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Strategies for Improving the Availability and Quality of Human Resources Required Using Computer for the Teaching of Library and Information Science Studies in Ahmadu Bello University, Zaria

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The major purpose of this study was to determine the strategies for improving Library and Information studies in Ahmadu Bello University, Zaria. Four research questions were answered and four null hypotheses were tested at 0.05 level of significance. The population for the study consisted of 282 made up of Library and Information Science Students. The researchers use all the sample population because of the manageable size. Descriptive survey design was used to generate data for the study. Structured questionnaire was used to elicit information for the study. The questionnaire was pilot tested with a sample of 30 students from Nasarawa State Polytechnic Nasarawa State. Cronbach Alpha reliability test was used to determine the internal consistency of the instrument and this yielded a reliability coefficient of 0.77. The data were analyzed using mean statistic for the research questions and ANOVA was used to test the null hypotheses at 0.05 level of significance. Based on the findings, it was revealed that there was no significant difference in the mean rating of students on the strategies for improving the funding strategies required for using computer in the teaching of Library and Information Science studies. It was concluded that there are some basic strategies that could be adopted in other to improve the teaching of Library and Information Science studies using computer in the department of Library and Information Science studies. It was recommended that Library and Information Science studies instructors should be sponsored on retraining programmes at least twice a year through workshop, seminars and conferences to enable them learn the modern technological skills in their chosen field of endeavour.

Keywords: ICT in education, ICT based classroom, School, Assessment.

INTRODUCTION

One of the fundamental rights for every human being is education. Education prepares the individual for challenges in life. Consequently, Gujjar, Khan, Baig, Ramzan and Saifi (2010) opined that education does not only deliver information, but for developing complete personality of a child. It equally prepares students to be productive members of the society developed countries, school is seen as the gateway to providing not only an educated citizenry but also a capable workforce. According to World Bank in Etim (2006), education is now being recognized as the cornerstone of educational system in the 21st century. It therefore means that quality education is indispensable in creating a bright future for individuals and nations alike.

The term ICT have been used interchangeably. In some cases it has been referred to as computer education while in other cases it is called computer literacy. In whatever way, it means the same thing. ICT education is the effort or the ability to make the generality of the people computer literate. They went further to state that computer education (literacy) means ability to tell the computer what you want it to do and understand what the computer says. Computer literacy as the ability to be able to read, write and speak the language of the computer which is the bed rock of library and information science. It can also be looked at as a process of educating the people on how to use a computer to run a program and diverse application including business, industry and commerce (Abdulsalami et al. 2016). Library and Information Science studies according to Edhuze (2003) involve teaching and inculcating in the learner the basic skills required to independently manipulate the computer to achieve educational goals. He further stated that, computer studies as a subject is aimed at making students acquire skills and competencies required in this digital world of competitiveness. Such basic skills and competencies upon graduation make them conversant with term and practices embedded in the world of computer. Library and Information Science studies is therefore a subject organized to enable people understand the function, uses and limitations of the computer and to provide an opportunity for the study of the modern methods of information processing.

The intention of Nigeria to include computer studies into the school curriculum dates back to 1988 when the National Policy on Computer Education was enacted and launched (Abimbade, 2009). The policy on computer education suggested the following as some of the computer curriculum context at the school level: A basic appreciation of how the computer works, an understanding of the basic principle of operating the computer, hands-on experience using the pre-programmed packages which are relevant to the interest of the students as lecturer aids in different subjects.

According to the National Policy on Computer Education (1988), it is expected that by the end of school education, the students has acquired reasonable competence in software such as word processing, spreadsheet, database analyzing programs that allow learners interact with the computer the way they desire (Ayogu, 2008). It therefore means that to achieve these objectives as stated in the National Policy on Education, strategies are needed.

According to Abdulsalami et al (2016), strategies offer a framework within which an organization defines possible means of achieving its goals and objectives. The objective of every strategy is to put the organization in a position to carry out its mission effectively and efficiently. Educational program facing difficulties needs to be developed and implement strategies to improve its fortunes. In line with this, the Federal Government adopted a strategy: The introduction of a scholarship award scheme known as Technical Teacher Training Program (TTTP). This scheme took off in the month of January, 1992. One of their aims is the training of serving science and technical teachers in computer studies throughout the country (Nigeria).

In carrying out its assignment, it was noted that the major objective of introducing computer literacy program at the school level is to enable students acquire a level of knowledge about computers which would fit them directly into the employment market or enable these students to pursue courses in computer science. One of the major merits of the National Policy on Computer Education, therefore, is that it recommended the introduction of computer studies at all level in Nigeria. As a matter of fact, the committee recommended a total lifting of restriction on computer studies in a way that computer literacy program can begin right from primary school. According to the committee, computer studies should be introduced at any level provided the necessary facilities and resources are adequately provided for effective implementation.

Since then, effort has been made to include computer studies in the primary and secondary school and higher institutions. According to Batubo, Digitemie and Nelly (2008), no educational program for primary and secondary school over the world that is devoid of computer studies, is complete. With the introduction of computer studies, in Nigerian school, its implementation has been faced with so many difficulties ranging from resources (computer experts, computers and computer systems) to equipment necessary for teaching computer studies. With the launching of the National Policy on Information and Communication Technology (ICT) in 2001, the Federal Government began a spirited campaign to make computers available to different strata of the society, beginning from the federal and state

owned schools. Obioma (2009) however declared that the greatest challenge facing the improvement of the new program was to train pre-service teachers or to re-tool the skills of adequate number of serving teachers. Improvement according to Robbinson (2000) is the development of circumstances in which something is lacking to better standard or quality. In line with this, there is need for recruitment of qualified computer teachers according to Kersh in Bada (2009), the classroom teacher will never be replaced by programme of self-instruction. Rather, he will be free to guide the learning of his students in ways that only a human being can. They went further to assert that in using computer for instruction, the teacher's role is hypothesized as changed basically from that of informer to learning facilitator. His duty of delivering lectures changes to that of guide and problem solver. On the other hand, there is need for computer literate teachers both at lower and higher education.

According to Sloan in Edhuze (2003), the need for computer literate teachers can lead to improved students' performance in thinking logically, formulating problem, solving procedures and understanding relationships (Sloan, 2005). With computer literate lecturers, the supervision of library and information studies is possible as pointed out by Hall in Edhuze (2003) when supervised, virtually all homework, can be done on computer, essay can be written since computer take the drudgery out of doing calculation or writing and tackling of more complex problems. It also enables students to concentrate on the task ahead. It therefore implies that everyone stands to gain from the inclusion of computer studies in Library and Information Science studies education. Schwedt in Edhuze (2003), however noted that in a well-equipped computer classroom and with properly trained computer literate teachers, both difficult and impossible task could be accomplished. Such task like allowing for shared screen work, local network servers, which facilitate paperless transfer of file on-line (access to the internet can turn each seat into a binary) and on-line conferencing can stimulate active writing participation by every student. With this advantage, teachers are the most important force in the improvement of the program and their efforts at providing quality education for students and raising students' achievement cannot be underestimated. It therefore means that the single most important determinant of what students learn is what their lecturers know: lecturers' qualifications, lecturers knowledge and skills, make more difference in students learning than any other single factor. Hence improving students learning includes investing in lecturers learning to provide an enabling environment and resources to ensure a successful improvement of library and information studies using the computer.

STATEMENT OF THE PROBLEM

The growing need for computer literacy has made it imperative that increased attention be given to the study of computer at all level of education especially in tertiary institutions. It has been observed that Ahmadu Bello University, Department of Library and Information Science, Zaria has shown that inadequate laboratory, computer and instructional materials required for teaching and learning of Library and Information Science Studies are not only inadequate but have not been fully utilized. Further interaction with students has shown that they are not taught with computer regularly like any other subject due to shortage of computer technological equipment. However, one of the lecturer opine that, computer instructors among the lecturers are in short supply while most lecturer do not poses computer qualification when employed. The Head of department however noted that most of the lecturer has only been exposed to the theoretical aspect of their programme while little or no attention was paid to the practical aspect of their programme during their years of training.

It therefore means that without proper improvement on the gaps facing Library and Information Studies students upon graduation are bound to be completely obsolete in our contemporary society where knowledge of computer has become a prerequisite for employment, interview and in some cases for promotion. It is on this basis that the researchers deems it necessary to conduct a study on assessment of method of teaching using computer in the department of library and information studies in Ahmadu Bello University, Zaria.

OBJECTIVE OF THE STUDY

The major purpose of the study is to determine the assessment of method of teaching of library and information Science using computer in Ahmadu Bello University, Zaria. The study specifically sought to determine:

1.   The funding strategies require for improving the teaching of library and information studies, using computer in Ahmadu Bello University, Zaria.
2.   The strategies for improving the availability and quality of instructional facilities required for the teaching of library and information Science using computer in Ahmadu Bello University, Zaria.
3.   The strategies for improving teaching methodology required for the teaching of library and information Science using computer in Ahmadu Bello University, Zaria.
4.   The strategies for improving the availability and quality of human resources required for the teaching of library and information Science using computer in Ahmadu Bello University, Zaria.

RESEARCH QUESTIONS

1. What are the funding strategies required for improving the teaching of library and information Science using computer in Ahmadu Bello University, Zaria?
2. What are the strategies for improving the availability and quality of instructional facilities required for the teaching of library and information Science using computer in Ahmadu Bello University, Zaria?
3. What are the strategies for improving teaching methodologies required for the teaching of library and information Science using computer in Ahmadu Bello University, Zaria.?
4. What are the strategies for improving the supply and quality of human resources required for the teaching of library and information Science using computer in Ahmadu Bello University, Zaria?

Like every institution, Ahmadu Bello University, Zaria is faced with the challenges of delivering educational services in the growing digital competitive world. We are in an era of globalization where the free flow of information is made possible through the use of the internet and satellite. It becomes imperative that a developing country like Nigeria should join the bandwagon of digitalization by improving library and information Science using computer in Ahmadu Bello University, Zaria. To achieve this objective, the Federal Government decided to introduce Computer studies into the nation's institutions by setting up a committee on Computer studies. According to Philip and Josiah (2003), the functions of the committee on Computer studies includes planning for a dynamic policy on Computer studies and literacy in Nigeria as well as devising clear strategies and terminologies to be used by the Federal, State and Local Governments introducing Computer studies. The general objectives of the policy therefore include, bringing about a computer literate society in Nigeria by the mid-1990s and enabling present graduates to appreciate and use the computer in various aspects of life and in future employment (Philip and Josiah, 2003).

It is therefore necessary to note that creative and adaptable strategies are needed to upset the likely risk of not achieving these stated objectives. A strategy is therefore defined as a framework of decision which provides basis for more detail planning. Every strategy must be realistic and attainable. Just like the above mentioned strategies: are they realistic and attainable? what are obstacles to it attainment? The improvement of computer studies must be matched with adequate funding, instructional facilities, appropriate teaching methodology and human resources required for teaching and learning of computer studies. Adequate funding is expedient for ensuring proper improvement of computer

studies at higher institutions in Nigeria. According to Ayogu (2003), computer study is costly. Many strategies have to be put in place to finance computer studies. Ayogu however emphasized that such strategies for raising fund for computer studies could come from government, private sectors, community and or endowments. The world is growing so complicated in science and technology that we need to buckle up to the challenges in this digital age.

Without adequate instructional facility like the computer, meaningful learning cannot take place. No one can be computer literate without operating the computer (Ayogu, 2008). The computer can be applied for instruction in two distinct ways namely: Computer Assisted Instruction (CAI) and Computer Managed Instruction (CMI) (Obineli, 2008). According to Nworgu (2008), CAI is a program of instruction or package presented as computer software for instructional purpose. He further stated that the use of CAI has been found to make teaching and learning efficient, most effective, easier and less cumbersome since it present concepts in such organized manner that makes for greater clarity and easier understanding. On the other hand, Nworgu states that CMI is a program of instruction where the computer records the learners experience and interests. According to Obineli (2008) computer takes the place of the guidance counselor in CAI while in CMI; the guidance counselor manages the teaching learning process with the aid of the computer.

According to Baptise in Ayogu (2008) the challenges of preparing a scientifically literate citizen lie on the professional development of the teachers. According to Baptise (2003) professional development is essential in helping instructors improve the knowledge of subject they teach and the way they teach. To be effective, professional developer must engage teachers collectively as active learners. It must give them skills to use material in their classroom and provide an engaging opportunity to build knowledge and provide training for teachers to improve instruction in the classroom. Barnett and Eric (2000) stated that in terms of human resource management, administrators and policymaker must ensure that comprehensive strategies as well as programs to recruit, train and retain teachers are in place. They should also include new financial incentive, improve working conditions and better support for teacher in tertiary institutions. According to them, money is not enough; teacher need to feel supported, prepared, and justly rewarded to put in their best in the teaching and learning process.

The computer is made up of different component: the hardware, software and in most case people ware. The different component that make up the hardware include the system unit, the video display unit (VDU), the printer, the mouse and the keyboard which forms the major output unit of the computer system. In order to

understand the computer, they have been classified according to their types and functions. According to Adekunle (2006) classification of computer includes supercomputers, mainframe computer, mini computers and microcomputers. This classification has the advantage of easy recognition by those who have not been acquainted with computers. According to Osuala (2001), the concept of computer cannot be completed without some reference to microcomputers that are so small and inexpensive that they have begun to find their way into homes and schools. Thus the concept of computer is well understood when its various components as well as types are vividly shown to those who have the concept in their mind and see it as abstract.

Computer Studies in Library and Information Science

The need for computer studies in Library and Information Science is enormous. The world is a global village, information dissemination is done in seconds, and institutions/offices are tuning into a paper-less institutions/office (Edhuze, 2003). All these could be attributed to digitalization, which is facilitated by information and communication technology devices such as computer, internet, fax, global system of mass communication (GSM) or mobile phone and satellites (Usoroh, 2008). This digitalization can only be made useful when a society is computer literate and the changes of becoming a computer literate society is through Computer studies taught mainly in every institution. This is a major challenge to universities, because it is their responsibility to graduate students who can fit into the information age. It can therefore be said that computer literacy is needed in a society like ours if we want to be part of this global consumer of ICT.

The use of computer as a facility is possible and necessary in our institutional system. Its use can aid communication among students. Computer communication has played and is still playing an important role, not only in institutions, but also in offices, hospitals, libraries and in homes. At the institutional level, computers enable the students communicate at fast, accurate and convenient pace to other people through e-mail (Okonkwo, 2006). Sending and receiving data electronically will take only a few seconds. In information processing, computer can sort or search through huge amount of information in a flash. Computer communication makes any information needed easily and widely available irrespective of distant between the two destinations (Okonkwo, 2006). Computer studies also present challenges to institutions lecturers. Such challenges have prompted lecturer to go for training in other to build confidence in the handling of computer related courses. Such training also helps them develop a sense of rapport with students and equally makes them

appreciate its potential for problem solving (Okonkwo, 2006). He went further to say that their knowledge of Computer studies also helps them to schedule classes, print results, send lecture note online to students and store and upgrade student's record. Most often these records are used by guidance counselor for student career choice he concluded.

Okebukola (1997) also asserted that computer is not part of classroom technology in public schools in Nigeria. Thus the chalkboard and textbooks continue to dominate classroom activities in most institutions of higher learning in Nigeria. If a country such as Uganda which has less than a fifth of Nigeria's resources, now use ICT facilities to help schools students to become better information users, why is Nigeria lagging behind? (Aduwa &Iyamu, 2005). The answer is simply mismanagement of the huge resources of the country and inability of political leaders to prioritize Nigeria's developmental needs (Okebukola, 1997). There is no doubt that in the current harsh economic competition, the private sector in Nigeria has embraced ICT to stay afloat. The banking sector, insurance, manufacturing industries and multination companies in the oil sector have embraced multimedia technology to bring innovative solutions to their current challenges. If Nigerian wants to be a major player in the global market of ideas and prepare her citizens for the new environment of today and the future, the country should embrace functional Computer studies (ICT) in all institutions of learning for the following reasons: ICT as aids to teaching and learning; ICT as a tool for management; ICT as instrument for economic development; ICT as instrument of high technological development (Aduwu & Iyamu, 2005).

Information and Communication Technology as aids to Teaching and Learning in Library and Information Studies

The importance of ICT is quite evidence from the educational perspective. Though the chalkboard, textbooks, radio/television and film have been used for educational purpose over the years, none has quite impacted on the educational process like the computer (Aduwa & Iyamu, 2005). They opined that television and film impact only on the audiovisual faculties of users, the computer is capable of activating the senses of sight, hearing and touch of the users. ICT has the capacity to provide higher interactive potential for users to develop their individual, intellectual and creative ability. The main purpose of ICT consists not just in the development of human mental resources, but also allow people to both successfully apply the existing knowledge and produce new knowledge (Shavinina, 2001). The collective and rigid nature of learning of library and information science and the passive nature of the learning associated with the

use of radio, television and film do not contribute any innovative changes to traditional methods in education system. According to Abdulsalami et al (2016). Information and communication technologies are being used in the developed world for instructional functions. Today, computers perform a host of functions in teaching and learning as many nations are adding computer literacy, reading and writing literacy as skills students will need to be successfully in a technologically developed world. At the instructional level, computers are used by students to learn reading, library and information science etc.

In educational multimedia applications, Abdulsalami et al (2016) asserted that today's learning contents are domain-specific products and that they dominate the world market. According to Abdulsalami (2003), domain-specific educational multimedia is directed to knowledge acquisition skills development in library and information science, other fields and so on. There is no doubt that ICT provides productive teaching and learning in order to increase people's creative and intellectual resources especially in today's information society. Through the simultaneous use of audio, text, multicolor images, graphics, motion, ICT gives ample and exceptional opportunities to the students to develop capacities for high quality learning and to increase their ability to innovate. Nigeria cannot afford to lag behind in using multimedia to raise the intellectual and creative resources of her citizens. This is particularly important for children whose adulthood will blossom in a cyber-environment entirely different from that of the present (Shavinina, 2007). Nigerian children need to be taught by radically new educational programme and variety of educational contents with multimedia playing key role.

In today's world, not only are we surrounded by technology, but our primary means of reaching others in far and near places are mediated by technology (Aduwa & Iyamu, 2005). According to Aduwa & Iyamu (2005), technology is progressively effacing the two previous environments: nature and society. The environment he talked about is that which enables us to live, sets us in danger and it is immediate to us and mediates all else. He asserted that modern man cannot live without these gadgets (mobile phone, computers, internet etc.). This is what makes human subservient to technology rather than technology being subservient to humanity.

There is no doubt that one of today's realties is an extremely fast development of high-technology. This has resulted in a huge change of the individual's life in business and private settings. There is strong need to know and use modern technology in our social life, the economy, the business and education. New and sophisticated breakthroughs in high technology encourage companies to introduce technological innovations rapidly into their business practices. According to Aduwa & Iyamu (2005), the United States

space programme has benefited immensely from rapid development in high-tech and today's information and communication technology is the order of the day. In many parts of the developed world, cellular, satellite, and wireless technologies combined with innovative business practices are beginning to make up for the shortcomings of the traditional analog technologies. Nigeria was introduced to cellular technologies a little over two years ago and this has revolutionized the communication industry in the country, though majorities of Nigerians are yet to benefit from the services due to high cost (Aduwa & Iyamu, 2005). If Nigeria must be part of developed world in the near future, it must embrace technology and discard some of the old habits and perspectives and retool completely. There is need for the country to re-strategize and expand its vision so as to cope with the challenges of a technological society (Aduwa & Iyamu, 2005).

Problems of Using Computer in Library and Information Studies

There are several impediments to the successful teaching and learning of library and information studies using computer in Ahmadu Bello University in Nigeria. These are: cost, weak infrastructure, lack of skills, inadequate software and limited access to the Internet (Aduwa & Iyamu, 2005).

Cost: The price of computer hardware and software continues to drop in most developed countries, but in developing countries, such as Nigeria, the cost of computers is several times more expensive. While a personal computer may cost less than a month's wages in the United State, the average Nigeria workers may require more than two years income to buy one. Nigeria has over 350,000 higher institutions, majority of them lack instructional materials such as, computer, software, multimedia, projector, white board etc. (Aduwa & Iyamu, 2005). Apart from the basic computers themselves, other costs associated with peripherals such as printers, monitors, paper, modem, extra disk drives are beyond the reach of most institutions. Most institutions in Nigeria could not afford to purchase information learning equipment due to exorbitant internet connection fees.

Weak Infrastructure: In Ahmadu Bello University, a formidable obstacle facing the teaching and learning of library and information using the computer is infrastructure deficiencies. Computer equipment was made to function with other infrastructure such as electricity under controlled conditions. For a long time, the nation has been having difficulty providing stable and reliable electricity supply to every nook and cranny of the country, not excluding Zaria. Currently, there is no part of the town, which can boast of electricity supply for 24

hours a day except probably areas where government officials live. There have been cases whereby expensive household appliances such as refrigerators, deep freezers and cookers have been damaged by upsurge in electricity supply after a period of power outage. Electronics equipment such as radio, television, video recorder and even computers has been damaged due to irregular power supply. When electricity supply is not stable and constant, it is difficult to keep high-tech equipment such as computers functioning, especially under extreme weather conditions as obtained in different part of the country.

Inadequate Skilled Personnel: Nigeria does not only lack information infrastructure, it also lacked the human skills and knowledge to fully integrate ICT into secondary education (Aduwa &Iyamu, 2005). To teach library and information science using computer (ICT) in Ahmadu Bello University, the need for locally trained workers to install, maintain and support Computer Systems cannot be over emphasized. There is acute shortage of trained personnel in application software, operating systems, network administration and local technicians to service and repair computer facilities. Those who are designated to use computers in Nigeria do not receive adequate training, at worst, do not receive any training at all (Okebukola, 1997).

In Nigeria, most lecturers lack the skills to fully utilize technology in curriculum implementation. Hence the traditional chalk and duster approach still dominates most of our institutions of higher lerning pedagogy. Information transfer using ICT is minimal in most institutions in Nigeria (Anao, 2003). Nigerians lecturers need to be trained on educational technologies and the integration of computers into classroom teaching. According to Carlson and Firpo (2001), lecturers need effective tools, techniques, and assistance that can help them develop computer based projects and activities especially designed to raise the level of teaching in required subjects and improve student learning.

Inadequate Software: There is no doubt that the ultimate power of technology is the content and the communication (Salomon, 2009). Though, software developers and publishers in the developed countries have been trying for long to develop software and multimedia that have universal application, due to the differences in education standards and requirements, these products do not integrate into curriculum across countries. Software that is appropriate and culturally suitable to the Nigerian education system is in short supply (Aduwa &Iyamu, 2005). There is a great discrepancy between relevant software supply and demand in developing countries like Nigeria. According to Salomon (2009), there are clear indications from many

countries that the supply of relevant and appropriate software is a major bottleneck obstructing wider application of the computer. According to Aduwa &Iyamu (2005) even if Nigeria tries to approach this software problem by producing software that would suit its educational philosophies, there are two major problems to be encountered. First, the cost of producing relevant software for the country's educational system is enormous. Second, there is shortage of qualified computer software designers in the country. To overcome this, people need to be trained in software design.

Limited Access to the Internet: In Nigeria particularly Ahmadu Bello University there are few Internet providers that provide internet gateway services. Such Internet providers are made up of Nigerians who are in partnership with foreign information and communication companies. Many of these companies provide poor services to customers who are often exploited and defrauded. The few reputable companies, which render reliable services, charged high fees thus limiting access to the use of the Internet. The greatest technological challenge in Nigeria is how to establish reliable cost for Internet connectivity. In a country where only about half of the populace has personal computers, the few reliable Internet providers who have invested huge sum of money in the business have a very small clientele. They have to charge some fees in order to recoup their investment in reasonable time.

Prospects of Library and Information Science Using Computer Aided Assistant in Ahmadu Bello University

There are numerous and good prospects of library of and information science using computer for teaching and learning in Ahmadu Bello University in Nigeria. The following major areas suggest the range of applications that using computer can serve lecturers and learners in Nigeria. Computer can enhance educational efficiency. The efficiency in teaching various subjects could be improved for institutions already teaching large classes of students. In this situation, students no longer receive the much desired individual assistance. It is possible to use carefully prepared computer programs to ensure that learners are accurately and systematically instructed. The computer can enhance problem-solving skills of the learners by focusing on thinking skills. Computers can serve administrative functions. They can replace the laborious exercise of filing papers in filing cabinets and shelves where records accumulate dust over a long period of time. Another administrative application of the computers is their use for budget planning, accounting for expenditure, writing correspondences and reports, assigning students to classes, reporting students'

progress and testing students and scoring tests which help to reduce paper work. Computers can be used for individualized learning in Ahmadu Bello University. Due to the class size and differences in the individuals learning style and pace, microcomputers will enable the student to progress at their own pace and receive continual evaluation feedback and corrections for errors made. In this way, computers allow the development of partner-like interactive and individualized relations with the user. Computers play the role of the tutor and present the learner with a variety of contents and concept.

Computers can change current pedagogical practices in higher institutions in Nigeria, which depended heavily on the traditional lecture method. It is universally accepted that computers allow more independent exploration, more personally tailored activities, more teamwork, and more significantly, less didactic instruction. The role of the lecturer, therefore, changes from information dispenser to that of information manager, from authoritative source of information to a guide of self-propelled exploration (Smith, 2009). Computers will offer lecturers improvement in the techniques of research. The cumbersome exercise of searching by hand through the library's card catalog or periodical indexes can be made easier by typing few key words pertinent to the research topic into a computer and the researcher can receive extensive list of related sources of articles in books and journals in just a matter of minutes. It can also be used in the analysis of data and better presentation of research report.

Strategies for Improving Library and Information Science Teaching Using Computer

Meeting the challenges of globalization in this present dispensation requires that achievable strategies are adopted for improving teaching using computers in higher institutions in Nigeria. Such achievable strategies for improving teaching and learning using computer include:

Improving Funding required for Computer Aided Instruction

The success of education or of educational programme is hinged on adequate funding. In other words, educational development in any country, whether developed or developing depends on adequate funding. According to Olaitan, (2008), it has been the study of government in executing projects in Nigeria since the colonial period. This was achieved through preparation of annual budget, which were usually made open to citizen of the country through the media (Olaitan, 2008). It is with funding that physical facilities are set up and maintained, equipment procured, goods and services provided and man power employed and maintained (Ezeocha in Ndu,

Ocho & Okeke, 2007). According to Okafor and Nwankwor (2003) the future of any society depends on the quality of education provided to its young people. Ukeje (2008) brought these ideals system of American University of diversification of sources of fund and suggested that it is not very healthy for the school and what they stand for to be in total dependence on Government for funding. The reality of academic freedom, he pointed out, could require them to have some resources and sources other than the Government, so that they can once device other means of fund raising.

However, Onuoha (2008) suggested that certain factors militate against adequate funding of education in Ahmadu Bello University and as such these factors can also be related or have special effect in the teaching of library and information science using computer. Such factors are excessive enrolment of student for education, unsteady price of crude oil, macro-economic variables and corruption Onuoha (2008) is of the view that the following strategies if implemented and some macroeconomic control measures taken will improve funding for any institution. First they suggested alternative sources of revenue. By this it means that educational institutions should take measures to increase their internally generated revenue. According to him, through increase of fund allocated to institutions, establishment of business centers, allowing business men who are interested in the institution to develop and pay rents to schools at the end of the school, encouraging good relationship/links with the institution sold boy/girls-associations (to enable them pay back to the institution through endowment, grant or donation etc.). He went further to state that investment of cash/ICT facilities received from ICT competitions or debate as well as making schools that offer computer pay extra fee can be a strategy. Furthermore, levies can be imposed on students when collecting their certificates.

Improving the Availability and Supply of Instructional facility required for Teaching Library and Information Science Using Computer

The act of receiving instruction is teaching (Nwachukwu, 2001). The concept of teaching and instruction are therefore related in terms of their objectives-impacting knowledge (Nwachukwu, 2001). In every institution of learning, its major purpose is to help learners learn. To achieve this, each part (lecturers and learner) must set its own goal. All these goals must be congruent for them to achieve the goal of education by providing for different individual. In other to provide for different individual, scholars and educationist must be able to provide different instructional approach and facilities for use in education. Instructional strategies, which are varieties of an instructional approach, mean help given to learner to easy their rate of assimilation.

According to Landu (2005) in Nworgu (2007) the use of computer for instruction can be classified into two major categories: Computer Assisted Instruction (CAI) and Computer Managed Instruction (CMI). This strategy refers to any instructional program whereby computer performs, manages or supports some or the entire lecturer provided functions. Most proponent of individualized instruction saw the computer as a way to further improve the design and delivery of individualize instruction – now in an electronic environment. CAI is so effective in that they offer user-friendly environment, which can entertain and allow individual to work at own pace thus making them active participants.

Hence the following strategies are suggested to alleviate the problem of quality and supply of instructional facility. Organization of periodic seminars and workshops for lecturers in other to disseminate universally accepted strategies of teaching, adequate provision of ICT facilities, training of lecturers by the government in other to be conversant with the basis computer skills required for effective teaching, reduction of class-size by increasing students ratio to 2:1, training lecturers to be conversant with different instructional skills to effectively computer to teach as well as use computer and ICT facilities and regular supply of computer textbook by local and state government. Other strategies may include provision of standard library by PTA, for the day-today use by lecturers and students, partnership with internet provider such as MTN, GLO etc. There should be regular in-service training for lecturer to master skill for effective teaching using computer as well as recruiting qualified lecturers, purchase or donation of instructional material and equipment by host communities. Attendance to practical class should be made mandatory.

Improving Methodology required for Teaching Library and Information Science Using Computer Aided Instructions

It cannot be overemphasized that the successful integration of ICT facilities (Computer) into the school depends on lecturer begin aware of the relevance of ICT as a means of providing access to a richer range of resources for themselves and the students (Etuk, 2007). They must also be convinced of the comparative effectiveness of ICT facilities in the classroom over the traditional method of teaching. According to Etuk (2007), lecturers need to be properly educated to be morally responsible enough to know and ensure that ICT is not adopted in the classroom as a surrogate lecturer but as a means to enhancing innovation, creativity, reflectiveness, confidence and a sense of self-reliance in both the lecturer and their students.

Teaching methods, materials and equipment involved are presently not familiar to a great number of lecturers who were not exposed to these during their years of training (Etuk, 2007). Therefore, lecturers need to be prepared to be retrained in other to be computer literate. This knowledge of computer, will enable them prepare students successfully for today information rich and technology driven world. Such strategy for improving teaching methodology includes employment of qualified lecturers, use of different teaching methods, provision of adequate facilities, giving of assignment after practical class, use of continuous assessment as a means of evaluating student, provision of proved programs (software) and their corresponding tutorials for easy understanding. Other strategies may include use of individual and group projects in teaching library and information science, professional development of the lecturers, use of improvisation (drawing of computer and its various parts on a card-board) and the use of instructional facilities for teaching library and information science using computer. A robust technical infrastructure and technical support, for example, internet connectivity, computers and computer instructors/lecturers can also be useful. Finally, adopting student-centered learning strategies such as concept mapping, peer tutoring, peer learning methods, group work, e-learning, peer tutoring etc. should be encouraged. In the student-centered approach, it is believed that knowledge is constructed by students and the lecturer is only a facilitator of learning rather than a presenter of information. In this way, students become more active participants in the learning process wherever possible and take greater responsibility for their own learning. These strategies can encourage deep level processing of information, to make the students efficient, problem solvers and increase ability to develop lifelong learning skills.

Constructivism Learning Theory

Jean Piaget a psychologist propounded cognitive constructivism. Constructivism approach to learning emphasis authentic, challenging project that include students, lecturers and experts in the learning community (Siemens, 2004). Its goal is to create learning communities that are more closely related to the collaborative practices of the real world, where problem are seen from different perspective, and are able to negotiate and generate meaning and solution through shared understanding. This theory argues that it is impractical for lecturers to make all the current decisions and dump the information to student without involving student in the decision process as well as assessing students' ability to construct knowledge. Hence students learn through experience.

However, Sharon suggests that the role of the lecturer in constructivist learning environments is one of facilitator, guide and coach. The learner assumes

responsibility for her own learning under the direction of the lecturer. Therefore, in a computer-enhanced learning environment, the lecturer provides the resources, assignments, and data. He then guides the discussion paths while allowing the learners to branch out into areas that present interest and discovery. Hence the learner is free to choose when to work, the order which to do that work, and to manage her own time. According to Siemens (2004) some basic limitations of this theory is that it did not address learning that occurs outside of the people (i.e. learning that is stored and manipulated by technology). They failed to describe how learning happens within organizations. It is worth remembering that learning theories are concerned with the actual process of learning, not with the values of what is being learning. In a networked world, the vary manner of information that we acquire is worth exploring. When knowledge is abundant, the rapid evaluation of knowledge is equally important (Siemens, 2004).

This theory is relevant to this study in that it could be applied in the classroom for improving the teaching and learning of computer studies, especially when using Computer Assisted Instruction (CAI) as a student learning approach. CAI is designed such that it consists of interactive tools for easy navigation by the user. Hence, instructors can give assignments, class work, and projects to enhance and engage learners. It provides opportunities for student-to-student learning which is also very crucial, along with student-to-teacher and student-to-course platforms. Feedback can be swift and effective. Finally it creates room for evaluation, bearing the process of learning in mind. According to Sharon, in constructivist computer studies, the learner is evaluated in a broader method. Paper-and-pencil testes are still appropriate but should not be the only method for evaluation. Student reflection papers, self-reflection journals, and cooperative authentic projects are also included.

Downes and Siemens' Conectivism Learning Theories

Connectivism, a learning theory for the digital age, was developed by George Siemens and Stephen Downes based on their analysis of the limitations of bahavioursm, cognitivism and constructivism to explain the effect technology has had on how we live, how we communicate, and how we learn (wikipedia encyclopedia, 2010). Connectivism also addresses the challenges that many corporation face in knowledge management activity. Knowledge that resides in a database needs to be connected with the right people in the right context in order to be classified as learning. Information flow within an organization is an important element in an organizational effectiveness. The starting point of the connectivism is the individual. The field of education has

been too slow to recognize both the impact of new learning tools and the environmental changes in what it means to learn. Connectivism therefore provides insights into learning skills and task needed for learner to flourish in a digital era (Siemens, 2004).

Connectivism is relevant to this study in that it can be applied to management and leadership in the school system. The ability of management available resources in the school for optimal education achievement of desired educational outcomes is a significant challenge. Realizing that complete knowledge cannot exist in the mind of one person requires a different approach to creating an overview. Furthermore, diverse teams of varying viewpoints are a critical structure for completely exploring ideas. Innovation is also an additional challenge. Most of the revolutionary ideas of today at one time existed as a fringe element. An organizations ability to foster, nurture, and synthesize the impacts of varying views of information is critical to knowledge economy survival.

METHODOLOGY

This study adopted a survey research design. A survey research design was considered suitable since the study solicit information from various students and lecturers in the department of Library and Information Science, Ahmadu Bello University, Zaria. The population for the study comprise of 282 respondents. Because the size of the population for the study is reasonable to manage, the researchers decided to take all the entire elements of the population into consideration. All the population involved in the investigation was sample i.e. (282). The instrument for data collection was questionnaire. The data collected from the use of the questionnaire was analyzed using mean and standard deviation to answer each of the four research questions. However, each of the four hypotheses was tested using ANOVA statistic at 0.05 level of significance. The Statistical Package for Social Science (SPSS 14.0 version) was use for the analysis. Any item with a mean of 3.50 or above was regarded as agree while items below 3.50 were regarded as disagree. For testing the null hypotheses, the ANOVA (analysis of variance) analysis was used. The hypotheses of no significant different were accepted for any item whose F-calculated value is equal to or less than the F-ratio value and rejected for any item whose F-calculated value is greater than the F-ratio value.

Data Analysis

Research Question 1

What are the funding strategies required for improving the teaching of library and information Science using computer in Ahmadu Bello University, Zaria?

The data presented in Table 1 revealed that the mean responses of lecturer of library and information science studies using computer are in all the 10 items and are greater than the cut-off point of 3.50. This indicated that majority of respondents used for this study agreed with these items as the strategies for improving the funding of strategies required for improving the teaching of library and information Science using computer in Ahmadu Bello University, Zaria. The standard deviation of items 1-10 rayed from .99 – 1.08. This revealed that the respondents' were close to one another in their opinion thus indicating that the respondents' are not far from the mean.

Research Question 2

What are the strategies for improving the availability and quality of instructional facilities required for the teaching of library and information Science using computer in Ahmadu Bello University, Zaria?

The data presented in Table 2 revealed that, items 11, 12, 13, 14, 15, 16, 17, 18, 19, and 20 has their mean above the cut-off point of 3.50. Therefore, majority of the respondents in the study agreed with these items on the ground that strategies for improving the availability and supply of instructional facilities are required for teaching library and information science using computer facilities in the department of library and information science. The standard deviation of the respondents ranged from .98-1.15. This showed that, the respondents were close to one another in their responses and their responses are not far from the mean.

Research Question 3

What are the strategies for improving teaching methodologies required for the teaching of library and information Science using computer in Ahmadu Bello University, Zaria?

Table 3 showed that all the 15 suggested strategies (items, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34 and 35) had their mean ratings above the cut-off point of 3.50. The standard deviation of the items ranged from 1.02-1.25. This revealed the respondents' closeness to one another in their opinions thus, further revealed that respondents are not far from the mean.

Research Question 4: What are the strategies for improving the supply and quality of human resources required for the teaching of library and information Science using computer in Ahmadu Bello University, Zaria?

The data presented in Table 4 revealed that all the ten

suggested strategies (items 36, to 45) had their mean ratings above the cut-off point of 3.50. The standard deviation of the items ranged from 1.06 – 1.21. This revealed the respondents' closeness to one another in opinions thus further indicated that the respondents are not far from the mean. H01: There is no significant different (p<0.05) in the mean responses of lecturers/students on the strategies for improving the funding strategies required for the teaching of LIS studies using computer in Ahmadu Bello University, Zaria.

FINDINGS OF THE STUDY

The following findings emerged from the study based on the research questions are hypotheses tested:

- Ten funding strategies were required for the teaching of LIS studies in Ahmadu Bello University, Zaria.
- Ten strategies were required for improving the availability and quality of instructional facilities required for the teaching of LIS studies using computer in Ahmadu Bello University, Zaria.
- Ten strategies were required for improving teaching methodologies required for the teaching of LIS studies using computer in Ahmadu Bello University, Zaria.
- Ten strategies were required for improving the supply and quality of human resources required for the teaching studies using computer in Ahmadu Bello University, Zaria.
- There was no significant different among the mean responses of lecturers/students on the funding strategies required for the teaching of LIS studies.
- There was no significant difference among the responses lecturer/students on the strategies for improving the availability and quality of instructional facilities.
- There was no significant difference among the responses of lecturer/students on the strategies for improving the methodology of teaching LIS studies
- There was no significant difference among the responses of lecturers/students on the strategies for improving the availability and quality of human resources required for teaching of LIS studies.

University education is seen as a gateway to providing not only an educated citizenry but also a capable workforce. Quality teaching and learning is therefore indispensable in creating a bright future for individuals and nation alike thus it provides recipients with the skills

Table 1: Mean and Standard Deviation Ratings of Strategies required for improving the teaching of library and information Science using computer in Ahmadu Bello University, Zaria

S/N	Item	N	X	SD	Decision
1	Government should increase the fund allocated to Institutions, particularly ABU, Zaria	282	4.24	1.05	Agreed
2	Institutions that offer Library & Information Science should have their Internet Café. Business centers from where they can raise money for	282	3.92	1.07	Agreed
3	Alumini Association should be involved in donation of information equipment's.	282	3.91	1.06	Agreed
4	Cash/ICT facilitators received from ICT competition Or debate should be invested for improving LIS Studies	282	3.91	1.21	Agreed
5	Imposing levies on all students when collecting their Certificates	282	4.15	.99	Agreed
6	Schools that offer LIS studies should engage in Consultancy services	282	3.99	1.08	Agreed
7	Schools offering Computer studies to pay extra fees	282	4.00	1.06	Agreed
8	Meeting individuals and Ngo's to give endowment/ donations to LIS Studies	282	3.91	1.10	Agreed
9	Involving community in donating ICT facilities To L I S Studies	282	3.96	1.04	Agreed
10	International donor agencies should be involved in donating computers or ICT facilitators to secondary schools offering Computer	282	4.02	1.08	Agreed
	Cluster		3.61	1.07	Agreed

and knowledge needed for economic growth, as well as furthering learning and training of professionals such as technician, scientists, entrepreneurs etc. In this 21st century the term LIS studies using computer literacy have been used interchangeable which is aimed at making the generality of the people computer literate. The intention

Table 2: Meanand Standard Deviation Ratings of Lecturers/Students Responds on   the Strategies for Improving the Availability and Supply of Instructional Facilities required for Teaching LIS Studies

S/N Item N X SD Decision

S/N	Item	N	X	SD	Decision
1	Adequate provisions of ICT facilities for the teaching LIS by private organizations or NGOs. be conversant with the basis LIS skills	282	3.97	1.12	Agreed
2	Training of Lecturers' by the Government in order to require for effective teaching of LIS studies.	282	3.92	1.13	Agreed
3	Recruitment of qualified lecturers for the Teaching of LIS	282	3.89	1.14	Agreed
4	Regular supply of information equipment's by local and state government for effective teaching of computer LIS studies.	282	3.92	1.14	Agreed
5	Partnership with internet provider by the school for regular supply of ICT requirements.	282	3.95	1.15	Agreed
6	Standard internet library café should be provided by Donor agencies or alumini, for day today use by teacher And students of LIS studies.	282	4.08	1.13	Agreed
7	Instructional materials and ICT facilities should be Purchased or donated by host communities as A A means a way of encouraging ICT awareness.	282	4.34	1.05	Agreed
8	Lecturers should be trained in different instructional methods, of using computer and ICT facilities.	282	4.18	.98	Agreed
9	Attendance to practical class should be mandatory.	282	4.04	1.14	Agreed
10	Limiting the use of ICT tostudentsintheratio2:1	282	4.14	1.13	Agreed
	Cluster		4.09	1.11	Agreed

Table 3: Mean and Standard Deviation of Respondents (Lecturers and Students) on the Strategies for Improving the Methodologies required for Teaching of Library and information Science Using Computer in Ahmadu Bello University, Zaria

S/N	Item	N	X	SD	Decision
1	Different teaching methods such as discussion method should be used.	282	4.08	1.16	Agreed
2	Adequate facilities should be provided	282	4.10	1.02	Agreed
3	Participation should been courage among students in project work.	282	3.98	1.10	Agreed
4	Continuous assessment test (CAT) should be used As appropriate means of evaluating student.	282	4.09	1.18	Agreed
5	Group projects should be used in teaching Computer studies.	282	4.18	1.11	Agreed

Table 3: Continues

6	Assignment should be given after every L I S lesson	282	4.09	1.16	Agreed
7	Time slice as a means of accommodating more students should be used.	282	4.29	1.03	Agreed
8	Oldandnewlecturersshouldbedevelopedthroughorganiz ationofseminars.	282	4.07	1.21	Agreed
9	Students' problems should be identified at the end of every lesson.	282	4.11	1.14	Agreed
10	Improvisation of instructional materials should be Encouraged in teaching LIS studies.	282	4.07	1.20	Agreed
11	Assessmentofpracticalshouldbebasedon50% and 50% theory.	282	4.04	1.25	Agreed
12	Cordialrelationshipshouldbeestablishedbetweenlecturer sandstudents.	282	4.17	1.07	Agreed
13	Instructional materials should be used in teaching L I S	282	4.11	1.24	Agreed
14	Monitoring, supervision, practical exercises be given to test student level of knowledge	282	4.17	1.03	Agreed
15	Problem solving skills should be developed in students as a methodology in teaching L I S	282	4.16	1.12	Agreed
	Cluster		4.11	1.81	Agreed

Table 4. Mean and Standard Deviation Rating of the Strategies for Improving the Availability and Quality of Human Resource required for Teaching of library and information Science using computer in Ahmadu Bello University, Zaria

S/N Item N X SD Decision

1	Adequate recruitment of LIS l e c t u r e r s and instructors should be done	282		4.17	1.15	Agreed
2	Adequate training of computer teachers/instructors.	282		4.16	1.09	Agreed
3	Appropriate channel of communication should be	282		4.17	1.17	Agreed
	be established between the l e c t u r e r s / students					
4	Scholarship programmes for training L I S l e c t u r e r	282		4.26	1.15	Agreed
	Should be established.					
5	Introduction of instructional equipments to LIS	282		4.25	1.13	Agreed
	in other to increase the number of LIS					
	lecturers.					
6	Records of academic qualifications of l e c t u r e s should	282		4.24	1.14	Agreed
	Be kept properly for employment purpose.					

Table 4. Continues

7	Staff developmental activities and programs should be Be planned and followed up.	282			4.18		1.07	Agreed
8	Expert as resource lecturers should be employed in the	282			4.15		1.06	Agreed
9	Communication between the management and the Teaching staff of the LIS should be encouraged.	282			4.08		1.21	Agreed
10	Certificate for employment should be emphasized.	282			3.96		1.12	Agreed
	Cluster				3.74		1.13	Agreed

Table 5. ANOVA Analysis of mean responses of Lecturers/Students on the Funding Strategies required for the teaching of LIS Studies

Source	Sum of	df	Mean	F-ratio	Sig.	Remark
	squares Square (2-tailed)					
Betweengroups	.142	2	.071	.104	.901	NS
Withingroups	191.152	279	.685			
Total	**191.300**	**281**				

The one-way ANOVA presented the result of Fraction not to be significant at 0.05 level of significant: F (2, 279) = .104; p>0.05. The F-ratio of .104 with a p-value as .901 calculated at 0.05 level of significance and at 279 degree of freedom to be greater than 0.05. The null hypotheses was therefore accepted as postulated not to have any significant difference in the mean ratings of lecturers/students on the funding strategies required for the teaching of LIS studies.

$H0_2$: There is no significant difference (p(p<0.05) in the mean responses of lecturers/students on the strategies for improving the availability and quality of instructional facilities required for the teaching of LIS studies in Ahmadu Bello University, Zaria.

Table 6. Analysis of Variance (ANOVA) of the mean ratings of respondents on the Strategies for Improving the Availability and Quality of Instructional Facilities

Source	Sum of squares	df	Mean Square	F-ratio	Sig. (2-tailed)	Remark
Betweengroups	.137	2	.068			
Withingroups	223.583	279	.801	.085	.918	NS
Total	**223.720**	**281**				

The one-way ANOVA presented in Table 6 showed the result of F-ratio not to be significant at 0.05 level of significant: F (2,279) = .085; p>0.05. The F-ration of 0.085 with a p-value as .918 calculated at 0.05 level of significance and at 279 degree of freedom to be greater than 0.05. The null hypothesis was therefore accepted as postulated not to have any significant difference in the mean ratings among lecturers/students on the strategies for improving the availability and quality of instructional facilities.

$H0_3$: There is no significant difference (p < 0.05) in the mean responses of lecturers/students on the strategies for improving teaching methodologies required for the teaching of LIS studies using computer in Ahmadu Bello University, Zaria.

of Nigeria to include instructional studies into the postgraduate curriculum is aimed at equipping the students at all level with refinance computers in software usage such as word processing, spreadsheet, database analyzing programs that allow learners to interact with the computer the way they desire, unfortunately, the introduction of computer studies in LIS in Nigeria university faced serious setback in terms of its

Table 7. Analysis of Variance (ANOVA) of the Mean Ratings of Respondents on the Strategies for improving the Teaching Methodologies required for Teaching of LIS Studies.

Source	Sum of squares	df	Mean Square	F-ratio	Sig. (2-tailed)	Remark
Between groups	.607	2	.303			
Within groups	192.329	279	.689	.440	.644	NS
Total	**192.936**	**281**				

The one- way ANOVA presented the result of F-ratio not to be significant at 0.05 level of significant. F (2,279) = .440; P> 0.05. The F-ratio of with a p-value as 6.44 calculated at 0.05 level of significance and at 279 degree of freedom to be greater than 0.05. The null hypothesis was therefore accepted as postulated not to have any significant difference in the mean ratings among lecturers/students on the strategies for improving the methodologies of teaching LIS studies at department of library and information science.

HO_4: There is no significant difference (p<0.05)inthemeanresponses of lecturers/students on the strategies for improving the availability and quality of human resources required for teaching of LIS studies in Ahmadu Bello University, Zaria.

Table 8. Analysis of Variance (ANOVA) of the mean ratings of respondents on the Strategies for improving the availability and quality of human resources required for teaching of LIS studies.

Source	Sum of squares	df	Mean Square	F-ratio	Sig. (2-tailed)	Remark
Between groups	192	2	.096			
Within groups	240.091	279	..861	.111	.895	NS
Total	**240.283**	**281**				

The one-way ANOVA presented the result of F-ratio not to be significant at 0.05 level of significant: F (2, 279) = .111; p > 0.05. The F-ratio of the .111 with a p –value as .895 calculated at 0.05 level of significant and at 279 degree of freedom to be greater than 0.05. The null hypothesis was therefore accepted as postulated not to have any significant difference in the mean ratings among lecturers/students on the strategies for improving the availability and quality of human resources required for teaching of LIS studies in Ahmadu Bello University, Zaria.

implementation raging from resources (computer experts, computer systems and its peripherals, infrastructures, security of equipment etc.) necessary for teaching and learning of LIS studies.

The study was a survey research design, questionnaire was the instrument used to collect data for identifying the strategies for enhancing the teaching and learning of LIS studies using computer as mode instruction in Ahmadu Bello University, Zaria. A set of 45 structured questionnaire items was used to gather information from 282 respondents made up of lecturers and students.

Based on the data collected and analyzed, the following major findings of the study on strategies for improving LIS studies using computer in Ahmadu Bello University, Zaria. The data collected with the assistance of three research assistants and analyzed using SPSS 14.0 version which facilitates calculation of mean, standard deviation and analysis of variance (ANOVA). The mean and standard deviation were used to answer the four research questions while ANOVA was used to test the four null hypotheses at 0.05 level of significance.

CONCLUSION

The study concludes that there are some basic strategies that could be adopted in order to improve the teaching of LIS studies using computer in Ahmadu Bello University, Zaria. The study is of the view that LIS studies should provide sound basis for further training in computer

science and be relied upon to enable students acquire the basic skills and knowledge needed to either secure a job and earn a living or to pursue further studies in their area of specialization (information science). Evidence from the study also revealed that funding strategies for computer could be used in improving the teaching of LIS studies in Ahmadu Bello University, Zaria. It is also found that strategies for improving the availability and supply of instructional facilities as well as teaching methodologies strategies could be used to enhance the teaching of LIS studies in Ahmadu Bello University, Zaria.. It is evident in the study that when students are adequately trained under an improved learning environment where instructional facilities are provided and qualified teachers engaged for the services of teaching and learning applying by proper teaching techniques there is no doubt that the performance of students in LIS studies will improve considerably, and as such they are bound to develop a remarkable interest in LIS studies and develop the necessary skills required to secure and succeed in the workplace.

RECOMMENDATIONS

The following recommendations were made based on the findings of the study and the implications of the study:

1.   University administrators should ensure that LIS lecturers are sponsored on retraining programmes at least twice a year through workshops, seminars and conferences to enable them learn the modern technological skills in their chosen field of endeavour.
2.   The school administrators should as a matter of urgency liaise with private sectors to provide instructional materials and other facilities needed for teaching of LIS studies.
3.   Alumini and other major stakeholders of our education should assists our higher institutions by donating instructional facilities like laptops, desktop computers, multimedia, generating sets, internet etc. to enable students practice and acquire the skills of library and information science.

REFERENCES

Abdulsalami, T. L, Paulina F. Abdulsalami and Odu, A. O (2016).The use of ICT by University Academic and its Facilitation towards Learning among Students of Ahmadu Bello University, Zaria. Computer Education Research Journal (CERJ).University of Nigeria, Nsukka.Vol.3. (1).

Abimbade, A. (2009). *Principle and practices of education technology.* London: International Publisher Ltd.

Adekunle, et al (2006). *Computer studies for beginners.* Ibadan: Bounty Limited.

Aduwa Ogiegbaen, E.S & Iyamu, S.O.(2005). Using information and communication technology in secondary schools in Nigeria: Problems and prospects. Educational Technology & Society. Retrieved on 04/28/2005, from *http://www.ifets.info/journals/8-1/13.*

Adua H. and Ayamu, D.O. (2005). The creation and development of educational computer technology in R.M. Thomas & V.N.Kobayashi (Eds.), *Educational Technology: Its creation, development and cross-cultural transfer.* Oxford: Pergamon Press, 35-63.

Anao, A.R. (2003). Society, knowledge, incubation and management. Lagos: The Guardian Newspapers, November 11,75.

Ayogu, Z.U.(2008). Computer literacy: A sustainable tool in the information age. Journal of Education in the information Age1,545-549.

Batubo, F.B. & Digitemie, B.N.(2007). Challenges in the information and communication technology. *Journals of Education in the Information Age*1,550.

Carlson, S. & Firpo, J. (2001). Integrating computers into teaching: Findingsfroma3- year program in 20 developing countries in L.R. Vandervert, L.V. Shavinina & R.A. Cornell(Eds), *Cyber education: The future of distance learning.* Larchmont, NY: Mary Ann Liebert, 85-114.

Edhuze, E.J.(2003). The present status of computer studies in secondary schools in Isoko South LGA of Delta State. *Unpublished Project.*

Etuk, H.A. (2007). Kanourged to improve computer literacy. *Daily Trust* June 6, 2002.

Erick, H. (2000). *Literacy for community college student.* Los Angeles CA.

Federal Republic of Nigeria (2004). *National policy on education.* Lagos: NERDC Press.

Gujjar, A.A; Khan, N.; Baigmn, M.N.; Ramza, M. & Saifi, S. (2010). A study to evaluate the availability and utilization of physical and instructional facilities in secondary schools in Bajaur Agency. *International Online Journal of Education Science, 2(3),*688.

Kersh, H in Baba, E (2009). *Information technology: A practice course.* London: Hound

Landu, I.T.(2005). Information and communication technology (ICT):Science teachers' awareness proceeding of the 44th STAN annual conference 41-44.

Nwachukwu, C.E.(2001). Designing appropriate methodology in vocational and technical education in Nigeria.

Nwangwu, I.G.O.(2007). Refocusing teaching and learning in the information age. *Journals of Education in the Information Age,* 1,334-338.

Nworgu, L.N. (2008). CAI: A strategy for enhancing the effectiveness of biology teaching and learning in the new information age. *Journal of Education in the*

Information Age, 1, 228-231.

Obioma, B.A. (2009). A comparative assessment of computer literacy of private and public secondary schools in Lagos state, Nigeria. *Academic Journal of Educational Research 8(12),*881-889.

Obineli, O. (2008). Challenges facing guidance counselors in the utilization of ICT in Secondary school. *Journals of Education in the Information Age*1, 371-376

Okafor, E and Nwakwor, F.(2003). Computer literacy for nation development in Amibibade (Ed), *Nigeria Journal of Computer Literacy* 10-14.

Okeke, N.(2007). Retooling instruction in secondary schools health education for the information age. *Journals of Education in the Information Age,*1,52-58.

Okonkwo, B.(2006). Recruiting and retaining teachers for hard-to-staff schools center for teaching quality. Brief education division. Bridget Curran, bcurran@nga.org October27,2005.

Olaitan, S.O.(2008). *De-schooling the Nigerian child.* Onitsha: Cape Publishers.

Onuoha, J.C. (2005). Economic of knowledge management in the information age. Global challenges and enhancement strategies. *Journal of Education in the Information Age*1,65-70.

Philip, O.J.& Josiah, A.O.(2003). Computer education in

Nigeria secondary schools: Gaps Between policy and practice. Retrieved from *http://www.ncsu.edu/meridian/sun2003/Nigeria/index.h tml.*

Robbinson,M.(2000).*Chambers 21st century dictionary.* London: Chambers Harrap Publishers Limited.

Salomon, G.(2009). Computers in curriculum in M. Eraut (Ed.), *The international encyclopedia of education technology*, Oxford: Pergamon Press,167-170.

Shavinina, L.V.(2007). Educational multimedia of "tomorrow": High intellectual and creative psycho educational technologies. Presented at the European Congress of Psychology, April17-19,Dublin, Ireland.

Shavinina, L.V.(2001). A new generation of educational multimedia: High intellectual and creative educational multimedia technologies in L.R. Vandervert, L.V. Shavinina & R.A. Cornell (Eds.), Cyber Education: The future of distance learning. Larchmont, NY: Mary Ann Liebert,Inc,63-82.

Siemen,G.(2004). A learning theory for the digital age. Retrieved from http//www.connectivism.ca/.

Sloan, A, and Edhuze, A.N.(2003). Improving teaching competence of primary school teachers for quality assurance in teacher production. *Journal of Education in the Information Age*1,287-291.

Smith, E.J. (2003). Dynamic instructional model of computerized organization and program language. *SIGUCE*1, 26-31.