may need to build, perhaps, as many as 20,000 average universities with her huge population and the number of citizens who are willing to get educated but are restricted by some social factors. The level of investment required to solve this problem, solely through the construction of facilities, looks expensive and would take a tremendous amount of time. Distance delivery supported by IT can be effected immediately without a massive commitment of physical capital that is both immovable and irreversible.

Therefore, this study recommends that the government of Nigeria should broaden access to education, provide needs-driven and skills-based education and provide her citizens with education that is globally competitive and skillfully interconnected with national needs as conceptualised within the global framework. To achieve this, the Federal Government of Nigeria needs to redefine its strategies. Creation of new universities may not achieve the goal of opening access to university education, until after some years. Rather than setting up more universities, the solution is for the government to expand the existing universities by getting them to strengthen their departments of distance learning to enable those who cannot go inside the walls of universities to acquire education.

5.4 Contributions of the research to knowledge

This research has tried achieve the following;

1. It provides a big picture of relevant aspects of Internet technology, in general, and in Nigeria, in particular.
2. It provides a clear description of relevant aspects of Nigeria, Distance Learning Programmes.
3. It provides the overall picture and details of Internet implementations in Nigerian distance learning. It is hoped that the study will contribute to wider understanding

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regarding the Internet usage of Nigerian academics including their usage behaviour and intention to use the Internet in the future.

4. It illustrates the effects of some cultural aspects as moderators along with other moderators on the influence of key determinants toward usage behaviour and behaviour intention.

6. It provides information regarding how to make full use of the Internet in academic work.

7. It exposes the knowledge of to what extent Internet usage helps improve professional practice, professional development and quality of working life of academics.

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REFERENCES

Abernathy, D.J., 1999 www.online.learning. *Training and Development* 53 (9): 36-41.

Adams, D., Helen C., and Mary H. 1990; Cooperative *learning in educational media: Collaborating with technology and each other*. Englewood Cliffs, NJ: Educational Technology.

Aderinoye, R.A., 1995 Teacher training by distance: The Nigerian experience. In John Daniels (Ed) *Proceeding of the 1995 ICDE conference.* John Daniel, Birmingham.

Afolabi-Ojo, G.J., 1986 Towards distance learning systems in Nigeria. A valedictory lecture delivered at the University of Ife now Obafemi Awolowo University, Ile-Ife

Akinpelu, J.A., 1982; A case study of Distance Education Project in adult education in Nigeria Vol. 7 (1) 51-53.

Akinpelu, J.A., 2002 *Philosophy and adult education Lagos*: Stirling-Horden Publishers.

Akintayo, M. O. (1989). Investment in University Education and the problems of unsatisfied demand. Journal of Andragogy and Development, 1(1) 88 - 95

Alpert, B., 1991 Students' resistance in the class room *Anthropology and Education Quarterly*22:350-66.

Aron, L.J,1999. Online U. Across the Board 36 (8): 63-66.

Atkins, D.E., Droegemeier, K.K., Feldman, S.I., Garcia-Molina, H., Klein, M.L., Messerschmitt, D.G., Messina, P., Ostriker, J.P., Wright, M.H., Final Report of the NSF Blue Ribbon Advisory Panel on Cyber infrastructure, available at http://www.cise.nsf.gov/sci/reports/toc.cfm. February 2003.

Au M and Chong C.,1993 The evaluation of the effectiveness of various distance learning methods. *International Journal of Instructional Media 20(2):105–127.*

Au M, Chong C., 1993 The evaluation of the effectiveness of various distance learning methods *International Journal of Instructional Media* 20(2):105–127.

Banas, E J., and Emory W. F,.1998; History and issues of distance learning. *Public Administration Quarterly* 22, 3: 365-83.

Bandura, A. 1977; Self-efficacy: Toward a unifying theory of behavioral change. Psychological Review, 84(2), 191-215.87

Bandura, A., 1994; Self-efficacy. In V.S. Ramachaudran (Ed.), Encyclopedia of Human

UNIVERSITY OF IBADAN

Bandura, A., 1997 Self-efficacy: The exercise of control. New York: Freeman.

Barley, S. R., 1986 Technology as an occasion for structuring: evidence from observations of CT Scanners and the social order of radiology departments." *Administrative Science Quarterly*31:78–108.

Barrett, L., and Danks., M. 2003;*Information literacy: a crucial role for schools*. (Online). Available at:

Barron, K. E. and Harackiewicz, J. M., 2001 Achievement goals and optimal motivation: Testing multiple goal models. Journal of Personality and Social Psychology, 80, (5), 706-722.

Bates, A. W., 1995 *Technology, open learning and distance education*. London: Routledge.

Bates, A.W., 2000 *Managing technology change: strategies for college and university leaders* Jossey-Bass Publishers.

Beers, G., 2005; The Effect of teaching method on Objective Test Scores: Problem – Based Learning Versus Lecture: Journal of Nursing Education 44 (7) 305 – 309.
Behavior (Vol.4, pp. 71-81) New York: Academic Press.

Berger, Peter L., and Thomas Luckmann., 1966 : *The Social Construction of Reality*. New York: Doubleday Anchor.

Boczkowski, P. J., and Orlikowski, W. J., 2004 *Organizational discourse and new media: A practice perspective.* In D. Grant, C. Hardy, C. Oswick, N. Phillips, and L. Putnam (Eds.), Handbook of organizational discourse (pp. 359-377). London: Sage.

Britain, S. and Liber, O., 2002;*A Framework for Pedagogical Evaluation of Virtual Learning*. Retrieved from http://www.jisc.ac.uk/jtap/htm/jtap- 041.html#_Toc463843832 on 1stFebruary 2011.

Brown, T., 1999 'Challenging globalization as discourse and phenomenon', *International Journal of Lifelong Education* 18(1): 3–17.

Bryant, C.G.A. and Jary, D., 1991; Introduction: coming to terms with Anthony Giddens, in *Giddens' Theory of structuration: A critical appreciation*, Bryant, C.G.A. and Jary, D. (eds.), London; Routledge, pp. 1-31.

Bryant, C.G.A. and Jary, D., 2001 *The contemporary Giddens: social theory in a globalizing age*, Palgrave, Basingstoke:Macmillan

Bryson, M. and S. de Castell. 1998 New technology and the cultural ecology of primary schooling: Imagining teachers as Luddites Indeed', *Educational Policy*12(5): 542–67.

UNIVERSITY OF IBADAN

Burke, A., 1999 *Communication and development: a practical guide* London; Social Development Division, Department for International Development.

Butler, D. and Winne, P., 1995; Feedback and self-regulated learning: A theoretical synthesis. Review of Educational Research, 65 (3), 245-281.

Calder, B., 1977; "*Focus groups and the nature of qualitative marketing research*. Journal of Marketing Research,14 (3) : 353-364.

Castells, M., 2000;The Information Age: Economy, Society and Culture, vol. 1, *The Rise of the Network Society*, 2nd edn. Oxford: Blackwell.

Chan, M. S. C, Yum, J. , Fan, R. Y. K., Jegede, O. andTaplin, M., 1999; . Locus of control and metacognition in open and distance learning: a comparative study of low and high achievers. Paper presented at the 13th. Annual Conference, Asian Association of OpenUniversities. The Central Radio and TV University, Beijing, China.

Chemers, M. M., Hu, L. and Garcia, B. F., 2001; Academic self-efficacy and first-year college student performance and adjustment. Journal of Educational Psychology. 93(1), 55-64.

Chudoba, K. M., Watson-Manheim, M. B., Lee, C. S., and Crowston, K. 2005 Meet me in cyberspace: Meetings in the distributed work environment. Paper presented at the Academy of Management conference, Honolulu, HI.

Clegg, S., A. Hudson and J., Steel, 2003 'The emperor's new clothes: globalization and e-learning in higher Education' *British Journal of Sociology of Education* 24(1): 39–53

Cohen, I., 1989;*Structuration Theory: Anthony Giddens and the Constitution of Social Life*, Macmillan, Basingstoke, Macmillan

Commonwealth of learning, 2009; Administrative structures for Distance Education COL, Vancouver. Critics. Cambridge University Press, Cambridge, UK.

Computer Industry Almanac. 2006; Computer industry almanac Inc. Retrieved August 2006 from http: //www.c-.i-a. Com Context 'America Journal of Education 102: 123- 53.

Cox, M. and Abbott C.,eds 2004: ICT and attainment: a review of the research literature. Report to the DfES and British Educational Communications and Technology Agency (BECTA), URL Retrieved September 2010):http://partners.becta.org.uk/.

Cox,M. and M.Webb (eds), 2004;An Investigation of the research evidence relating to ICT pedagogy. Report to the DfES and British Educational Communications and Technology Agency (BECTA), URL (Retrieved June 2010): http://www.becta.org

Craib, I. Anthony, *1992 Giddens*, London, Routledge

UNIVERSITY OF IBADAN

Crotty, M., 1998; The foundations of social research: meaning and perspective in the research process, London Sage.

Cuban, L., 2001 *Oversold and underused*: *computers in the classroom*. Cambridge, MA: Harvard University Press.

Cuban, Larry., 1984 *How teachers taught: constancy and change in American classrooms*, 1890–1980. New York: Longman.

D'Aunno, T, Robert I. S, and Richard P., 1991; "Isomorphism and external support in conflicting institutional environments: a study of drug abuse treatment units." *Academy of Management Journal* 34:636–61.

Daft, R. L., and Lengel, R. H. 1984. Information richness: A new approach to managerial behavior and organization design. In B. M. Stawand L. L. Cummings (Eds.), *Research in organizational behavior*(pp. 191-233). Greenwich, CT: JAI.

Daft, R. L., Lengel, R. H., and Trevino, L. K., 1987; Message equivocality, media selection, and manager performance: Implications for information systems. *MIS Quarterly*, 11, 355-366.

Daniel, J. S., 1996;*Mega-universities and knowledge media: Technology strategies for higher education.* London: Kogan Paul.

David, P.A (2004), Toward a Cyber infrastructure from Enhanced Scientific Collaboration: Providing its 'Soft' Foundations May be the Hardest Threat, Oxford Internet Institute.

Deal, T. E., and Lynn D. C., 1980; "How much influence do (and can) educational administrators have on classrooms?" *Phi Delta Kappan*61: 471–73.

Digital Opportunity Initiative, 2001; C*reating a development Dynamic*: Final Report of the Digital Opportunity Initiative, Accenture, Markel Foundation, UNDP.

Dolence, Michael G., and Donald M. Norris, 1995 Transforming higher education: a vision for learning in the 21st century. Ann Arbor, MI: *Society for College and University Planning*.

Dutton, J E., and DukerichJ. M., 1991; "Keeping an eye on the mirror: Image and Identity in organizational adaptation." *Academy of Management Journal* 34:517–54.

EEPA, 1990;*Educational Evaluation and Policy Analysis*[Whole issue] 12(1):233–353.

Egunyomi D. and Aderinoye R. A., 2001 Open Learning System for development: The Nigerian experience: rethinking adult and non-formal education in J.T Okedera (ed) Stirling– Horden Publishers Limited.

UNIVERSITY OF IBADAN

Egunyomi D. (2003) Access to education, distance education and the use of Modern Technology for Universal Basic Education' in Bamisaiye O. A. Nwazuoke, I .A and Okediran, Education This Millennium – Innovative in theory and practice. Lagos, Nigeria: Macmillan, Nigeria Publishers Limited

Ehrmann S.,1997 Asking the right question: What does research tell us about technology and higher learning. *Change* 27(2):20-27.

Erionosho, O. A, Obasi, I. N, Madueke A., 2002; Interdisciplinary methodologies in the social sciences, Abuja, Auscon Fireseed Pub.

Etzioni, E., 1991 *Social change*. New York: Basic Books.

Facer, K., J. Furlong, R. Furlong and R. Sutherland, 2009 Constructing the child computer User: From public policy to private practices', *British Journal of Sociology of Education* 22 (1): 91–108.

Federal Republic of Nigeria, 2010 National Policy on Education (Revised) Federal Ministry of Education, Abuja

Fetzer S., 2000 A pilot study to investigate the impact of interactional television on student evaluation of faculty effectiveness. *Journal of Nursing Education* 39(2):91–93.

Fetzer S., 2007 A pilot study to investigate the impact of interactional television on student evaluation of faculty effectiveness. Journal of Nursing Education 39(2):91–93. Medline Order article via Infotrieve.

Fletcher, J. D., 1989 Effectiveness and cost of inter active video-disc instruction. *Machine Mediated Learning* 3:361-85.

Folch- Lyon, E, and J.F Trost, 1981 Conducting focus group sessions *Studies in Family Planning*, 12(12) 443-449.

Forman, David C., 1995 Use of multimedia technology for training in business and industry. Multimedia Monitor 13:23.

Galtung, J., 1997;*Development, environment and technology: towards a technology for self-Reliance,* New York: United Nations.

Garnham, N., 2000; Information society as theory or Ideology: a critical perspective on technology, education and employment in the information age', *Information, Communication andSociety*3(2): 139–52.

Giddens, A., 1983; Comments on the theory of structuration, *Journal for the Theory of Social behaviour*, (13:1), 1983, pp. 75-80.

UNIVERSITY OF IBADAN

Giddens, A., 1989; A reply to my critics in *Social Theory of Modern Societies: Anthony Giddens and his Critics*, Held, D. and Thompson, J.B. (eds.), Cambridge University Press, Cambridge, UK, pp 249-301.

Giddens, A., 1984; *The constitution of society* Cambridge, Polity, UK.

Giddens, A., 1994; Beyond Left and Right. Cambridge: Polity Press.

Giddens, A., 2002; On the Move: Technology, mobility, and the mediation of social time and space. The Information Society, 18(4): 281-292.

Golding, P., 2000; 'Forthcoming features: Information and Communications Technology and the sociology of the future', *Sociology*34(1): 165–84.

Goodwin, I. and S. Spittle, 2002; 'The European Union and the Information Society: Discourse, Power and Policy', *New Media andSociety*4(2): 225–49.

Gorard, S., N. Selwyn and L. Madden, 2003; 'Logged on to learning? Assessing the impact of technology on participation in Lifelong learning', *International Journal of Lifelong Education*22(3): 281–96.

Greco, Joann, 1999;Going the distance for MBA candidates. *Journal of Business Strategy* 20 (3): 30-34.

Haddad, W. D. et al, 1990*; Education and development evidence for new priority* Washington D. C.World Bank.

Haddad, W. D. et al, 2006; 'ICT for education: a reference handbook' www.ictinedtoolkit.orgHttp/mw/hpic. NECTEC/ th/ PNCHttp/topics.developmentgateway. org/e-learning.27 June 2005.

Hankin, Joseph N., 1999; Alice, the college teacher, and the rott weiler in Wonderland: The prospects and problems of distance education. *Executive Speeches* 14 (2): 18-21.

Harasim, L., Hiltz, S. R., Teles, L., andTuroff, M. 1995;*Learning networks: a guide to teaching and learning on-line.* London: The MIT Press.

Harry, Keith, ed. 1999;*Higher education through open and distance learning* London: Routledge.

Harvey, D., 1990;The Condition of Post-modernity. Oxford: Blackwell.

Harvey, D., 1993; From Space to Place and Back Again: Reflections on the Condition of Post modernity. In J. Bird, B. Curtis, T. Putman, and C. Robertson, (eds.), Mapping the Futures: Local Culture, Global Change. London: Routledge.

UNIVERSITY OF IBADAN

Held, D. and Thompson, J.B., 1989;*Social Theory of Modern Societies: Anthony Giddens and his*

Hesse, B. W., Werner, C. M., and Altman, I. 1988; Temporal aspects of computer-mediated communication Computers *in Human Behavior*, 4, 147-165.

Holmberg, B., 1990 *Perspectives of research on distance education (2nd edition).* Hague: ZentralcsInstitutefurFernstudienforschung.http://www.cilip.org.uk/publications/update magazine/archive2003/may/update0305c.htm

Hussey, J., and Hussey, R., 1997; Business research: a practical guide for undergraduate and postgraduate students, Macmillan Press LTD, Basingstoke, Hampshire.

Isiugo – Abanihe, Uche C., and Oka M. Obono., 2000 "The Use of Focus Groups in the Nigerian Social Sciences" In *Current and Perspectives in Sociology*, eds. Uche C Isiugo – Abanihe, Austin Isamah and Jimi Adesina. Ibadan: University of Ibadan Press.

Jennings, N. E., 1996 *Interpreting policy in real classrooms: case studies of state reform and teacher practice* New York: Teachers College Press.

Joo, Y.-J. , Bong, M. and Choi, H-J., 2000; Self-efficacy for self-regulated learning, academic self-efficacy and internet self-efficacy in web-based instruction. Educational Technology Research and Development, 48 (2), 5-17.

Julian K. A., 2008 *Information Communication Technology and Global Education: The challenges of the Africa Virtual Universities Learning Centres in Ghana*. SAGE publisher.

Holton, E.F. and Burnett, M.F (1997) Quantitative Research Methods: in Swanson , R.A and Holton E.F (ed) Human Resource Development Research Handbook. San Francisco, Barret-Koehler Publisher, (pp 65- 87).

Karp, D. A., and William C. Y., 1976;The college class room: Some observations on the meaning of student participation. *Sociology and Social Research* 60:421-39.

Karuppan, C M., and Muthu K., 1999;Empirically based guidelines for developing teaching materials onthe web *Business Communications Quarterly* 62 (3): 37-45.

Keller, J.,1987; Development and use of the ARCS model of instructional design. *Journal of Instructional Development",* 10(3), 2-10.

Khan, A.,1996; Utilization of communication technologies for distance in K. MuraliManohar (ed) instance.

UNIVERSITY OF IBADAN

Khan, B. H., 2006; Web-based Instruction (WBI) What is it and why is it? In *Web-Based Instruction* B.H.Khan (Ed.),Englewood Cliffs, New Jersey: Educational Technology Publications.pp.5-18.

Khan, Mohammed Ejazuddin, Martha Ankher, Bella C Patel, Sandhya Barge, Hemlatha Sadwani, and Ranjana Kohle, 1991; "The use of focus group in social and behavioural research: some methodological issues" World Health Statistics Quarterly 44: 145-148.

Kovach,J.C., 2000; October. Self-regulatory strategies in an accounting principles course: Effects on student achievement. Paper presented at the Mid-Western Educational Research Association, Chicago, Illinois, [On-line]. Availableat:http://www.cedu.niu.edu/pierce/Self-regulatoryStrategies.htm.

Lee, I-S., 2002; Gender differences in self-regulated on-line learning strategies within Korea's University context. Educational Technology Research and Development, 50 (1),101-109.

Lim, C. K., 2001; Computer self-efficacy, academic self-concept, and other predictor of satisfaction and future participation of adult distance learners. The American Journal of Distance Education. 15(2), 41-51.

MacDaniel, C., 1979; Focus Groups- their roles in the marketing research process *Akron Business and Economic Review* 6 (2): 441-462.

Major, C and Palmer, B., 2001; Assessing the effectiveness of problem- based learning in higher education: lessons from literature: Academic Exchange Quarterly 5 (1) 4 – 9.

Martin, EW, Brown, CV, DeHayes, DW, Hoffer, JA and Perkins, WC., 2002;Managing information technology, Inc., New Jersey, Pearson Education

Marx, Karl 1869/1963;The 18th*Brumaire Of Louis Bonaparte*. New York: International Publishers.

Mc Isaac, M. S. andGunawardena, C. N., 1996; Distance education. In Jonassen, D. H. (Ed.), and book of research for education communications and technology (pp. 403-437).New York: Macmillan.

McCormack, C, and David J,. 1998;*Building a Web-based education system*. New York: JohnWileyand Sons.

McHenry L, Bozik M., 1997; from a distance: Student voices from the interactive video classroom. *Tech trends* 42(3):20–24, CrossRef.

McKenna S.,1995; Evaluating interactive multimedia; Issues for researchers, *Open Learning Institute Occasional Paper*, Number 17, Charles Stuart University, Australia.

UNIVERSITY OF IBADAN

McLaughlin, Milbrey W., and Joan E. Talbert, 2001;*Professional communities and the work of high school teaching*. Chicago: University of Chicago Press.

Michael J, Christiaanvan den B and Stefaan van R. 2003;Home, but not alone: Information and communication technology and internationalisation at home, *Journal of Studies in International Education* 2003 7: 94.

Middleton, M. andMidgley, C., 1997;Avoiding the demonstration of lack of ability: Aunderexplored aspect of goal theory. Journal of Educational Psychology, 89, 710-718.

Moore, M. G., and Kearsly G., 1996;*Distance education: A systems view*. Belmont, CA: Wadsworth.

Morgan, David L., 1988; Focus groups as qualitative research. London: Sage Publications.

Moust, J.H.C, Van, Berkhel, H.J.M and Schmidt, H.G., 2005; 'Signs of Erosion': Reflections On Three Decades of Problem – Based Learning at Maastricht University. Higher Education 50 (November) 665- 83.

Mudasiru O. Y., 2006; Problems and Prospects of Open and Distance Education in Nigeria *Turkish Online Journal of Distance Education-TOJDE ISSN 1302-6488 Volume: 7 Number: 1 Article: 2*

Multon, K. D., Brown, S. D.,and Lent, R. W., 1991; Relation of self-efficacy beliefs to academic outcomes: A meta-analytic investigation. Journal of Counseling Psychology, 38(1), 30-38.

Munkejord, K. 2007;Multiple media use in organizations: Identifying practices leading to an alignment paradox. *Journal of Information, Information Technology, and Organizations*, 2, 95-118.

Murphy, K.L., 1989; March.A study of motivation in Turkish distance education. Paper

Mutula, S.M. and Mutula, D.L. 2007; ICT integration in Botswana secondary schools: digital divide factor and implications for information literacy. *African Journal of Library, Archives and Information Science,* 17(2) 125–134.

National Open and Distance Learning Programme, 2002; January 31. *Open and distance learning begins*. Nigerian Tribune, pp. 15 – 180.

Nigeria, 1991; Baseline Data for FGN/UNICEF 1991/95 Country programme: Manual for Rapid Assessment n.p.

Noble, D. F. 1997; Digital diploma mills: *The automation of higher education* [online]. Available from marxism-international@ lists.village.virginia.edu.

UNIVERSITY OF IBADAN

Ogunbameru, 2003; *Research methods in social sciences*. E Book Press, Norway.

Olanrewaju, A. S., 2006; Global Information, Communication Technology and Health care in Ibadan, Nigeria. A pre field Seminar paper presented in the Department of Sociology, Ibadan. January,2006;

Omolewa, M A.,*2002; 'The practice of lifelong learning in indigenous area'* In Medel – Anunueno (Ed), Integrating Lifelong Perspectives, Hamburg: UNESCO Institute for Education

Omolewa, M. 1982; Historical antecedents of distance education in Nigeria, 1887 –1960 *Adult education in Nigeria*, 2(7) 7 – 26.

Oppreheim, A.N 1992; Questionnaire Design, Interviewing and Attitude Measurement. London: Pinter publishers.

Orlikowski, W. J. 2000;Using technology and constituting structures: A practice lens for studying technology in organizations. *Organization Science*, 11, 404-428.

Orlikowski, W., J. 1996; "Improvising Organizational Transformation over Time: A Situated Change Perspective" *Information Systems Research*7(1):63–92.

Osterlund, C. 2007; Genre combinations: A window into dynamic communication practices. *Journal of Management Information Systems*, 23(4), 81-108.

Oxford, Re., Park-Oh, Y. , Ito, S., and Sumrall, M., 1993; Factors affecting achievement in a satellite-delivered Japanese language program. The American Journal of Distance Education. (7),

Palvia, S, Palvia, PC andZigli, MR, 1992;*The global issues of information technology management* Information Science Publishing, London.

Petrides, L.A., 2000;*Cases on information technology in higher education: implications for policy and practice*, Information Science Publishing, London.

Pew Internet and American Life Project, 2005; Counting *of the Internet: most expect to find key information online, most find the information they seek, many now turn to the Internet first*, Pew Internet and American Life Project, viewed 11.

Pew Internet and American Life Project, 2006; Pew/Internet. Retrieved January 2006 from http://www.pewinternet.org/

Porac, J,.F., Howard T,. and Charles B., 1989; "Competitive Groups as Cognitive Communities: The Case of Scottish Knitwear Manufacturers." *Journal of Management Studies*26:

UNIVERSITY OF IBADAN

presented at the annuel meeting of the American Educational Research Association. SanFransisco, CA.

Prince, J., 2005; Does Active Learning Work? A Review of Journal of Engineering Education 93(3): 223- 31.

Rachlin, Allan, 1991; "Rehumanizing Dialectic: *Toward an Understanding of the Interpenetration of Structure and Subjectivity"* Current Perspectives in Social Theory 11:255-269, Ranitzky, Gerald.

Rice, R. E. 1993; Media appropriateness: Using social presence theory to compare traditional and neworganizational media. *Human Communication Research*, 19(4), 451-484.

Rice, R. E., and Webster, J. 2002; Adoption, diffusion and use of new media in organizational settings In C. Lin and D. Atkin (Eds.), *Communication technology and society* (pp. 191-227) Cresskill, NJ: Hampton Press.

Ritzer, George 2008;*Sociological Theory*, NY: McGraw-Hill.

Roggers, E.M. 1995; *Diffusion of innovations* (4th editions) Enugu: Ikenga Publishers.

Russell, T. 1992; Television's indelible impact on distance learning. Research in Distance Education.

Ryan, S, Scott, B, Freeman, H and Patel, D., 2000;*The virtual university: the Internet and resource-based learning*, Kogan Page London.

Saunders, C., and Jones, J. W. 1990;Temporal sequences in information acquisition for decision making: A focus on source and medium. *Academy of Management Review*, 15, 29-46.

Saunders, C., and Jones, J. W. 1990;*Temporal sequences in information acquisition for decision-making: A focus on source and medium. Academy of Management Review, 15, 29-*

Selwyn, N. 1999; '"Gilding the Grid": The Marketing of the National Grid for Learning', *British Journal of Sociology of Education*20(1): 55–68.

Selwyn, N. 2002; 'Learning to Love the Micro: The Discursive Construction of "Educational" Computing in the UK, 1979–89', *British Journal of Sociology of Education*23(3): 427–43.

Selwyn, N. and Brown P., 2000; 'Education, Nation States and the Globalization of Information Networks', *Journal of Educational Policy*15(6): 661–82.

UNIVERSITY OF IBADAN

Selwyn, N. and S. Gorard, 2003; 'Reality Bytes: Examining the Rhetoric of Widening Educational Participation via ICT', *British Journal of Educational Technology*34(2): 169–81.

Selwyn, N., 2003; "Doing IT for the Kids": Re-examining Children, Computers and the "Information Society"', *Media, Culture andSociety*25(3): 351–78.

Selwyn, N., Gorard, S and Williams, S., 2001; 'The Role of the "Technical Fix" in UK Lifelong Education Policy', *International Journal of Lifelong Education*20(4): 255–71.

Selwyn, N., L. Dawes and Mercer, N., 2001; 'Promoting Mr. "Chips":The Construction of the Teacher/Computer Relationship in Educational Advertising', *Teacher and Teacher Education*17(1):

Servaes, J.,2002; 'The European Information Society: Much Ado about Nothing?'Gazette: *The International Journal for Communication Studies*64(5): 433–47.

Sewart, D. Keegan, and B. Holmberg (Eds.) 2002; Distance education: International perspectives (pp. 14-122). New York: Routledge, Chapman and Hall.

Sherron, G T., and Judith V. B. 1997;*Distance learning: The shift to interactivity*. Boulder CO: CAUSE.

Sherry L.,*1996; Issues in distance learning. International Journal of Educational Telecommunications 1:337–365.*

Sherry L.,1996; Issues in distance learning. International Journal of Educational Telecommunications 1:337–365.

Silverstone, R. 2005;The Sociology Mediation and Communication. In C.J. Calhoun, C. Rajek and B.S. Turner (eds.), *The Sage Handbook of Sociology*, pp. 188-207, London: Sage.

Somtrakool, K., 2002;*Lifelong learning for a modern learning society*. In Medel-Anonuevo, C. (ed.) Integrating lifelong learning perspectives. Hamburg, Germany: UNESCO Institute for Education.

Sornes, J.-O., Stephens, K. K., Browning, L. D., andSætre, A. S., 2005; A reflexive model of ICT practices in organizations. *Informing Science*, 8, 123-142.

Spillane, James P. 1999; "External Reform Initiatives and Teachers' Efforts to Reconstruct Their Practice: The Mediating Role of Teachers' Zones of Enactment." *Journal of Curriculum Studies*31:143–

UNIVERSITY OF IBADAN

Spillane, James P. and Nancy E. Jennings. 1997; "Aligned Instructional Policy and Ambitious Pedagogy: *Exploring Instructional Reform from the Classroom Perspective*." Teachers College Record.

Spillane, James P., Brian Reiser, and Todd Reimer, 2002; "Policy Implementation and Cognition: Reframing and Refocusing Implementation Research." *Review of Educational Research*72:387–431.

Spooner F, Jordan L, Algozzine B, and Spooner M., *1999; Student ratings of instruction indistance learning and on-campus classes. Journal of Educational Research 92(3):132–140.*

Spooner F, Jordan L, Algozzine B, Spooner M.,1999; Student ratings of instruction in distance learning and on-campus classes. *Journal of Educational Research* 92(3):132–140.

Stephens, K. K. 2007;The successive use of information and communication Technology at work. *Communication Theory*, 17(4), 486-507.

Swan M.,*1996; Effectiveness of distance learning courses—student's perspectives (Missouri University Information and Access Technology Service), Retrieved March 16, 2010, from www.ssu.missouri.edu/SSU/AgEd/NAERM/s-a-4.htm.*

Swift, C., O,. Jerry W. W, and Jane P. Wayland. 1997;Should you become involved in distance education? *Marketing Education Review* 7, 1: 81-88.

Tahir, A., 2001; Federal Government Intervention in Universal Basic Education (UBE) in *UBE Forum* Vol. 1 No 12002.

Taylor, E. 2002;*Computer technology and teaching adults: Beliefs and perspectives of practicing adult educators*. Paper presented at the annual conference of the American Association for Adult and Continuing Education, Baltimore, MD.

Taylor, J. 2002;*The fifth generation of Distance education*. Retrieved from http://www.usq.edu.au/electpub/ejist/ docs/old/vol4no1/2001docs/taylor.html on 16th January 2011.

Tsatsou, Panayiota, 2009; 'Reconceptualising 'Time' and 'Space' in the Era of Electronic Media and Communications', PLATFORM: Journal of Media and Communication Vol.1 (July 2009): 11-32. ISSN: 1836-5132 Online © Creative Commons Attribution 2.5 Australia licence.

Turner, J. W., andReinsch, N. L., 2007; The business communicator as presence allocator: Multi communicating, equivocality, and status at work. *Journal of Business Communication*, 44, 36-58.

UNIVERSITY OF IBADAN

Tweney, Dylan, 1999; Distance learning is no substitute for real-world education. *InfoWorld* 21 (20): 66.

UNESCO .2005;*Literacy for life. EFA Global Monitoring Report* 2006. Paris: UNESCO.

UNESCO 2004;*Education for all: the quality imperative.* EFA (Education for All) Global monitoring Report 2005 Paris: UNESCO.

UNESCO and an Information Society for all. Paris, UNESCO, 1996; p.3.UNICEF 2009 Machel Study:10 Year Strategic *Review, Children and Conflict Information and Communication technology in a Changing World*. Available at: www.unicef.org/publications /index_49985.html.

Vaughan, Diane, 1992; "Theory Elaboration: The Heuristics of Case Analysis." Pp. 173–202 in What Is a Case? *Exploring the Foundations of Social Inquiry*, edited by C. C. Ragin and H. W. Becker.Cambridge, England: Cambridge University Press.

Venkatesh, V., Morris, M. G., Davis, G. B., and Davis, F. D., 2003; User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425-478.

Walther, J. B., and Parks, M. R., 2002; Cues filtered out, cues filtered in: Computer mediated communication and relationships. In M. L. Knapp and J. A. Daly (Eds.), *Handbook of interpersonal communication*(pp. 529-563) Thousand Oaks, CA: Sage.

Watson-Manheim, M. B., and Belanger, F., 2007; Communication media repertoires: Dealing with the multiplicity of media choices *MIS Quarterly*, 31(2), 267-293.

Wheeler C, and BatchelderA.,*1996; The instructional practices of televised distance education at Northern Arizona University. Education 117:172–179.*

Wheeler C, Batchelder A.,1996; The instructional practices of televised distance education at NorthernArizona University. *Education* 117:172–179.

Whittier, B., 1997; Students' resistance in the class room *Anthropology and Education Quarterly*22:350-66.

Whittington N.,*1987; Is instructional television educationally effective? A research review. American Journal of Distance Education 1(2):53–63.*

Whittington N.,1987; Is instructional television educationally effective? A research review American *Journal of Distance Education* 1(2):53–63.

Wixom, B. H., and Todd, P. A., 2005;A theoretical integration of user satisfaction and technology acceptance *Information Systems Research*, 16(1), 85-102.

UNIVERSITY OF IBADAN

World Bank, 1998;*The World Development Report 1998/99. Quoted in Blurton, C., New Directions of ICT-Use in Education.*

World Bank, 2003;*Constructing Knowledge Societies: New Challenges for Tertiary Education*The World Bank, Washington D. C.

World Bank, 2003;*Constructing Knowledge Societies: New Challenges for Tertiary Education* The World Bank, Washington D. C.

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APPENDIX 1
STUDENTS' QUESTIONNAIRE

INTRODUCTION: *Good morning/afternoon/evening. My name is BUSARI, Dauda Aderemi……from the Department of Sociology, University of Ibadan. I am currently conducting a PhD research on Information and Communication Technology and Development of Distance Learning Education in Nigeria. You have been selected to participate in the Study I am here today to ask questions on the challenges students' and facilitators faced in the adoption and utilization of Information and Communication Technology with a view to offering a probable suggestion to enhance the development of the Distance Learning programmes in the country.*

You have my assurance that all the information given here is COMPLETELY CONFIDENTIAL, and you will not be associated with anything you say. The information you provide would be used for the PhD thesis ALONE and possibly serve as a useful reference point for future intervention or policy programmes for the development of educational system in Nigeria.

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Introduction: mark (x) where appropriate and write the responses as brief as possible in the space provided.

Section A: Socio-demographic Data

S/N	Question	Response	Code	Skip to
1.	Age	…… Write in Exact Age		
2.	Ethnic group/State of origin	Yoruba Igbo Hausa Others	1 2 3 4	
3	Gender	Male Female	1 2	
3.	Current University	University of Ibadan University of Lagos NOUN	1 2 3	
4.	Are you currently employed?	Yes No	1 2	
5.	What level are you now in this University	Year 1 Year 2 Year 3 Year 4 Year 5 Year 6	1 2 3 4 5 6	
7	Number of years spent in University	…… Write in Exact Years		
8	Number of children, if any?	1-2 3-4 4-5 5-6 6 and above	1 2 3 4 5	
9.	Are you currently employed?	Yes No	1 2	

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	Indicate your Institution, Faculty, Department and Level Institution……. Faculty …….. Department …….. Level ……	

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101	Which of the following Information and Communication Technology facilities for conducting distance learning/teaching are you **AWARE OF? (MULTIPLE RESPONSE: TICK AS MANY AS POSSIBLE)**	Fully equipped and up to date computer suites ……1 Community Radio station (s) ……2 Clusters of computers in many departments ……3 Interactive whiteboard or a data projector …….. 4 Librarycomputer facilities ……5 Computer Based Testing (CBT) facilities ……. . … 6 Computer access room facilities …… ……...7 Audio and visual (Video) facilities ……8 Interactive Video conferencing facilities ……...9 Mobile learning facilities ……..…10 Podcasting facilities ……..…11 Blogging facilities ……12 Satellites and computer facilities ……13 CD – ROM ……..14 On-line database searches ……..…….....15 Telecommunication – electronic mail or bulletin boards……..…16 HyperCard or Linkway ……17 Others (Please Specify) ……30 None ……..……31	**coded SKIP TO SECTION C.**
102	Which of the following Information and Communication Technology facilities for conducting distance learning /teaching is (are) **AVAILABLE FOR USE** in your university?**(MULTIPLE RESPONSE: TICK AS MANY AS POSSIBLE)**	Fully equipped and up to date computer suites …….1 Community Radio station (s) ……2 Clusters of computers in many departments ……3 Interactive whiteboard or a data projector ……4 Library computer facilities ……5 Computer Based Testing (CBT) facilities ……. . ….6 Computer access room facilities …… ……...7 Audio and visual (Video) facilities ……8 Interactive Video conferencing facilities ……...9 Mobile learning facilities ……...10 Podcasting facilities ……...11 Blogging facilities ……12 Satellites and computer facilities ……..13 CD – ROM ……14 On-line database searches ……..…….. 15 Telecommunication – electronic mail or bulletin boards ……..…....16 HyperCard or Linkway ……..……..17 Others (Please Specify) ……30 None ……..……31	
103	Which of the following Information and Communication Technology facilities for conducting distance learning / teaching have you **EVER USED** in the course of teaching and learning in your ?**(MULTIPLE RESPONSE: TICK AS MANY AS POSSIBLE)**	Fully equipped and up to date computer suites ……..1 Community Radio station (s) …… 2 Clusters of computers in many departments ……..3 Interactive whiteboard or a data projector ……..4 Library computer facilities ……...5 Computer Based Testing (CBT) facilities ……. . ……6 Computer access room facilities …… ……7 Audio and visual (Video) facilities ……..8 Interactive Video conferencing facilities …… 9 Mobile learning facilities ……...10	

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		Podcasting facilities ……...11 Blogging facilities ……..12 Satellites and computer facilities ……...13 CD – ROM ……14 On-line database searches ……..... ……15 Telecommunication – electronic mail or bulletin boards ……..…….16 HyperCard or Linkway ……..17 Others (Please Specify) …… .30 None ……..…….... 31	
104	Which of the Information and Communication Technology facilities for conducting distance learning / teaching you have ever used do you use **MOST OFTEN** in the course of teaching and learning in your ?**SINGLE RESPONSE**	Fully equipped and up to date computer suites ……...1 Community Radio station (s) ……..2 Clusters of computers in many departments …….. 3 Interactive whiteboard or a data projector ……...4 Library computer facilities ……..5 Computer Based Testing (CBT) facilities ……. . …. ..6 Computer access room facilities ……7 Audio and visual (Video) facilities ……..8 Interactive Video conferencing facilities ……9 Mobile learning facilities ……..10 Podcasting facilities ……...11 Blogging facilities ……12 Satellites and computer facilities …….. 13 CD – ROM ……14 On-line database searches ……...……...15 Telecommunication – electronic mail or bulletin boards ……16 HyperCard or Linkway……..……..17 Others (Please Specify) …… 30 None ……..……..……... 31	
105	**For ICT ever used at Q103 ask:** For how long have you been using the technology for teaching and for learning? **SINGLE RESPONSE**	Less than 6 months .....1 More than 6 months to 1 year .....2 More thab 1 year to 2 years .....3 More than 2 years to 3 years .....4 More than 3 years to 4 years .....5 More than 4 years to 5 years .....6 More than 5 years .....7 Cant remember (DO NOT READ OUT) 8	

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SECTION C: ACCESS TO ICT FACILITIES

201	Do you have access to the available Information and Communication Technology facilities in your university? **SINGLE RESPONSE**	Yes..... 1 No 2	
202	What type of access do you have? **SINGLE RESPONSE**	I have a personal computer but no Internet connectivity.....1 I have access to the computer only part of the time .....2 I have a personal computer with internet connectivity .....3 I only have access to a computer with internet part of the time .....4 I have no access to a computer ..... 5 Others (Specify) 6	
203	On average, how frequently were you able to post course materials on the university ICT platform during the session?	Daily .....1 3 to 4 times a week .....2 1 to 2 times a week .....3 Once a month .....4 Less often 5	
204	On average how many hours a week do you spend logged on to the ICT platform for a course material during the current semester?	Less often than 4 hours .....1 4 to 6 hours .....2 8 to 10 hours .....3 11 hours or more .....4 Cant say/ Dont Know 5	

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SECTION D: DEGREE OF PROFICIENCY OF INFORMATION AND COMMUNICATION TECHNOLOGY

301	What do you consider to be the level of your Information and Communication Technology skills?	Beginner..... ..... 1 Competent .... 2 Proficient..... .....3 Excelent 4
302	How often do you use the internet?	Daily .....1 2- 3 times a week .....2 Once a week.....3 2- 3 times a month .....4 Once a month .....5 Less often .....6 Dont Know/ Cant remember .....7 Others (Specify) 8
303	Thinking about Information and Communication Technology, can you tell me which of the following variants of ICT you are aware of?	Internet: Usage of reference materials : Dictionaries, translators, encyclopedia etc .....1 E mail: Yahoo, Gmail.....2 Search Engines.....3 Forum .....4 Chat: Yahoo messenger,window messenger etc ..... 5 Electronic Messenger .....6 Collaborative environment eg Facebook, Twitter..... 7 Blogs ..... 8 Web Solving ..... 9 Others ..... 15 None 20
304	How would you rate the ease of use of ICT for teaching?	Very easy to use .....1 Quite easy to use .....2 Neither .....3 Quite difficult to use .....4 Very difficult to use 5
305	How well do you use Information And Communication Technology for the purpose of learning?	Very Often..... .....1 Less Often..... .....,.....2 Neither..... .....3 Rarely..... .....4 Very Rarely 5

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SECTION E:WHAT ARE THE CHALLENGES THAT IMPEDE ADOPTION AND USAGE OG ICT

501	What are the likely challenges that may impede the adoption and usage of Information and Communication Technology for distance learning?	Slow internet connection ……... 1 Lack of technical support …… ……..2 Time pressure on the part of students……..3 Poor radio transmission ……..4 Computers not always available ……5 others (Specify) ……..…6	
502	How would you rate the internet services offer by the university Information and Communication and Technology centers	Excellent ……..……...1 Good/ Satisfactory ……..……2 Not Sure ……..……3 Poor ……..……4 Very poor ……..……5	
503	How would you rate the radio services offer by the university distance learning centers?	Excellent ……..……1 Good/ Satisfactory ……2 Not Sure ……3 Poor ……4 Very poor ……..…5	
504	Which of these phrases best describe how new and different you think this approach (Information and Communication Technology) is different from the face to face approach of learning and teaching? Would you say it is...?	It is extremely new and different …..……..1 Very new and different ……...2 Somewhat new and different ……..3 Slightly new and different ……..4 Not at all new and different ……5	
505	How would you rate your Information and Communication Technology teaching and learning approach with the face to face teaching and learning approach today?	Very good ……....1 Good …….....2 Fair ……3 Bad ……..……...4 Worse ……..…5	
506	How would you rate the ease of use Information and Communication Technology for teaching and learning? Would you say it is...?	Very easy to use ……1 Quite easy to use …….....2 Neither easy nor difficult to use ……3 Quite difficult to use ……..……4 Very difficult to use …….....5	
507	How would you rate the Information and course materials posted on the university (s) website for learning and or teaching? Would you say it is …?	Very easy to understand ……1 Quite easy to understand…..……2 Neither ……..…….....3 Quite difficult to understand …….....4 Very difficult to understand …….....5	
508	Have you found the university(s) Information and Communication Technology approach to teaching and learning helpful? Would you say you have found the deployment of ICT to teaching and learning...?	Very helpful ……1 Quite helpful …….....2 Neither helpful nor unhelpful ……3 Unhelpful……4 Very unhelpful……5	
509	What do you dislike about ICT approach to learning?	…… …… ……	
510	What do you like about ICT approach to learning?	…… …… ……	

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APPENDIX II
FACILITATORS QUESTIONNAIRE

Introduction: mark (x) where appropriate and write the responses as brief as possible in the space provided.

Section A: Socio-Demographic Data

S/N	Question	Response	Code	Skip to
1.	How old are you?	…… Write Exact age		
2.	What is your sex	Male Female	1 2	
3.	What is your marital status	Single (Never Married) Married Divorced/Separated Widow	1 2 3 4	
4	What is your ethnic background	Hausa Ibo Yoruba Ijaw O	1 2 3 4 5	
5	What is your occupation	Lecturer Administrator Technical Assistant Others (Specify)	1 2 3 4	If 1 ask q6
6	What is your present academic status?	Professor Associate Professor Senior Lecturer Lecturer 1 Lecturer 11 Asst Lecturer Graduate Assistant	1 2 3 4 5 6 7	
8	How long have you being in the occupation?	1year -2years 3years-4years 4years-5years 5years-6years 6years and above	1 2 3 4 5	
9	What is your highest qualification	B.SC M.Sc P.Hd Others Specify	1 2 3 4	
10	What is your area of specialisation? ……..			
11	What is your monthly income?			
12	Indicate your Institution, Faculty and Department Institution ……. Faculty …….. Department ……			

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APPENDIX III
QUALITATIVE DISCUSSION GUIDE: INDEPTH INTERVIEW

(1) Are there satisfactory technical supports for offering ICT-based approach to teaching and learning in Nigeria's tertiary institutions?

(2) Do you think that there are adequate experts for implementing ICT-based approach in Nigeria's higher institutions?

(3) Do you think that quality of higher education can be ensured if ICT based approach is adopted for teaching and learning as against the face-to-face/conventional system?

(4) Does ICT-based education have the ability to transcend time and space?

(5) Can ICTs help expand access to education?

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APPENDIX IV

QUALITATIVE DISCUSSION GUIDE: FOCUS GROUP DISCUSSION GUIDE FOR STUDENTS' AND UNIVERSITY ADMINISTRATORS

Background:

Economic/employment opportunities

Probe into:

1. Factors that encourage university (s) to adopt ICT approach to teaching and learning.
2. The environment
3. Significant others
4. Government and NGO's contribution and mode of operations

OBJECTIVE 1

Investigate Information and Communication Technology capability (infrastructure) of universities conducting distance learning education

(a) What types of technological tools are available to teachers and students in this university?

(b) Are these tools appropriate for teaching and learning goals being pursued?

(c) Are these tools conveniently located at the disposal of both lecturers and students?

(d) Are these tools enough for everyone?

OBJECTIVE 2

Examine distance learning students and lecturers' access to Information and Communication Technology that could aid learning and teaching in the universities

(a) What specific technology tools are students and lecturers' familiar with?

(b) How comfortable are teachers and learners with these tools?

(c) What tools would teachers and learners need to learn to work to be better equipped to integrate technology in teaching and learning?

(d) What type of support has being provided to assist teachers in using technology to enhance learning?

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(e) What types of problems have teachers encountered that prevent them from integrating technology into the curriculum?

(f) What specific Technology do teachers and learners use for the progarmme

(g) How frequently do they use the tools

(h) What is (are) the level of commitment of students and lectures to technology based teaching and learning?

OBJECTIVE 4

Challenges and prospects of ICT to distance learning in Nigeria

Probe into:

1. Adoption and Utilization
2. Access to internet by facilitators
3. Acceptability by students
4. It's impact on teaching and learning
5. Benefits to students
6. Benefits to Facilitators
7. Benefit to the community and or Society

Economic importance

1. Importance of the introduction career to the students and benefits to society
2. Implication on the economy

General

Probe into:

1. Prospects
2. Challenges

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APPENDIX V

Internet Usage Statistics
(Africa Internet Usage and Population Stats)

WORLD INTERNET USAGE AND POPULATION STATISTICS June 30, 2012						
World Regions	Population (2012 Est.)	Internet Users Dec. 31, 2000	Internet Users Latest Data	Penetration (percent Population)	Growth 2000-2012	Users percent of Table
Africa	1,073,380,925	4,514,400	167,335,676	15.6 percent	3,606.7 percent	7.0 percent
Asia	3,922,066,987	114,304,000	1,076,681,059	27.5 percent	841.9 percent	44.8 percent
Europe	816,372,817	105,096,093	518,512,109	63.5 percent	393.4 percent	21.5 percent
Middle East	223,608,203	3,284,800	90,000,455	40.2 percent	2,639.9 percent	3.7 percent
North America	348,280,154	108,096,800	273,785,413	78.6 percent	153.3 percent	11.4 percent
Latin America / Caribbean	592,994,842	18,068,919	254,915,884	43.0 percent	1,310.8 percent	10.6 percent
Oceania / Australia	35,815,913	7,620,480	24,279,579	67.8 percent	218.6 percent	1.0 percent
WORLD TOTAL	7,012,519,841	360,985,492	2,405,510,175	34.3 percent	566.4 percent	100.0 percent

Figure 2.1 Internet usages and the population of the world (Internet World Stats, 2012)

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TOP 20 COUNTRIES WITH
THE HIGHEST NUMBER OF INTERNET USERS

TOP 20 COUNTRIES WITH HIGHEST NUMBER OF INTERNET USERS						
#	Country or Region	Population, 2011 Est.	Internet Users Year 2000	Internet Users Latest Data	Penetration (percent Population)	World percent Users
1	China	1,336,718,015	22,500,000	513,100,000	38.4 percent	22.5 percent
2	United States	313,232,044	95,354,000	245,203,319	78.3 percent	10.8 percent
3	India	1,189,172,906	5,000,000	121,000,000	10.2 percent	5.3 percent
4	Japan	126,475,664	47,080,000	101,228,736	80.0 percent	4.4 percent
5	Brazil	194,037,075	5,000,000	81,798,000	42.2 percent	3.6 percent
6	Germany	81,471,834	24,000,000	67,364,898	82.7 percent	3.0 percent
7	Russia	138,739,892	3,100,000	61,472,011	44.3 percent	2.7 percent
8	Indonesia	245,613,043	2,000,000	55,000,000	22.4 percent	2.4 percent
9	United Kingdom	62,698,362	15,400,000	52,731,209	84.1 percent	2.3 percent
10	France	65,102,719	8,500,000	50,290,226	77.2 percent	2.2 percent
11	Nigeria	170,123,740	200,000	45,039,711	26.5 percent	2.0 percent
12	Mexico	115,017,631	2,712,400	42,000,000	36.5 percent	1.8 percent
13	Korea	48,754,657	19,040,000	40,329,660	82.7 percent	1.8 percent
14	Iran	77,891,220	250,000	36,500,000	46.9 percent	1.6 percent
15	Turkey	78,785,548	2,000,000	36,455,000	46.3 percent	1.6 percent
16	Italy	61,016,804	13,200,000	35,800,000	58.7 percent	1.6 percent
17	Philippines	101,833,938	2,000,000	33,600,000	33.0 percent	1.5 percent
18	Vietnam	90,549,390	200,000	30,858,742	34.1 percent	1.4 percent
19	Spain	46,754,784	5,387,800	30,654,678	65.6 percent	1.3 percent
20	Pakistan	187,342,721	133,900	29,128,970	15.5 percent	1.3 percent
TOP 20 Countries		4,731,331,987	273,058,100	1,709,555,160	36.1 percent	75.0 percent
Rest of the World		2,235,794,808	87,927,392	570,154,469	25.5 percent	25.0 percent
Total World Users		6,967,126,795	360,985,492	2,279,709,629	32.7 percent	100.0 percent

Figure 2.2 Top 20 Countries with Highest Number of Internet Users (Internet World Stats 2012)

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TOP 50 COUNTRIES WITH THE
HIGHEST INTERNET PENETRATION RATE
(OVER 65 PERCENT OF THE POPULATION USING THE INTERNET)

S/No	Country or Region	Penetration (percent Population)	Country Literacy	Internet Users Latest Data	Population (2011 Est.)
1	Iceland	97.8 percent	99.0 percent	304,129	311,058
2	Norway	97.2 percent	99.0 percent	4,560,572	4,691,849
3	Sweden	92.9 percent	99.0 percent	8,441,718	9,088,728
4	Falkland Islands	92.4 percent	99.0 percent	2,900	3,140
5	Luxembourg	91.4 percent	99.0 percent	459,833	503,302
6	Greenland	90.2 percent	100.0 percent	52,000	57,670
7	Australia	89.8 percent	99.0 percent	19,554,832	21,766,711
8	Netherlands	89.5 percent	99.0 percent	15,071,191	16,847,007
9	Denmark	89.0 percent	99.0 percent	4,923,824	5,529,888
10	Finland	88.6 percent	99.0 percent	4,661,265	5,259,250
11	Saint Lucia	88.5 percent	94.8 percent	142,900	161,557
12	New Zealand	84.5 percent	99.0 percent	3,625,553	4,290,347
13	Switzerland	84.2 percent	99.0 percent	6,430,363	7,639,961
14	United Kingdom	84.1 percent	99.0 percent	52,731,209	62,698,362
15	Niue	83.9 percent	99.0 percent	1,100	1,311
16	Germany	82.7 percent	99.0 percent	67,364,898	81,471,834
17	Korea, South	82.7 percent	99.0 percent	40,329,660	48,754,657
18	Liechtenstein	81.8 percent	99.0 percent	28,826	35,236
19	Canada	81.6 percent	99.0 percent	27,757,540	34,030,589
20	Belgium	81.4 percent	99.0 percent	8,489,901	10,431,477
21	Andorra	81.0 percent	100.0 percent	68,740	84,825
22	Antigua and Barbuda	80.8 percent	99.0 percent	70,968	87,884
23	Japan	80.0 percent	99.0 percent	101,228,736	126,475,664
24	Bermuda	79.6 percent	98.0 percent	54,687	68,679
25	Brunei Darussulam	79.4 percent	93.4 percent	318,900	401,890
26	Slovak Republic	79.2 percent	99.6 percent	4,337,868	5,477,038
27	United States	78.3 percent	99.0 percent	245,203,319	313,232,044
28	Estonia	77.5 percent	99.8 percent	993,785	1,282,963
29	France	77.2 percent	99.0 percent	50,290,226	65,102,719

30	Singapore	77.2 percent	94.7 percent	3,658,400	4,740,737
31	Faroe Islands	76.1 percent	99.0 percent	37,500	49,267
32	Monaco	75.3 percent	99.0 percent	23,000	30,539
33	Austria	74.8 percent	99.0 percent	6,143,600	8,217,280
34	Guernsey andAlderney	74.2 percent	n/a	48,300	65,068
35	Saint Vincent	73.2 percent	88.1 percent	76,000	103,869
36	Cayman Islands	72.2 percent	98.0 percent	37,112	51,384
37	Slovenia	71.0 percent	99.7 percent	1,420,776	2,000,092
38	Czeck Republic	70.9 percent	99.0 percent	7,220,732	10,190,213
39	UAE	70.9 percent	90.0 percent	5,859,118	8,264,070
40	Israel	70.4 percent	97.1 percent	5,263,146	7,473,052
41	Taiwan	70.0 percent	96.1 percent	16,147,000	23,071,779
42	Latvia	69.9 percent	99.8 percent	1,540,859	2,204,708
43	Gibraltar	69.8 percent	n/a	20,200	28,956
44	Qatar	69.0 percent	94.7 percent	1,213,567	1,759,227
45	Hong Kong	68.7 percent	94.6 percent	4,894,913	7,122,508
46	Argentina	67.0 percent	97.7 percent	28,000,000	41,769,726
47	Barbados	66.9 percent	99.7 percent	191,878	286,705
48	Ireland	66.8 percent	99.0 percent	3,122,358	4,670,976
49	Spain	65.6 percent	97.7 percent	30,654,678	46,754,784
50	Hungary	65.3 percent	99.4 percent	6,516,627	9,976,062
TOP 50 in Penetration		78.6 percent	98.0 percent	789,591,207	1,004,618,642
Rest of the World		25.0 percent	n/a	1,490,118,422	5,962,508,153
World Total Users		32.7 percent	83.7 percent	2,279,709,629	6,967,126,79

Figure 2.3 Top 50 Countries with the highest Internet Penetration Rate

AFRICA	Population (2012 Est.)	Internet Users Dec/2000	Penetration (percent Population)	Users percent Africa
Algeria	37,367,226	50,000	13.4 percent	3.4 percent
Angola	20,139,765	30,000	5.6 percent	0.5 percent
Benin	9,598,787	15,000	3.0 percent	0.2 percent
Botswana	2,098,018	15,000	8.1 percent	0.1 percent
Burkina Faso	17,275,115	10,000	1.4 percent	0.2 percent
Burundi	10,557,259	3,000	1.7 percent	0.1 percent
Cameroon	20,129,878	20,000	4.0 percent	0.6 percent
Cape Verde	523,568	8,000	28.8 percent	0.1 percent
Central African Rep.	5,057,208	1,500	2.5 percent	0.1 percent
Chad	10,975,648	1,000	1.8 percent	0.1 percent
Comoros	737,284	1,500	4.7 percent	0.0 percent
Congo	4,366,266	500	7.0 percent	0.2 percent
Congo, Dem. Rep.	73,599,190	500	1.3 percent	0.7 percent
Cote d'Ivoire	21,952,093	40,000	4.5 percent	0.7 percent
Djibouti	774,389	1,400	8.1 percent	0.0 percent
Egypt	83,688,164	450,000	26.4 percent	15.5 percent
Equatorial Guinea	685,991	500	6.3 percent	0.0 percent
Eritrea	6,086,495	5,000	4.8 percent	0.2 percent
Ethiopia	87,302,819	10,000	0.7 percent	0.4 percent
Gabon	1,608,321	15,000	6.9 percent	0.1 percent
Gambia	1,840,454	4,000	8.8 percent	0.1 percent
Ghana	25,292,392	30,000	8.4 percent	1.5 percent
Guinea	10,884,958	8,000	0.9 percent	0.1 percent
Guinea-Bissau	1,628,603	1,500	2.3 percent	0.0 percent
Kenya	43,013,341	200,000	25.5 percent	7.5 percent
Lesotho	1,930,493	4,000	4.4 percent	0.1 percent
Liberia	3,887,886	500	0.5 percent	0.0 percent
Libya	5,613,380	10,000	5.9 percent	0.3 percent
Madagascar	22,005,222	30,000	1.6 percent	0.3 percent
Malawi	16,323,044	15,000	4.5 percent	0.5 percent

Mali	15,494,466	18,800	2.9 percent	0.3 percent
Mauritania	3,359,185	5,000	3.1 percent	0.1 percent
Mauritius	1,313,095	87,000	24.8 percent	0.2 percent
Mayotte (FR)	223,426	n/a	5.1 percent	0.0 percent
Morocco	32,309,239	100,000	49.0 percent	11.2 percent
Mozambique	23,515,934	30,000	4.3 percent	0.7 percent
Namibia	2,165,828	30,000	6.9 percent	0.1 percent
Niger	16,344,687	5,000	0.8 percent	0.1 percent
Nigeria	170,123,740	200,000	29.0 percent	32.2 percent
Reunion (FR)	843,459	130,000	36.0 percent	0.2 percent
Rwanda	11,689,696	5,000	7.2 percent	0.6 percent
Saint Helena (UK)	3,687	n/a	24.4 percent	0.0 percent
Sao Tome and Principe	183,176	6,500	17.3 percent	0.0 percent
Senegal	12,969,606	40,000	15.7 percent	1.4 percent
Seychelles	90,024	6,000	38.0 percent	0.0 percent
Sierra Leone	5,485,998	5,000	0.9 percent	0.0 percent
Somalia	10,085,638	200	1.1 percent	0.1 percent
South Africa	48,810,427	2,400,000	13.9 percent	4.9 percent
South Sudan	10,625,176	-	n/a	0.0 percent
Sudan	34,206,710	30,000	9.3 percent	3.0 percent
Swaziland	1,386,914	10,000	6.9 percent	0.1 percent
Tanzania	46,912,768	115,000	11.5 percent	3.5 percent
Togo	6,961,049	100,000	5.3 percent	0.3 percent
Tunisia	10,732,900	100,000	36.3 percent	2.8 percent
Uganda	33,640,833	40,000	12.1 percent	3.0 percent
Western Sahara	522,928	n/a	n/a	0.0 percent
Zambia	13,817,479	20,000	6.4 percent	0.6 percent
Zimbabwe	12,619,600	50,000	12.0 percent	1.0 percent
TOTAL AFRICA	1,073,380,925	4,514,400	13.5 percent	100.0 percent

Figure 2.4 Internet Users, Population Statistics for Africa (Internet World Stats 2012)