Full Length Research Paper

Problems and Prospects of Learning Computer amongst Students of Post Primary Schools in Nigeria

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This study evaluates problems and prospects of teaching, learning and use of computer in post primary schools in Nigeria. It reveals effort Federal Government of Nigeria is making through its National Policy on Education (Federal Republic of Nigeria, 2004), which seek to integrate ICTs into secondary curriculum. The document states that government will provide basic infrastructure and training at the primary school. At the junior secondary school, computer education has been made a pre-vocational elective, and is a vocational elective at the senior secondary school. This is because; at the moment computer is not part of classroom technology in most Nigerian public schools. This implies that the chalkboard and textbooks continue to dominate classroom activities; this is attributed to limited/poor information infrastructure, frequent electricity interruption, poor ICT policy/project implementation strategy, Inadequate ICT manpower in the schools, high cost of ICT facilities and lack of/poor perception of ICTs among teachers and administrators. Therefore, the research concludes that the adoption and use of ICTs in schools will have a positive impact on teaching, learning, and research. The research recommends a more concerted integration of ICTs into the secondary school system. In order to ensure that ICTs are widely adopted in Nigeria secondary school system, the following issues must be resolved; infrastructure, infrequent electricity supply, poor ICT policy/project implementation strategy, Inadequate ICT manpower in the schools, high cost of ICT facilities and lack of/poor perception of ICTs among teachers and administrators.

Keywords: Problems, prospects, ICT, teaching, learning, computer, and students

INTRODUCTION

The role of computer in teaching and learning is rapidly becoming one of the most important and widely discussed issues in contemporary education policy (Fitzgerald, & Werner, 1996). Most experts in the field of education agreed that when properly used, computer (information and communication technology) holds a great promise to improving teaching and learning in addition to shaping workforce opportunities. Ndiku, (2003) indicated that computer literacy is now regarded as the new literacy. This has actually encouraged the desire to equip schools with computer facilities and qualified personnel necessary to produce technologically proficient and efficient students in developing countries of the world (Nigeria). There is no doubt that computer can aid the instructional process and facilitates students' learning. Many studies have shown that there is a positive effect associated with technology aided instruction and teaching (Burnett, 1994; Fitzgerald and Warner, 1996).

In Nigeria, concerted efforts have been made by many governments to initiate internet connectivity and technology training programs, such programs link schools around the world in order to improve educational research, enhance cultural understanding and skills that youths need to attain the needed computer literacy level (Burnett, 1994). The rapid advancement in computer and communication technologies is changing the underlying fabric of the society from one that is industry based to one that is information based. The importance of computer is quite evident from the educational perspective; though the chalk board, textbooks, radio,
television and films have been in use for teaching purposes over the years, none has greatly within a short term, impacted on the teaching and learning like the computer. While television and film impact only on the audio-visual facilities of users, the computer is capable of activating the sense of sight, hearing and touch of the users.

Computer has the capacity to provide higher interactive potential for users to develop their individual, intellectual and creative-ability. The main advantage of computer over other teaching aids includes the development of human mental resources which allows people to both successfully apply the existing knowledge and produce new knowledge. Kaku (2005).The collective, rigid and passive nature of learning associated with use of radio, television and films do not contribute meaningfully, innovative changes to traditional methods in educational systems. In developed countries, computers (Information and communication technologies) are being used for instructional function which includes teaching and learning. Teachers and students will therefore, need such knowledge if they must succeed in a technologically developed world Okwudishu, (2005).

Computer usage in secondary schools has made positive impact and developments in learning by students. Literatures abound that learning and attitude are interconnected and that a positive correlation exists between the two. Tyler (1998) reported that attitudes are evaluated beliefs, which predispose the individual to response in a preferential way. Educators therefore, have had the dynamic task of improving the curriculum, its delivery and resources in an attempt to improve positive learning attitude. Plante and Beattie (2004) pointed out that the interconnection of attitude and response existed in information and communication technology (ICT) education. However, the introduction of computer application in all facets of education and the quest for learning computer application is on the increase among staff and students. The aim of this study was therefore, to evaluate the problems and prospects of computer learning amongst students of secondary schools in Nasarawa North Senatorial District of Nasarawa State. Recommendations for improvement are offered.


There are developments in the Nigerian education sector, which indicate some level of ICT application in the secondary schools Adomi (2005). The Federal Government of Nigeria, in the National Policy on Education Federal Republic of Nigeria(2004), recognizes the prominent role of ICTs in the modern world, and has integrated ICTs into education in Nigeria. To actualize this goal, the document states that government will provide basic infrastructure and training at the primary school. At the junior secondary school, computer education has been made a pre-vocational elective, and is a vocational elective at the senior secondary school. It is also the intention of government to provide necessary infrastructure and training for the integration of ICTs into the secondary school system.

It should be noted that 2004 was not the first attempt the Nigerian government made to introduce computer education in schools. In 1988, the Nigerian government enacted a policy on computer education. The plan was to establish pilot schools and diffuse computer education innovation first to all secondary schools, and then to primary schools. Unfortunately, the project did not really take off beyond the distribution and installation of personal computers (Okebukola, 1997; cited by Aduw-Ogiegbaen and Iyamu, 2005), concludes that the computer is not part of classroom technology in more than 90 percent of Nigerian public schools. This implies that the chalkboard and textbook continue to dominate classroom activities in most Nigerian secondary schools.

The Federal Ministry of Education has launched an ICT-driven project known as School Net (www.snn.org) Federal Republic of Nigeria(2006); Adomi (2005); Okebukola, (2004), which was intended to equip all schools in Nigeria with computers and communications technologies. In June 2003, at the African Summit of the World Economic Forum held in Durban, South Africa, the New Partnership for African Development (NEPAD) launched the e-Schools Initiative, intended to equip all African high schools with ICT equipment including computers, radio and television sets, phones and fax machines, communication equipment, scanners, digital cameras, and copiers, among other things. It is also meant to connect African students to the Internet. The NEPAD capacity-building initiative will be executed over a ten-year period, with the high school component being completed in the first five years. Three phases are envisaged, with fifteen to twenty countries in each phase. The phases are to be staggered, and an estimated 600,100 schools are expected to benefit. The aim of the initiative is to impart ICT skills to young Africans in primary and secondary schools, and to harness ICT to improve, enrich, and expand education in African countries (Aginam, 2006).

The Nigerian Federal Government has commissioned a mobile Internet unit (MIU) operated by the Nigerian National Information Technology Development Agency (NITDA). The MIU is a locally-made bus that has been converted into a mobile training and cyber centre. Its interior has ten workstations, all networked and connected to the Internet. The MIU is also equipped with printers, photocopiers, and a number of multimedia facilities. Internet is provided via VSAT with a 1.2m dish mounted on the roof of the bus. It is also equipped with a small electric generator to ensure regular power supply. The MIU takes the Internet to places areas and various primary and high schools (Ajayi, 2003). The number of buses is so small; however, that most rural areas and
schools have not yet been covered. Although efforts have been made to ensure that ICTs are available and used in Nigerian secondary schools, the level of uptake is still low (Adomi, 2010). It has been observed (Goshit, 2006) that most schools, both private and government, do not offer ICT training programmes. NEPAD has scored the level of African continent students' experience with ICTs and their proficiency in using them very low. Fifty-five percent of students within the continent, including Nigeria, Algeria, Burkina Faso, Cameroon, Republic of Congo, Egypt, Gabon, Lesotho, Mali, Mauritius, Mozambique, Rwanda, Senegal, South Africa, and Uganda (who are participating in the first phase of the NEPAD e-Schools initiative), stated they had no experience at all in using computers. Other findings included that the typical African school environment provides neither opportunity nor training in using ICTs, and that 75 percent of responding teachers have no or very limited experience and expertise regarding ICT educational applications.

Okwudishu (2005) discovered that the unavailability of some ICT components in schools hampers teachers’ use of ICTs. Lack of adequate search skills and of access points in the schools were reported as factors inhibiting the use of the Internet by secondary school teachers (Kaku, 2005). The absence of ICT equipment in most Nigerian secondary schools leads students to resort to cybercafés for Internet access. Most cybercafé clients in Nigeria are students (Adomi, Okiy and Ruteyan, 2003).

The prospects of ICT Application in Nigerian Secondary Schools

According to Adomi (2010), improved secondary education is essential to the creation of effective human capital in any country (Evoh, 2007). The need for ICT in Nigerian secondary schools cannot be overemphasized. In this technology-driven age, everyone requires ICT competence to survive. Organizations are finding it very necessary to train and re-train their employees to establish or increase their knowledge of computers and other ICT facilities Adomi and Anie (2006) and Tyler (1998). This calls for early acquisition of ICT skills by students. The ability to use computers effectively has become an essential part of everyone's education. Skills such as bookkeeping, clerical and administrative work, stocktaking, and so forth, now constitute a set of computerized practices that form the core IT skills package: spreadsheets, word processors, and databases (Reffell and Whitworth, 2002).

The demand for computer/ICT literacy is increasing in Nigeria, because employees realize that computers and other ICT facilities can enhance efficiency. On the other hand, employees have also realized that computers can be a threat to their jobs, and the only way to enhance job security is to become computer literate. With the high demand for computer literacy, the teaching and learning these skills is a concern among professionals (Oduroye, n.d.). This is also true of other ICT components.

New instructional techniques that use ICTs provide a different modality of instruments. For the student, ICT use allows for increased individualization of learning. In schools where new technologies are used, students have access to tools that adjust to their attention span and provide valuable and immediate feedback for literacy enhancement, which is currently not fully implemented in the Nigerian school system Enuku and Emuku (1999 and 2000). ICT application and use will prove beneficial in improving Nigeria's educational system and giving students a better education. A technologically-advanced workforce will lead to ICT growth in Nigeria, with the potential to improve military technology and telecommunications, media communications, and skilled ICT professionals who will be well-equipped to solve IT problems in Nigeria and other parts of the world (Goshit, 2006).


The low rate of ICT adoption and application in Nigerian secondary schools is attributable to several factors Adomi and Kpangban (2010). The factors included Limited/poor information infrastructure, Lack of/inadequate ICT facilities in schools, frequent electricity interruption, Non integration into the school curriculum, Poor ICT policy/project implementation strategy, Inadequate ICT manpower in the schools, Poor management on the parts of school administrators and government and Lack of/limited ICT skills among teachers.

Limited/poor information infrastructure

Adomi (2005) reported that ICT development and application are not well established in Nigeria because of poor information infrastructure. It has been reported by Southwood (2004) that more than 40 percent of the population of Africa is in areas not covered by telecom services. Schools located in such areas will experience ICT connectivity problems.

Lack of/inadequate ICT facilities in schools

According to Ndiku (2003) as cited by Wims and Lawler (2007) who discovered that insufficient numbers of computers and peripheral devices inhibit deployment of ICT by teachers and by Plante and Beattie (2004) who observed that inadequate ICTs was a challenge to integration of technologies in Canadian schools.
Similarly, Okwudishu (2005) discovered that unavailability of some ICT components in the schools hampered teachers' use of ICTs. This problem may be due to underfunding (Enakire and Onyemenia, 2007).

**Frequent electricity interruption**

Adomi and Kpangban (2010) reported that electricity failure has been a persistent problem militating against ICT application and use in Nigeria. This makes the few schools with ICT facilities unable to use them regularly.

**Poor ICT policy/project implementation strategy**

Adomi and Kpangban (2010) also observed that the Nigerian Federal Government’s 1988 policy introduced computer education to the high schools. The only way this policy was implemented was the distribution of computers to federal government high schools, which were never used for computer education of the students. No effort was made to distribute computer to state government or private schools. Although the government planned to integrate ICTs into the school system and provide schools with infrastructure, concerted efforts have not been made to provide facilities and trained personnel. Thus, most schools do not yet offer ICT training programmes (Goshit, 2006). The NEPAD e-Schools Project is expected to take care of an estimated 600,000 African schools. This means that not all schools will benefit from this initiative. Most countries participating in the NEPAD e-Schools Project have an ICT development policy or are creating one, but very few have clear implementation plans (Aginam, 2006). Evoh (2007) observes that despite the recognized role of ICTs in improving education, ICTs remain a low financial priority in most educational systems in Africa. He further observes that most countries in the region lack resources for a sustainable integration of ICTs in education, and that African countries face numerous competing development priorities. These range from budgetary constraints, management challenges, and shortage of teachers and other educational resources, to the dreadful impacts of HIV/AIDS on education. These are issues that vie for the attention of local policy makers. While all countries in the region acknowledge the strategic role of ICTs in development, only a few have established a comprehensive policy. When such policies exist, they tend to remain unclear and make little reference to implementation (James, 2001, cited by Evoh, 2007).

**Inadequate ICT manpower in the schools**

The main problem facing Nigeria and its ICT programmed is lack of workforce training (Goshit, 2006). Teaching as a profession in Nigeria is considered to be for poor people, therefore the few professional that are available prefer to work in companies and industries where they can earn better salaries. With this deplorable condition, teachers are not motivated to go the extra mile in assisting the students to acquire computer education (Oduroye, n.d).

**High Cost of ICT Facilities**

Cost has been reported as one of the factors which influence provision and use of ICT services (Adomi, 2010). The cost of computers is too high for many to afford. Monthly Internet rates are exorbitant and the charges for satellite television are unaffordable for most people in Africa (Brakel and Chiseuga, 2003). This has made it difficult for Nigerian secondary schools to acquire and install ICT facilities for the use of teachers and students.

**Lack of/poor perception of ICTs among teachers and administrators**

There is widespread ignorance and misconception about ICTs amongst Nigerians (Ighoroje and Ajayi, n.d). One of the major inhibitors to Nigeria fully embracing ICTs is the average Nigerian’s general lack of exposure to them. For most Nigerians, information technology is still something unfamiliar, distant, and mysterious. Rather than being seen as a tool for personal and national development, information technology is seen as a hurdle (NITDA, 2003). Some Nigerians are not aware of the existence and importance of the Internet (Adomi et al., 2003). It has been reported that 75 percent of the teachers in the NEPAD’s e-Schools Project have no or very limited experience and expertise regarding ICTs in education (Adomi and Kpangban, 2010).

**CONCLUSION**

The adoption and use of ICTs in schools have a positive impact on teaching, learning, and research. Despite the roles ICTs can play in education, secondary schools in Nigeria have yet to extensively adopt them for teaching and learning. Efforts geared towards integration of ICTs into the secondary school system, have not had much impact. Problems such as poor policy and project implementation strategies and limited or poor information infrastructure mitigate against these efforts. In order to ensure that ICTs are widely adopted and used in Nigeria’s secondary school system, the following recommendations are made;

**RECOMMENDATION**

1. Government should ensure that ICT policy statements
are translated into reality. An ICT policy implementation commission should be created. This commission should be funded and given the power to provide ICT facilities in the schools and monitor their use.

2. All secondary schools should be made beneficiaries of ICT projects.

3. Computer/ICT education should be made compulsory for all secondary school students. At present, the National Policy on Education, 4th ed., has made computer education an elective course in high schools. This means only those who elect to take it will have computer education in high school.

4. Efforts should be made by Ministry of Education (at Federal and State levels) to post teachers skilled in ICTs to each secondary school to impart ICT skills to the students.

5. The Federal Ministry of Mines and Power should work towards stabilizing electricity supply in Nigeria.

6. The National Assembly should pass a bill on stabilizing the price of computers in the market to make it easier for people to acquire at a reduced price.

7. Conferences, workshops and symposium should be organized for teachers and administrators to enlighten them on the need for computer education.

REFERENCES


