

## **ACCESS TO INTERNET AND SOCIO ECONOMIC BACKGROUND AS CORRELATES OF SECONDARY SCHOOL STUDENTS' PERFORMANCE IN BIOLOGY**

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### **Abstract**

This study investigated access to internet and socioeconomic background as correlates of students' achievement in biology among selected Senior Secondary Schools in Oru East and Oru West Local Government Areas. The study adopted multi-stage sampling technique. Simple random sampling was used to select 30 students from each of the selected school in the two local governments. Stratified random sampling technique was used to select a sample of 300 students from various strata (school) chosen in the two local governments. Five research questions were answered. Descriptive Statistics, Pearson Moment Correlation and Multiple regressions were used to analyse the data gathered. The study observed that, 67.7% of the students have access to the internet (two-third of the sample). A positive but not significant relationship exists between access to internet and students' achievement in biology ( $r = 0.110$  and  $p>0.05$ ). There is a positive and significant relationship between socio-economic background and students' achievement in biology ( $r = 0.515$  and  $p<0.01$ ). Furthermore, relationship between socio-economic background and access to internet is not significant ( $r = 0.040$  and  $p>0.05$ ).

**Keywords:** Biology, Socioeconomic, Academic, Achievement, Internet, Access.

### **Introduction**

Socioeconomic background is measured with age, sex, occupation, residents and residential level as well as the social status in the community (Abdu-Raheem, 2015). Families that fall within high socio-economic status often have more access to a wide range of resources to promote and support young children's development. Ogunsola and Adewale (2012), asserted that the influence of students' background was

greater than anything that goes on within schools. Researchers also believe that the socio-economic background of the students has a great effect on their performances. Education of the parent has a great impact on the level of the performances of the students (Obasi, 1999). The existence of a relationship between socio-economic background and students' achievement was indicated in the works of Alkens and Barbin (2008) and Ebenuwa-Okoh (2010). Parents that are rich show more concern over their

children's academic achievement (Ebenuwa-okoh, 2010). However, there is little that parents of low socio economic status can do about their children academic achievement. Also, students from families with high socio economic status tend to achieve success in their educational career much more than those from families of low socio economic status (Olaniyi, 2004). But the students from poor home that are not stimulating or conducive tend to perform poorly in all academic areas.

Information Communication Technology (ICT) enhances the way we think, the way we live and the environment in which we live. In developing countries, ICT is available only on a very limited scale, and this raises doubts about developing countries' ability to participate in the current ICT-induced global knowledge economy. In the late 1990s, the Internet continued to grow and many were proclaiming the vast benefits computers and Internet access would have on schools and academic performance. In fact, some suggested that computers increased learning in specific academic areas such as mathematics and sciences- biology in particular Wenglinsky (2005). However, over the years, research findings have been less conclusive about the benefits of this technology on school performance (Roschelle *et al.*, 2005).

Socioeconomic background seems to have influence in students' access/exposure to ICT and internet which is supported by research. Socio-economic background has been proposed to relate to amount of current computer use indirectly, via its relationship with computer experience and computer anxiety, which was tested with questionnaire data from a sample of 267 university students (Nikos, 2004). The results supported the proposition, as they

indicated a causal path model that contained a positive indirect relationship of socio-economic background with the amount of current computer use, via computer experience and computer anxiety. Socio-economic background had a direct positive relationship with computer experience and an indirect negative relationship with computer anxiety. The result of the study carried out on the impact of internet browsing on students' academic performance at the tertiary level of education in Nigeria showed that most students are not using the internet for academic purposes, and there was a significant difference in the academic performance of students with internet access and those without (Osunade, 2003).

The alarming rate of students poor performance in biology as a school subject despite the fact that there are many materials on the internet to supplement for teachers' note book and other instructional materials which can facilitate learning, necessitate the causes of those challenges. Students' poor attitude to internet has been attributed to socio-economic background (Ogunkola, 2008). Researchers have shown that there are different views of parents' socio-economic background on students' achievement, also different factors and techniques in other countries and states. This study aimed at finding out the effect of parents' socio-economic background and students' access to internet on their achievement in biology at the Senior Secondary Schools in Oru East and Oru West Local Government Area, Imo state. The study sought to investigate if parent Socio-economic Background and Students' Access to the Internet can determine students' achievement in biology.

## **Research Method**

This is a correlation study which adopted a survey research design. The target population for this study comprises all secondary schools in Oru East and Oru West Local Government Areas, in Imo State, Nigeria. The study adopted a multi-stage sampling technique. The first stage was stratification of twenty seven local government areas (LGAS) in the state into three senatorial districts, while the second stage was the purposive selection of Imo West which consists of 12 local governments where two local governments (Oru East and Oru West) were chosen for the study. The third stage is purposive selection of senior secondary schools that are offering biology; five senior secondary schools were selected from each of the two local governments. The last stage was the random selection of thirty (30) students from each of the selected school. The sample consisted of three hundred students from ten schools. Three instruments were used for the study. The first is Biology Achievement Test (BAT) containing fifty (50) multiple choice items. The validity of BAT was ensure by drawing objectives and table of specification for the test based on the topics indicated in the school scheme of works and diaries in Biology. It was validated with fifty (50) students from a sample similar to the sample for the study. The difficulty and discriminating indices for these items were determined and they ranged between 0.4 and 0.6 for each item. The reliability of the test result was determined using KR-20 formula; reliability index of 0.85 was obtained. The second is an Internet Usage Pattern Questionnaire (IUPQ). This consist of two sections: Section A comprises of students demographic, section B consist of items that elicited information on internet surfing. This sought

to investigate students' knowledge about internet browsing, uses and effect on academic achievement of students. The third instrument is Socioeconomic Background Questionnaire (SEBQ). This also comprises of two sections; Section A comprises of students demographic, sections B consist of items that elicited information on students' socio-economic background. The two instruments validated with fifty (50) students from a sample similar to the sample for the study. The reliability of IUPQ is 0.805 while that of SEBQ is 0.795 respectively. Data obtained in this study were analyzed using descriptive statistics, Pearson Product Moment Correlation Coefficient and Multiple Regression.

## **Results and Analysis**

**Table 1: Percentage of Students' Access to Internet**

Items	N	Percentage
Students with Access	205	68.3
Students without Access	95	31.7
Total	300	100

Table 1 shows the descriptive statistics of students' access to the internet. From the table, 68.3% of the students representing two-third of the sample have access to the internet, while 31.7% of the students do not have access. The difference recorded in access to internet is confirmed to be significant with Chi-square analysis performed ( $X^2 = 37.46$ , df = 1,  $p < 0.05$ ). This implies that students' access to internet varies significantly.

**Table 2: Students' Means of Access to the Internet**

Items	N	Percentage
Students that browse on Mobile phone	101	33.7
Students that browse at Cyber café	53	17.7
Students that browse with Desktop/Laptop and Modem	51	17
Students that have no Access	95	31.6

Table 2 documents students' means of access to the internet. Students that browse on mobile phone have the highest proportion of 33.7% followed by students that have no access with 31.6%. The next category is students that browse at cyber café having 17.7%. Lastly, students that browse with desktop/laptop and modem representing 17%. The results of Chi-square analysis done ( $X^2 = 29.62$ , df = 3,  $p < 0.05$ ) shows that there is significant difference in means of access to internet among students. This indicates that Students' Means of accessing the Internet differs significantly.

**Table 3: Results of Correlation Analysis between the Use of Internet and Socioeconomic Background on Students' Achievement in Biology**

Items	Use of Internet	Parent socio-economic Background	Students' Achievement
Use of Internet	1	.040	.110
Parent socio-economic Background	.040	1	.515**

Students' Achievement	.110	.515**	1
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\*\* Correlation is significant at the 0.01 level

From the result documented in Table 3, there is low positive correlation between parent socioeconomic background and access to internet ( $r = .040$ ,  $p > 0.05$ ). This result indicates that as socioeconomic background increases, students' use of internet increases and vice versa. In other words students whose parents are in the high socioeconomic level have higher access to the internet while those in the low socioeconomic have low level of access to internet. The correlation is however low and insignificant. This implies that the positive relationship between students' socioeconomic background and access to internet is not statistically significant. This could be further explained that student access to internet browsing is not determined by socioeconomic background either from high or low socioeconomic status. Student from low socioeconomic background can surf the internet through their friends' phone, their friends pay for them at cybercafé and at times they could afford to pay at cybercafé for themselves and through free megabyte (MB) by communication service provider.

## Discussion

The finding of this study revealed the correlation between access to internet and socioeconomic background on students' achievement in Biology. It was revealed that there is no significant relationship between students' socioeconomic background and access to internet. This study disagrees with, Atanda and Jaiyeoba (2011) and Yusuf and Al-Banawi (2013), who stated that race and socioeconomic status (SES), are indicators of unequal access to and use of ICT. It has

been observed that students' poor attitude to internet use may be attributed to socioeconomic background which may be due to socioeconomic differences in students' background (Ogunkola, 2008). This could be further explained that students' access to internet browsing is not determined by socioeconomic background either from high or low socioeconomic status. Student from low socioeconomic background can surf the internet through their friends phone, their friends may pay for them at cybercafé and at times they could afford to pay at cybercafé for themselves.

The study also revealed that there is no significant relationship between students' achievement in biology and access to internet. This result agrees with Osunade (2003) who asserts that most students are not using the internet for academic purposes and there was no significant relationship between the use of internet and students' achievement in biology. In other words, students' frequency to internet facility cannot be used to define students' achievement in school subjects (Biology inclusive). Moreover, the study established that there is a significant relationship between Parent Socioeconomic Background and Students' Achievement in biology. This result agrees with Ebenuwa-Okoh (2010), who found out that parents that are rich show more concern over their children's academic achievement, because most of them teach their children school subjects at home or employ the service(s) of a lesson teacher for them. Also, Alkens and Barbin (2008), were of the opinion that students from families with high socio economic status tend to achieve success in their educational career much more than those from families of low socio economic status, because they have interest in their children's

education, and they have the financial ability to send their children to very good school with capable and qualified teachers they have the potentials to give orientation to their children concerning their educational career right from home, and they provide necessary materials needed by the children (such as, text books, magazines and newspapers etc.) that treated school subjects, biology in particular.

### **Conclusion**

Twenty-seven percent of the total variance in student achievement in agricultural science can be explained by the combined contribution of access to internet and socioeconomic background. It was observed that most of the students visit social media sites more often as they use the internet rather than for academic purposes. It is therefore recommended that students should be encouraged and monitored by teachers and parents to use internet for academic purpose while government and parents should make provision for internet facilities in all secondary schools and homes.

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