



## **Relevance of the Use of Computer in the Management of Secondary Schools in Enugu State, Nigeria**

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**Abstract:** *This study investigated the relevance of the use of computer in the management of secondary schools in Enugu State, Nigeria. The study was necessitated by the need to see how effective the use of computer in teaching and in the management of schools increases teacher's performance and student's active participation in learning. The survey research design was adopted. Stratified random sampling technique was used to select a total of 1800 respondents participated in the study; comprised of 550 principals, 450 vice principals, 400 head of departments, 400 prefects, and core subjects' teachers in the senior secondary schools in Enugu State. Two research hypotheses were generated for the study. The data collected were analyzed using Pearson Product Moment Correlation statistics and t-test statistics. All the operational hypotheses were tested at .05 significance level. All analysis of data was subjected to a SPSS computer analysis. The findings revealed that the use of computers during teaching processes invariably aid teachers' job effectiveness, such as job performance, record keeping, school discipline, and supports students' academic performance. It also revealed that computer literate teachers perform better in the schools than non-computer literate teachers in the schools by making use of computers during their teaching, the use of computers arouse students' interest in the teachings which supports effective student academic performance. Those schools with non-computer literate teachers were never exposed to computers' usage which detracted from effective teaching and learning in the schools. It was recommended that principals and teachers should be adequately trained in the use computer for job effectiveness and efficiency. Also all teachers should be encouraged by the government through provision of in-service computer training in Enugu State.*

**Keywords:** *Teacher Computer Literacy, Teacher Effectiveness, Computer Literacy*

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### **1. Introduction**

Of recent, electronic information systems have shown that they offer great opportunities for teachers and students in various disciplines. The use of electronic information systems enables teachers to access the necessary information on learning instruction materials through the internet. Electronic information systems can be defined as the combination of hardware and software used to store the needed information from external and internal sources for more accessible data bases towards the accomplishment of organizational goals. Through the use of electronic information systems (EIS) necessary information is transmitted widely within the

shortest possible time. Thus enabling researchers, scholars, and professionals to meet, interact and exchange ideas in the field of education.

Lawal (2012) noted that, the assumption of the public that students that study computer education, computer science, and computer technology in Nigeria Tertiary Institutions are usually adjusted or well acquainted to the use of electronic information system is not true. This is because there are various electronic information system resources that come on the market as new systems in acquiring knowledge and information with ease. EIS in education is generally used to introduce students and teachers to the use and working principles of computer systems that enhance teachers' job effectiveness in their records keeping and teaching learning processes in the schools. EIS in education aids the following: introduction of simulations and games pedagogical strategies, computer based instructions, administrative effectiveness, school discipline, research publications facilities, and effective teaching-learning processes. Also, of recent, teachers log into internet websites to access necessary information for research and assignments. Computers can be described as scientific machines that are used to perform tasks or calculating according to set instructions or programs.

Etejere and Ogundele (2008) observed that electronic information system enables the teachers, researchers, school administrators, and students to acquire, process, store and disseminate vocal, pictorial, textual and numerical information by electronic based systems. However, adequate use of electronic information systems in the schools demands effective computer literacy skills and acquisition.

Computers also work through the interaction of hardware and software. The hardware is part of computer that one can see and touch. The part of computer that helps to translate instructions and performs calculations is called the central processing unit. While software refers to the instructions and programs that tell the computer hardware what to do through the operating system. Examples of hardware are monitor, keyboard, mouse, and printer etc.

Computers in education are used in the classroom teaching learning processes through computer aided instruction (cai), computer assisted learning (cal), and e-learning. The uses of computers by the teachers however assist in the curriculum contact delivery. Computers in the school system assist in the academic environment to store, display, transmit, and analyze data by the educational researchers.

A couple of examples of these uses are helpful. For instance, Kpolovie (2006) observed that the use of statistical package for social sciences (SPSS) software for advanced statistics aids academicians, teachers, administrators, and researchers by overcoming the rigor of manual analysis of primary data. He explained further that the use of computers enables researchers to share and chat among each other through use of internet. Also, Opue (2003) described the internet as an electronic library (e-library) where vast amounts of information are provided through different sources and displayed. The use of the internet through the computer enables researcher and teachers to access the relevant information needed for research and teaching they conduct. Both these authors strongly stated that meaningful and quality research work proceeds with great difficulty without computer usage.

Computer literacy is therefore, inevitable for both the teachers and principals, if schools are to be effective and if their academic goals are to be achieved. The Nigeria *National Policy on Education* (2004) cited the importance of computer literacy in teacher education programs, exposure to changes in the methodologies, curriculum reform, and that innovation in the professions is very important. In addition, it is noted that computer literacy skills enable

management to implement effective record keeping strategies, and computer assisted instruction and communication. The rationale for this study therefore is to investigate the influence of computer literacy skills as it impacts managements' effectiveness in schools, especially in Enugu State, Nigeria.

### **Statement of Problem**

Even though computer science and technology is a relatively new phenomenon in Nigeria, the use of computers is reflected in many areas of human activities, such as medicine, domestic activities, engineering, architecture, and education. It is imperative to note that the use of computers is reflected in the school programs. However computer science and technology in the educational sector calls for all the stakeholders in education to be computer literate, if the schools are to cope with the challenges in the society. For the schools to be effective, computer literacy should be demonstrated through computer availability, computer utilization, and content competencies in the schools, as well as through teachers' effectiveness in the areas of record keeping, supporting student academic performance, teachers job performance, school discipline, and community services. This journal attempts to assess school managements' computer literacy and its relationship to these areas in Enugu State.

### **The purpose of study**

The study aimed at examining the influence of computer literacy on management's effectiveness in Enugu State. Specifically the study in Enugu State focused on:

- Investigating the level of computer literacy skills among secondary school teachers and examining the influence of computer literacy on managements' effectiveness.
- Identifying the relationship between Computer Aided Instruction (CAI) and teachers' effectiveness of secondary schools in Enugu State, Nigeria

### **Research Question**

1. To what extend are the relationship between the job performances of computer literate and non- computer literate teachers in the management of secondary schools in Enugu State.
2. What are the significant relationship between Computer Aided Instruction (CAI) and teachers' effectiveness of secondary schools in Enugu State, Nigeria

### **Research Hypotheses**

The following null hypotheses were formulated to guide the study:

- Ho1: There is no significant differences in the job performance of computer literate and non-computer literate teachers in the management of secondary schools in Enugu State.
- Ho 2: There is no significant relationship between Computer Aided Instruction (CAI) and teachers' effectiveness of secondary schools in Enugu State, Nigeria

## 2. Methodology

The study used a descriptive survey of correlation types. It made an attempt to investigate the relationship that exists between computer literacy and secondary schools effectiveness in Enugu state. The study also made a comparative study of the school effectiveness variables between computer literate and non-computer literate teachers. A stratified random sampling technique was used to select 20 secondary schools from each of the three senatorial districts in Enugu state. A total number of 60 sampled schools participated in the study. A total of 1800 respondents participated in the study; comprised of principals, vice principals, head of departments, prefects, and core subjects teachers in the senior secondary schools in Enugu State. Core subject teachers included those in English Language, mathematics, biology, economic, and Igbo.

A Computer Literacy Questionnaire (CLQ), a School Effectiveness Questionnaire (SEQ), and a Student’s Academic Performance Checklist (SAPC) were the instruments used to collect relevant data for the study. Content validity of the instruments was assured by the experts with a split-half reliability method used to determine the reliability of each instrument that gave reliability index of .63 and .69 for the CLQ and SEQ respectively. The data collected were analyzed using Pearson Product Moment Correlation statistics and t-test statistics. All the operational hypotheses were tested at .05 significance level. All analysis of data was subjected to a SPSS computer analysis.

## 3. Results

Table 1: Job Effectiveness of Computer Literate and Non-Computer Literate Teachers in Secondary Schools of Enugu State, Nigeria.

Variable	no	x	sd	df	calculated r-value	critical r-value	decision
computer literate	1800	72.53	46.8	1799	.56	.349	Ho5 rejected
non computer literate	1800	66.51	40.3				

Source: Field Survey 2014

## 4. Discussion

Table 1 above shows significant differences in the level of job effectiveness of computer literate teachers and non-computer literate teachers. The above indicates that the calculated – t-value of .56 is greater than the critical t-value of .349 at the degree of freedom of 1798 and tested at .05 significance level. Hence, the null hypotheses which stated that there is no significant difference between job effectiveness of computer literacy and non-computer literacy teachers in secondary schools of Enugu State is rejected. The findings of this study indicate that a high significant difference exists between job performance of teachers that are computer literate and those that are non-computer literate. The study is supported by Alabi (2011) and Lawal (2012) who indicate that computer literacy aids computer appreciation, computer assisted instruction, data processing, and record keeping strategies in the schools. The authors also agreed that computer knowledge brings effective gathering, processing, storing and retrieval of necessary data in the

schools. The use of computers relieves computer literate teachers of the stress of manual operations of data collection in the schools. The authors agreed that most of teachers that are not computer literate are found keeping large files, resorting to manual calculations and arrangement of data (e.g. students' academic scores, curriculum sets, school population), and maintain traditional communication methods (e.g. chalk board, talk or lecture methods). Most of the non-computer literate teachers could not complement the use of computer aided instruction, such as PowerPoint presentations, interconnectivity, drills games and simulations, and other computer aided teaching and learning processes. In view of the findings that computer aided teachers' job effectiveness makes work easier and educational goal achievement more attainable; Etejere and Ogundele (2008) also agreed that effective utilization of computers in the schools bring about school discipline, effective teacher job performance, curriculum delivery, and research and publication. Therefore teachers' jobs and principals' administration become easier.

Ho2:

There is no significant relationship between Computer Aided Instruction (CAI) and teachers' effectiveness of secondary schools in Enugu State, Nigeria

Table 2: Computer Aided Instruction and Teachers' Job Performance of Secondary Schools in Enugu, Nigeria.

Variable	no	x	sd	df	calculated value	r- critical value	r- decision
computer-aided instruction	1800	62.44	58.32	1799	.68	.196	Ho3 rejected
teacher's job performance	1800	55.32	38.61				

Source: Field Survey 2014

Table 2 above shows the relationship between computer aided instruction and teachers' job performance in secondary schools in Enugu State, Nigeria. The result of the analysis indicates that the calculated r-value of .68 is greater than the critical r-value of .196 at the degree of freedom of 1799 and tested at .05 significance level. Hence the null hypothesis which stated that there is no significant relationship between computer aided instruction and teacher job performance is rejected. It indicates that computer aided instruction makes use of the computer as a medium of instruction for tutorial, drills and practices, simulation or games which aid effective teaching – learning processes. The result is in line with the findings of Alabi (2011) who pointed out that computer assisted instruction helps to open up a greater number of training topics that are required for job advancement. Computer assisted instruction also provides technological skills for effective teaching – learning processes. Based on these findings, therefore effective teacher job performance is enhanced by providing necessary computer assisted instructional programs in the secondary schools.

## 5. Conclusion

Based on the analysis of the data collected it may be concluded that there is a high positive significant relationship between computer literacy skills and teachers' job effectiveness in secondary schools of Enugu State. The computer literacy skills, such as word processing, data processing, Excel, PowerPoint, and interconnectivity operations, have significant impact on teacher job effectiveness, including areas such as, record keeping strategies, student academic performance, teachers' job performance, school discipline, and community services in secondary schools of Enugu State. It is also concluded that there is a significant difference in the job effectiveness of the teachers that are computer literate and those that are not computer literate in secondary schools in Enugu State, Nigeria.

## 6. Recommendations

Based on the findings of this study, the following recommendations are presented.

*Recommended installation of computer facilities in the science laboratories of secondary schools.*

The Nigerian government should install computer systems in the schools for both the teachers, management and the students use in the interest of enhancing teachers' effective in the classroom.

*Compulsory computer education for the secondary school teachers in Enugu State.* Enugu State Government should mandate that secondary school teachers to attend computer training. In service training opportunities should be given to the teachers in order to encourage teacher's effectiveness; and to enhance teacher job performance in secondary schools in Enugu State.

*Supply different types of computer systems to secondary school teachers.* The secondary school teachers should be provided individual computers, like desktop, laptop, palmtop and supplied with interconnectivity, so that they are used during teaching and learning processes in the schools to enhance teacher job performance and student academic performance. The principals should be provided different types of computer accessories for the schools for teacher and student use. These accessories, such as modems, pagers, fax, cd-rom, electronic media, and other accessories should be accessible to the teachers and the student to enhance teacher job effectiveness and student academic performance in the secondary schools.

*Computer literacy skills should be encouraged through compensation.* Extrinsic motivation such as promotion, reward, award, praises, etc. to encourage non-computer literate teachers to become computer literate should be implemented to aid teacher development and job effectiveness in the schools.

Finally, *education resource centers should be established in every local government.* These should be equipped with internet devices, e-library, and statistical package for social

sciences (SPSS) where stakeholders in education can interact and acquire and improve computer knowledge on a regular basis.

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