

## ASSESSMENT OF THE IMPACT OF SCHOOLNET PROGRAMME ON COMPUTER SKILLS OF SECONDARY SCHOOL STUDENTS IN NIGER STATE

By

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### **Abstract**

*This study assessed the implementation of the SchoolNet programme in Niger State, Nigeria. The study sample consists of 99 students who were purposefully drawn from all the ten schools under SchoolNet programme in Niger State. Five research questions guided the study. A survey design was adopted for the study. A 25-item structured questionnaire was used to collect data from 99 respondents in all the nine secondary schools purposely sampled for the study. The data collected was analysed using mean to answer the research questions. The results of the analysis for the five major sub-sections of the questionnaire revealed that most of the students have adequate skills and knowledge on the use of computer as a result of SchoolNet programme offered in their various schools. Based on these findings two recommendations were made towards integration of computer in Nigerian schools. Also, emphasis on computer skills acquisition should be intensified in all levels of education in Nigeria; Federal, State, and Local government should support the SchoolNet programme financially so as to expand the program to more schools in Nigeria.*

### **Introduction**

Computer Education was introduced to bring Nigerian Children into contact with the computer so that they could use it, appreciate its potential, understand how it works, and learn to apply the knowledge and skills to solve emerging problems (Yusuf, 2005). The computer systems were introduced into the federal unity schools throughout the federation in 1989. The revised National Policy on Education (FRN, 2004) gave prominence to computer education. For instance, in the 2004 edition, computer education was made pre-vocational and vocational elective at the junior and senior secondary school levels, respectively. Section 5 (30) F of the FRN stated that "Government shall provide necessary infrastructure and training for the integration of ICT in the school system in recognition of the role of ICT in advancing knowledge and skills in the modern world" (p. 24p).

It should be noted, however, based on personal observation of the researcher and empirical findings (Ayoola, 1994, Jegede & Owolabi, 2003) that the introduction of computer education into schools has consisted occasionally of buying a few computers and some software. These are added to existing educational technology facilities in schools with little in the traditional operation of the school being affected by the presence of computers. Therefore, they have just been added expenses on the meagre resources of the schools. It can thus be deduced that the full potential of computers is yet to be exploited within the Nigerian school system (Yusuf, 2005).

Presently, many schools have no computers and those with computers got it through schoolNet programme. SchoolNet Nigeria is a nonprofit organization of stakeholders in education committed to the effective use of information and communication technologies (ICTs) for enhancing teaching, learning and management processes in Nigerian schools. The evolution of schoolNet continent wide is a strategy based on partnerships. These strategic partnerships are to enable schoolNet draw on a wide range of resources from the public and private sectors and donor community, while ensuring the organization works within government policy and implementation frameworks. SchoolNet Nigeria together with its pool of international SchoolNet partners has broad experience which arises from its implementation focus, and its proven ability to plan, negotiate, roll out and evaluate demanding projects. ([www.schoolnet.org](http://www.schoolnet.org)).

Currently there are few schools that have ICT facilities in Nigeria. This project is an attempt to ensure that Nigerian youth and teachers have access to ICT facilities, for the express purpose of benefiting teaching and learning. To address the needs of accessibility and affordability for ICT solutions, SchoolNets Nigeria supported by DireqLearn Nigeria, is offering a low cost yet educationally rich and technologically advanced terminal server solution. Additionally, to address sustainability each lab is powered with Internet café software and training and every five school share a technical support person.

The development objectives of the project are to maximize the usefulness of the process, products and knowledge developed to broader school community. The project will ensure that the technology is used to enhance the teaching and learning processes as opposed to mere computer education or literacy. Project activities such as selection processes, teacher development programmes and sustainability models were regarded as additional outcomes in their own rights. An important objective was to create a replicable model that will allow the schools gain access to these technologies and related educational impact. The model must also be sustainable, ensuring an effective solution long after the withdrawal of the initial funder ([www.schoolnet.org](http://www.schoolnet.org)).

The schoolNet target audiences are: Teachers and secondary school students, extending to the broader community. DigiNet is about improving teaching and learning in Nigerian classroom by offering educational content and teacher training in ICT environment. SchoolNet Nigeria is the project owner and its funding comes from the Nigerian Education Tax Fund (ETF). Within the DigiNet project, DireqLearn Nigeria Limited is the main implementer of the educational solutions supplying educational content, providing capacity building within teacher training and installing the computer networks (Rice, 2003).

The pilot phase embraces 35 public schools, in 7 different clusters, around Nigeria. Each lab is comprised of 21 workstations running on open source software and connected to the internet via VSAT. To assure sustainability DireqLearn has a support person in each cluster and after school hours these labs are run as Internet cafés/community resource centers by the schools to create revenues to the school to be able to pay for maintenance, connectivity, salaries, reinvestment (Association for Progressive Communications, 2009).

SchoolNet Nigeria (SNA) participated in the launch of SchoolNet Nigeria in September 2001. Since then SNA has supported the SNA Nigeria in developing ThinQuest program. SNA is

supporting the campaign for an e-rate in Nigeria and an awareness campaign on ICTs in education. SchoolNet programmes since its commencement faced a lot of challenges from physically challenged by infrastructure limitation and inadequately, lack of necessary tools for them to carry out their vocation in an effective and efficient way. There was no provision for teachers to acquire ICT skills through the Microsoft Unlimited Potential (MUP) programme. Thus, in giving practical effect to this aspect of the programme, the MUP has been working with the SchoolNet Nigeria, through which it has created avenues for teachers to access and use ICT skills for both their personal transformation and enhancing the quality of their teaching. ([www.schoolnet.org](http://www.schoolnet.org)).

SchoolNet ICT intervention in the secondary school sector is not just limited to training teachers. The organization has with support from the Education Tax Fund (ETF) set up what is called Digicentres in 30 secondary schools across the country, five in each of the geo-political zones of the country. Each centre is a fully equipped computer laboratory with over 20 computers; printers and other associated equipment as well as a VSAT based internet access. Each centre is also power-backed with solar panels so as to ensure continuous power to the computers. The Digicentre experience is only a drop in the ocean considering the number of public schools in the country.

Computer skills acquisition is positively correlated with a willingness to choose and participate in computer activities, an expectation of success, the ability to persevere when faced with computer – related difficulties, and one’s computer-related performance (Sam, Othman & Nordin, 2005). Adequate skills in the use of increases performance and technological innovation of students, reduces computer – induced anxiety, and promotes higher occupational positions (Schwarzer & Hallum, 2008).

In an era in which education is Information Technology driven, there is need to ensure that all teachers and students in our school system have adequate access to computers and other ICTs. It is already gratifying that finally, the National Council on Education has approved the computer curricular for basic education schools. It has also incorporated computer training in the school curriculum through the new basic education curriculum. Therefore, this study assessed the level of implementation of SchoolNet programme among secondary school students in Niger State.

### **Research Questions**

This study sought to find answers to the following research questions:

- (i) Do the secondary school students possess adequate skills in word processing skills?
- (ii) Do the secondary school students possess adequate skills in PowerPoint?
- (iii) Do the secondary school students possess adequate skills in Internet surfing?
- (iv) Do the secondary school students possess adequate skills in security and maintenance?
- (v) Do the secondary school students possess adequate skills in entertainment?

### **Methodology**

The research design adopted for this study is a descriptive survey. This was considered appropriate by the researcher to give systematic description of secondary school students perceived computer skills acquisition in the implementation of computer education in Nigerian SchoolNet programme.

The instrument used for this study is the Competency in Computer Use Survey designed by the researcher. The instrument consisted of Section A & B. Section A dealt with demography information. Section B consisted of five subsections. The response modes rated on a scale of 1 - 5 to indicate degree of proficiency in the use of computer.

The questionnaire was a two-part survey: section 1 was concerned with demographic data. Section 2 contained sub-section A- E that consisted of 25 items divided into: word processing skills; spreadsheet; PowerPoint presentation; System maintenance; Computer security. The reliability of the instrument was determined by internal consistency, that is, alpha co-efficient. The results of the co-efficient of reliability were 0.80, 0.77, 0.76; 0.82; and 0.88 for word processing; spreadsheet; PowerPoint presentation; security and maintenance; entertainment skills respectively.

The study covered the nine secondary schools in Niger State. Thus the total of 99 students was used. These schools were selected as representative samples of the schools and for a number of reasons. First, unlike other public schools, all schools have computer education in their curriculum and they also have computer laboratories and computer systems. Secondly, the schools are roughly equivalent in human and material resources. Finally, a single authority, the Niger State Ministry of Education, controls them. From these schools a stratified random sampling technique was adopted to select research subjects. This was done to ensure adequate representation of male and female students. Through this process a total of 99 students across subject disciplines were selected. The administration of the questionnaire was done by 10 research assistance, one each for a school. Although, a total of 110 questionnaire copies were distributed, only 99 copies of the questionnaire were dully returned. Descriptive statistics was used to identify the level of computer competency among the students.

## Results

The following tables show the analysis of the demographic data which includes system of education and gender. To determine the acceptance, the resulting mean scores was interpreted relative to the number 1-4 as used on the rating scale adopted for the study. It means that items with mean value of 2.50 and above were considered as accepted while items with mean value of 2.49 and below were considered as rejected.

### Research Question One

Do the secondary school students in Minna possess adequate skills in word processing?

**Table 1: Students Responses on the Word processing skills possessed**

S/No	I can perform the following Word Processing operations:	Mean	Remark
1	Copy, Cut, and Paste a block of text or selected objects	2.98	Agree
2	Use undo/Redo function	2.65	Agree
3	Save and print documents	3.14	Agree
4	Use spell checker to correct spelling error	3.12	Agree
5	Insert table	2.87	Agree
<b>Grand Mean</b>		<b>2.55</b>	<b>Agree</b>

Result from Table 1, items 1, 2, 3, 4 and 5 that had mean ratings of 2.98, 2.65, 3.14, 3.12, and 2.87 respectively showed that respondents agreed with the items' statement. The grand mean for the five items was 2.55. This exceeded the acceptance mean of 2.50. By this analysis majority of students were proficient in the use of computer for word processing operation.

### Research Question Two

Do the secondary school students possess adequate skills in PowerPoint?

**Table 2: Students' Responses on the PowerPoint skills possessed**

S/No	I can perform the following PowerPoint operation:	Mean	Remark
6	Create presentation using wizards, design templates or blank layout	2.77	Agree
7	Modify standard layouts and design	2.49	Disagree
8	Inserts and delete slides	2.58	Agree
9	Add animations and transitions to slides	2.71	Agree
10	Include tables and charts in your presentation	2.74	Agree
<b>Grand Mean</b>		<b>2.65</b>	

Result from Table 2, apart from item 2 that had mean rating of 2.49 which showed that respondents disagree with the items statement. The rest of the items in the table had mean scores rating from 2.58 to 2.77 showed that respondents agreed with the items statements. The grand mean for the five items was 2.65. This exceeded the acceptance mean of 2.50. This analysis implies that students were proficient in the use of computer for PowerPoint operation.

### Research Question Three

Do the secondary school students possess adequate skills in Internet surfing?

**Table 3: Students' Responses on the Internet browsing skill possessed**

S/No	I can perform the following Internet operation:	Mean	Remark
11	Use the browser e.g. Internet Explorer basic command to surf the Internet	2.91	Agree
12	Send and received mails via Yahoo, Hotmail, e.t.c	2.96	Agree
13	Download materials to removable discs (Floppy, Flash disc, CD)	2.93	Agree
14	Send document paper through e-mail attachment file	2.43	Disagree
15	Use internet to chart	3.00	Agree
<b>Grand Mean</b>		<b>2.64</b>	

Result from Table 3, apart from item 4 and 5 that had mean ratings of 2.43 and 2.00 respectively which showed that respondents disagree with the item statements. The rest of the items in the table had mean scores rating from 2.91 – 2.93 showed that respondents agreed with the items statements. The grand mean for the five items was 2.64. This exceeded the acceptance mean of 2.50. This implies that students were proficient in the use of computer for Internet browsing operation.

### Research Question Four

Do the secondary school students possess adequate skills in security and maintenance?

**Table 4: Students' Responses on the security and maintenance skills possessed**

S/No	I Can perform the following maintenance and security operation:	Mean	Remark
16	Add, remove and update programs via the add/remove	2.54	Agree
17	Install new hardware such as a modern, network card, or speakers to computer	2.37	Disagree
18	Find out how much storage space a computer has	2.57	Agree
19	Clean computer components and printer	2.45	Disagree
20	Use system tools to repair minor errors	2.48	Agree
<b>Grand Mean</b>		<b>2.48</b>	

Result from Table 4, apart from items 16 and 18 that had mean ratings of 2.54 and 2.45 respectively, which showed that respondents agree with the item statements. The rest of the items had mean scores rating from 2.37 – 2.48 showed that respondents disagree with the item statement. The grand mean for the five items was 2.48. This does not exceed the acceptance mean of 2.50. This analysis implies that students were not proficient in the use of computer for security and maintenance operation.

#### Research Question Five

Do the secondary school students possess adequate skills in entertainment?

**Table 5: Students' Responses on the entertainment skills possessed**

S/No	I can perform the following entertainment operation:	Mean	Remark
21	Play DVD/VCD/CD	2.57	Agree
22	Play games	2.73	Agree
23	Compressed music to MP3	2.03	Disagree
24	Open picture file	2.96	Agree
25	Play movie file	2.50	Agree
<b>Grand Mean</b>		<b>2.55</b>	

Result from Table 5, apart from item 23 that had mean ratings of 2.03 which showed that respondents disagree with the items statements. The rest of the items in the table had mean scores rating from 2.50 – 2.96 showed that respondents agree with the items statements. The grand mean for the five items was 2.55. This exceeded the acceptance mean of 2.50, therefore, this implies that students were proficient in the use of computer for entertainment operation.

#### Discussion of Results

The findings of these results agree with Schwarzer and Hallum (2008) who asserted that computer skills acquisition is positively correlated with a willingness to choose and participate in computer activities, an expectation of success, the ability to persevere when faced with computer – related difficulties, and one's computer-related performance. It also agree with Sam, Othman and Nordin (2005) who opined that adequate skills in the use of computer increases performance and technological innovation of students, reduces computer – induced anxiety, and promotes higher occupational positions.

### Conclusions

This study is an assessment of secondary school students level of proficiency in the implementation of computer education in Nigeria through schoolNet programme. The Nigerian government has taken laudable steps by introducing computer education into the curriculum of secondary schools. The schoolNet programmes has provided some computers to some selected secondary school in Nigeria. However, this study has demonstrated clearly that most of the students in Niger State secondary schools have basic skills in performing computer operations through the assistance of schoolNet programme. Nigerian students are yearning for computer skills, attention must be focused on the provision of more computers, software and maintenance by government and other stakeholders to compliment the schoolNet. Students should be trained on the area of computer awareness, word processing, spreadsheets, internet browsing, security and maintenance, programming and so on. It is only through these concrete steps that Nigerian students can be equipped with needed technological skills to be able to cope with present and future world of information technology. If necessary steps are not taken to train secondary school students, Nigerian will continue to produce analogue students who will not be able to compete with their counterparts across the globe.

### Recommendations

The following recommendations were proffered based on the findings of the study:

- (i) The secondary school teachers and schoolNet coordinators should impart more skills on the use of computer in the area of security and maintenance.
- (ii) The use of information and communication technology should be parts of national program as other subjects in secondary schools.
- (iii) Federal, State, and Local government should support the schoolNet programme financially so as to expand its scope to cover schools in Nigeria.

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