

## **The Impact of Computer Literacy on Students' Academic Performance in Senior Secondary Schools in Esan West Local Government Area, Edo State, Nigeria**

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### **Abstract**

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The study examined the impact of computer literacy on students' academic performance in EsanWest Local Government Area of Edo State, Nigeria. To guide the study, four (4) questions were raised and answered. This is to determine the impact of computer literacy in the academic performance of students in the senior secondary schools in Esan West Local Government Area of Edo State. Data were got with the use of an instrument titled: Questionnaire on Students' Computer Literacy Level and Computer Usage (QSCLLCU). One hundred and twenty (120) out of 1,200 final year students, representing 10% were used from the fourteen (14) existing secondary schools in Esan west local government area of Edo State, Nigeria. The findings revealed that: computer literate students perform better than non-computer literate; computer literate female students perform better than male students who are also computer literate; computer literate students who are not addicted to the use of computer facilities perform better than those who are addicted; computer literate students in co-educational secondary schools perform slightly better than those in single sex schools. Based on the findings, one of the recommendations was that, all the students in Esan West Local Government Area of Edo State should be taught how to use computer facilities to search for valid information related to their academic activities.

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**Keywords:** impact, computer, literacy, academic, performance

### **Introduction**

It is generally believed that education is the bed rock for every technological and economic development of any Nation.

As a result of that, the three (3) tiers of governments are trying to reform educational system through training of teachers by giving them scholarships, good conditions of service, enhanced salaries and pay them salaries as at when due. Despite this efforts made by the governments, there is still persistent increase in failure rate as always indicated in the annual reports by the national examination bodies such as WAEC, NECO, NATEB and JAMB. The failure rate has led to numerous researches that looked at the teachers' method of teaching, teachers' characteristics, teachers' attitude and students' attitudes towards education and its attendant effects on academic performance of students as a result of the failure rate, the teaching process seems to move from teacher centred to student-centred method of teaching, yet the story almost remain the same many studies have revealed that students have poor attitude towards education and as a result of that academic performance is affected negatively. Hence, for many years now in Nigeria, many people are in doubt of the quality of products of her education from primary, post primary and tertiary institutions. Education discourse on poor academic performance seems to be the issue of the day.

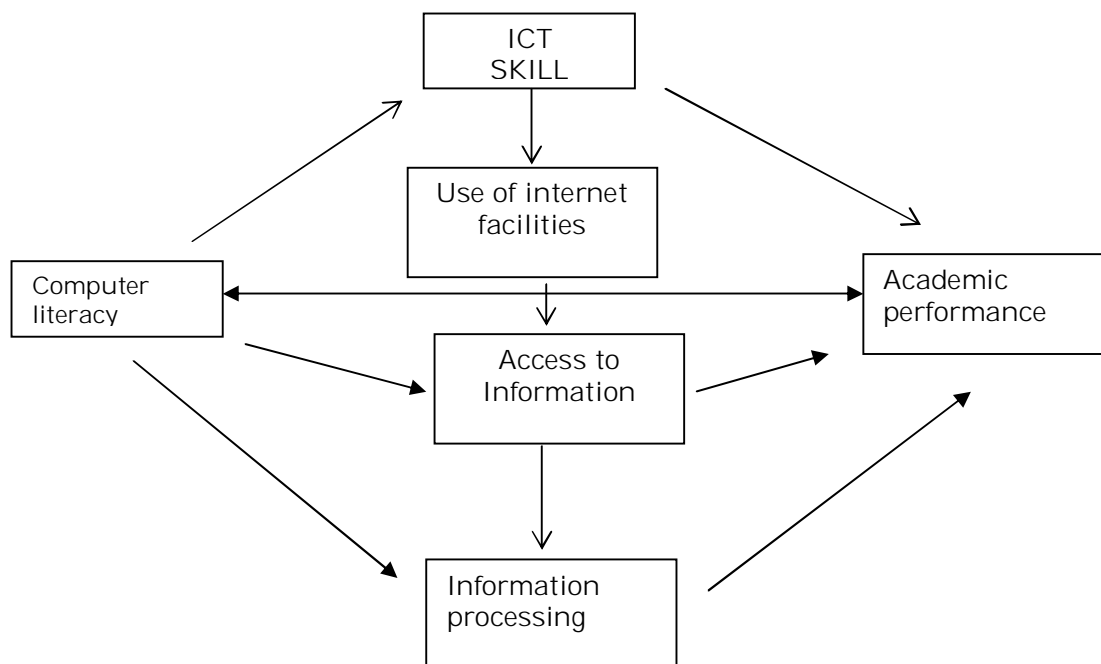
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Perhaps computer literacy may improve the knowledge and ability of students for higher academic performance. Computer literacy is the knowledge and ability to use computer and technology efficiently. Computer literacy can also be referred to the comfort level someone has by using computer programmes and other application that are related to computers. The occurrence of computer literacy continues to grow at an outstanding rate. A computer is an electronic device that has the ability to accept data, store data, process data by following a set of instructions (programme) to produce result. Computer always change; they become smaller, faster and more powerful. These changes have motivated the modern society to become comfortable with basic computer related skills. Computers are like common pen and paper for writing especially primary, and post primary school students. Many applications especially communicating computers are preferred over pen, paper type writers because of their ability to retain information and make editing easy. It is also a fact that computer is becoming common place and powerful. The concept of computer literacy is almost above basic functionality to more powerful application under literacy. Could the expanding trend of computer literacy be responsible for students' poor academic performance?

**Figure 1: The Diagram Below Illustrates the Process of Computer Literacy**



The above processing computer model or diagram, indicates that computer literacy is the bed rock of sound academic performance. The diagram also indicates that when one is computer literate. ICT skill is developed and when the skill is developed, the use of internet facilities becomes very easy due to constant practices. Consequently, one gets efficient and have access to information, which is later processed and when this processed information is relevant and usable, there may be an improved academic performance of students. This is also applicable to the senior secondary students in Esan West Local Government Area of Edo State, Nigeria.

Oviawe and Oshio (2011) and Mike(2003), in their findings of their studies revealed that ICT facilities serve as a major contributor to effective teaching and learning.

Mbaeze, Ukwandu and Anugu (2010), posited that there is influence of information and communication technology (ICT) on students' academic performance. Students ought to have been exposed to technology in the class room daily to have computer knowledge. It is the job of all educators to facilitate computer literacy for no society can grow to its fullest without computer literacy in the whole world today.

The objective of this study is to determine the impact of computer literacy on students' academic performance in senior secondary schools in Esan West Local Government Area of Edo State, Nigeria.

The impact include: mean difference in the academic performance of students who are computer literate and non – computer literate, mean difference in academic performance of boys and girls who are computer literate; mean difference in the academic performance of students who are addicted to internet facilities and those who are not, mean difference in the academic performance of computer literate students in co-educational and single sex secondary schools.

The following research questions were raised and answered to guide the study:

1. Is there any difference in the academic performance of students who are computer literate and non – computer literate?
2. Is there any difference in academic performance between male and female students who are computer literate?
3. Is there any difference in academic performance between students who are addicted and non-addicted to internet facilities?
4. Is there any difference in academic performance between students who are computer literate in co-educational and single sex secondary schools?

### Methodology

This is a descriptive survey research. The respondents were final year senior secondary school students from fourteen (14) existing public schools in Esan West Local Government Area of Edo State, Nigeria.

The sample of 120 students representing 10% was randomly selected from a population of 1,200 students.

Questionnaire was used to obtain data from the respondents. The questionnaire was well structured on strongly agree, agree, disagree and strongly disagree type. From the instrument used, the data obtained were analysed by using mean difference statistics.

**Table 1: Distribution of Final Year Senior Secondary School Students in Esan West Local Government area of Edo State (2012/2013)**

S/N	SCHOOLS	POPULATION	SAMPLE
1	Eguare sec. sch. Ekpoma	90	9
2	Emaudo sec. sch. Ekpoma	105	10
3	Uhiele gram. Sch. Ekpoma	100	10
4	Illeh sec. sch. Ekpoma	90	9
5	Ujemen sec. sch. Ekpoma	75	8
6	Iruekpen girls sec. sch. Ekpoma	70	7
7	Iruekpen gram. Sch. Ekpoma	80	8
8	Ogwa gram sch. Ogwa	100	10
9	Ujiogba sec. sch. Ujiogba	90	9
10	Ukhun sec. sch. Ukhun	80	8
11	Idoa sch. Sch. Ido	80	8
12	Ujoelen gram. Sch. Ujoelen Ekpoma	90	9
13	Akugbe sec. sch. Ekpoma	80	8
14	Urohi sec. sch. Urohi	70	7
	Total	1,200	120

As shown in table 1, 1,200 final year (SS III) students formed the subjects of the study.

### Findings and Discussion

**Question One:** Is there any difference in the academic performance between students who are computer literate and non-computer literate?

**Table 2: Mean Difference Responses on the Impact of Computer Literacy On Students' Academic Performance**

Variables	Responses	Total Score	Mean X	Mean Difference
Computer literate	81	1,8494	228.3	
Non-computer literate	39	8,616	220.9	7.4
<b>Total</b>	120	27,110	449.2	

Table 2 shows that 81 students of SS III who scored 18,494 with a mean of 228.3 in their second term examination, while those who were non-computer literate had a score of 8,616 with a mean of 220.4. The mean difference stood at 7.4.

Therefore, the findings revealed that there is a mean difference in the academic performance between computer literate and non-computer literate students. The computer literate students perform better than the non-computer literate students in the Local Government Area under study.

**Question Two:** Is there any difference in the academic performance between male and female students who are computer literate?

**Table 3: Mean Difference Responses on Academic Performance between Male and Female Students who are Computer Literate**

Variables	Responses	Total Score	Mean X	Mean Difference
Computer literate male	69	7,543	109.3	
Computer literate female	51	5,836	114.4	5.1
	120	13,379	223.7	

Table 3 revealed that male students had a score of 7,543 with a mean of 109.3, while female students scored 5,836 with a mean of 114.4.

The Mean difference was 5.1. Therefore, the finding revealed that there was a mean difference in the academic performance between males and females who are computer literate. This means that the female computer literate students perform better academically than the male computer literate ones.

**Question Three:** Is there any difference in academic performance between students who are addicted and non-addicted to computer internet facilities?

**Table 4: Mean Difference Responses between Addicted and Non-Addicted Computer Internet Facilities on Academic Performance of Students**

Variables	Responses	Total Score	Mean X	Mean Difference
Computer addicted students	39	4,332	111.1	4.3
Non-computer addicted students	81	9,346	115.4	
<b>Total</b>	120	13,678	226.5	

Table 4 revealed that 39 computer addicted students scored a total of 4,332 with a mean of 111.1 while 81 non-computer addicted scored a total of 9,346 with a mean of 115.4. The mean difference was 4.3. The finding therefore revealed that there was a mean difference in the academic performance between the students who are addicted to computer and those who are not addicted. It can be concluded here therefore, that the non-computer addicted students perform better than the computer addicted students academically in Esan West Local Government Area of Edo State, Nigeria.

**Question Four:** Is there any difference in the academic performance between students who are computer literate in co-educational and single sex secondary schools?.

**Table 5: Mean Difference Responses on Computer Literacy on Academic Performance of Students in Co-Educational and Single Sex Secondary Schools**

Variables	Number of Responses	Total Scores	Mean (X)	Mean Difference
Single sex school	72	8,164	113.38	
Co-educational School	48	5496	114.37	
	120	13,654	227.76	0.99

Table 5 showed that 72 single sex school students scored 8,164 with a mean of 113.38 while 48 co-educational school students scored 5,490 with a mean of 114.37. The mean difference was found to be 0.99. The result, therefore, revealed that there was an insignificant mean difference of 0.99. It therefore suggests that the students in the co-educational secondary schools who have computer literate students perform slightly better academically than those in single sex schools in Esan West Local Government Area of Edo State, Nigeria.

The study did not agree with the findings of Mbaeze, Ukwandu and Anugu (2010), who posited in their study that there is no relationship between computer literacy and students' academic performance. However, the study confirms the finding of oviawe and Oshio (2011), whose study found out that computer facilities area major contributor to effective teaching and learning that results to good academic performance of the students.

The score of students that were computer literate were 18,494 with a mean of 228.3 and 8,616 with mean of 220.9 respectively and the mean difference was 7.4; the scores of males and females that were computer literate were 7,543 with a mean of 109.3 and 5,836 with a mean of 114.4 respectively and the mean difference was 5.1, the scores of addicted and non-addicted students were 4,332 with a mean of 111.1 and 9,346 with a mean of 115.4 respectively and the mean difference was 4.3. The scores of computer literate students in single sex and co-educational secondary schools were, 8,164 with a mean of 113.38 and 5,490 with a mean of 114.37 respectively and with a mean difference of 0.99. From the foregoing findings, it was found that computer facilities are very important in secondary schools as it provides convenient and easy learning process, it also provides for the students facilities that enable them to practise and access the internet on a daily basis in search of information that can enhance their academic performance in secondary schools.

### Conclusion and Recommendations

Based on the findings of this study, it is true that students computer literacy enhances their academic performance in secondary schools generally, that computer literate students perform better academically than the non-computer literate, that female computer literate students perform better academically than the male counter-part, that the non-computer addicted students perform better academically than the addicted ones, and that the literate computer students in co-educational secondary schools perform slightly better than those in the single sex secondary schools in Esan West Local Government Area of Edo State, Nigeria.

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

Students should be taught how to use the computer facilities to search for valid information that are related to their academic work.

Secondary schools should organise seminars and workshops on the usage of computer facilities for an enhanced academic performance.

Governments at all levels should make computer sets with internet facilities available and accessible in secondary schools for students and teachers to use in the teaching and learning process to enhance students' academic performance.

Students should be discouraged from being addicted to internet usage so as to get time to face their studies squarely

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