Socio-Economic Background and Access to Internet as Correlates of Students Achievement in Agricultural Science

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Article Info	ABSTRACT
	This study investigated access to internet and socio-economic background as correlates of students' achievement in Agricultural Science among selected Senior Secondary Schools Two Students in Ogbomoso South and North 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 Agricultural Science ($r = 0.110$ and $p>0.05$). There is a positive and significant relationship between socio-economic background and students' achievement in Agricultural Science ($r = 0.515$ and $p<0.01$). Furthermore, relationship between socio-economic background and access to internet is not significant ($r = 0.040$ and $p>0.05$). Access to internet and socio-economic background are jointly related to students' achievement in Agricultural Science. $F(3,296) = 37.082$, $p<0.05$, R value of .523ª, R ² of 2.73 and adjusted R square of .266.

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1. INTRODUCTION

Socio-economic background is measured with age, sex, occupation, residents and residential level as well as the social status in the community [1]. 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. Coleman (1966), cited in [2] 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 [3]. The existence of a relationship between socio-economic background and students' achievement was indicated in the works of [4] and [5].

Parents that are rich show more concern over their children's academic achievement [6]. 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 [7]. 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- Agricultural Science in particular [8]. However, over the years, research findings have been less conclusive about the benefits of this technology on school performance [9].

Socio-economic 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 [10]. 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 [11].

The alarming rate of students' poor performance in school in Agricultural Science as a school subject despite the fact that there are many materials on the Net to supplement teachers note book, and other instructional materials which can facilitate learn necessitate the causes of those challenges. Students' poor attitude to internet has been attributed to socio-economic background [12]. Researches 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. Hence, replication to Oyo state, and Students' achievement in Agricultural science is necessary. This study aimed at finding out the impact of parents' socio-economic background and students' access to internet on their achievement in Agricultural Science at the Senior Secondary School Two level in Ogbomoso South Local Government Area, Nigeria. Ogbomoso South and Ogbomoso North Local Government Areas are part of the five Local governments in Ogbomoso Metropolis in Oyo State, Nigeria. The study sought to investigate if parent Socio-economic Background and Students' Access to the Internet can determine students' achievement in Agricultural Science.

2. RESEARCH METHOD

This is a correlation study which adopted a survey research design. The target population for this study comprises all secondary schools in Ogbomoso South and Ogbomoso North Local Government Areas, in Oyo State, Nigeria. The study adopted a multi-stage sampling technique. The first stage was stratification of thirty three local government areas (LGAS) in the state into three senatorial districts, while the second stage was the purposive selection of Ogbomoso metropolis which consists of five local governments where two local governments (Ogbomoso South and Ogbomoso North) were chosen for the study. The third stage is purposive selection of senior secondary school two students' that are offering agricultural Science, 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 Agricultural Achievement Test (AAT) containing fifty (50) multiple choice items. The validity of AAT 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 Agricultural Science. 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 Browsing Pattern Questionnaire (IBPQ).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 Socio-economic 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 IBPQ 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.

3.   RESULTS AND ANALYSIS

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 1. Percentage of Students' Access to Internet

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

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 with 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 2. Students' Means of Access to the Internet

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

From the result documented in Table 3, there is low positive correlation between parent socio-economic background and access to internet (r = .040, $p>0.05$). This result indicates that as socio-economic background increases, students' use of internet increases and vice versa. In other words students whose parents are in the high socio-economic rung/level have higher access to the internet while those in the low Socio-economic have low level of access to internet. The correlation is however low and insignificant. This implies that the positive relationship between students' socio-economic background and access to internet is not statistically significant. This could be further explained that student access to internet browsing is not determined by socio-economic background either from high or low socio-economic status. Student from low Socio-economic background can surf the Net 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 MB by communication service provider.

Table 3. Results of Correlation Analysis between the use of internet and socioeconomic background on students' Achievement in Agricultural Science

	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

** Correlation is significant at the 0.01 level

Also, there is a low positive correlation between student achievements in Agricultural science and use of internet (r = .110, $p>.0.05$). This indicates that as students' achievement increases, use of internet increases while it decreases as student achievement decreases. This correlation is however low and insignificant. Use of internet does not contribute significantly to students' achievement despite the fact that a considerable proportion of students have access to the internet (see Table 1). Then, it could be deduced that students level of acquaintances or the rate at which they access internet facility does not in any way affect their academic achievement. This could be traced to the fact that information gathered by the students on the

internet may not directly relates to what they were taught and tested for in their various schools. In other words, students surfing the Net concentrated more on non educative activities (watching films, games pornography and socio-networking sites (Xanga, Facebook, Friendstar, MySpace, Twitter, hi5, Google plus 2go instant messaging, chat rooms and emails etc.) than surfing for information on school subject that can boost academic performance.Moreover, there is a high positive correlation between socio-economic background and students' achievement in Agricultural Science ($r = .515**$, $p<0.01$).

The Table 4, shows that a multiple regression R = .523^a, multiple regression square (R²) =.273 and adjusted R= .266. The Multiple Correlation Coefficient of R=.523^a indicates that there was a positive relationship between the combined predictors (Access to internet and Socio-economic background are jointly related to the predicted (Student Achievement in Agricultural Science). The two variables jointly accounted for 27% of the variance observed in the students' Achievement in Agricultural Science resulting from the independent variable interaction. Table, also revealed that the observed Multiple Correlation R (.523^a) and adjusted R square (.266), $F (3,296) = 37.082$, $P < 0.05$ were statistically Significant. It can be seen from table that F ratio is 37.082; $p< 0.05$, hence, there is a significant linear relationship between use of internet and socio-economic background on students' achievement.

Table 4. Model Summary and Anova of Access to the Internet and Socio-Economic Background on Student Achievement in Agricultural Science

R	= .523^a				
R square	= .273				
Adjusted R square	= .266				
Model	SS	Df	Ms	F	Sig. P< 0.05
Regression	38340.929	2	12780.310	37.082	0.000^a
Residual	102015.321	297	344.646		
Total	140356.250	299			

(a) Predictor   - Access to Internet and Socio-Economic Background
(b) Dependent -Students' Achievement

Table 5 presents the coefficients that indicate the relationship between the access to internet and socio-economic background on Students' Achievement in Agricultural Science. The relative effect could be seen that socio-economic background related positively and significant with achievement in Agricultural Science with β=.511; t=10.301; p<0.05, access to internet also related positively but not significant with achievement in Agricultural Science with β=.090; t=1.801; p>0.05. This implies that, only socio-economic background was significant. Access to internet was not. Hence, socio-economic background is a good determinant of students' performance in Agricultural Science. From experience, conducive environment to study, access to study materials like textbooks, magazines, bulletins, news letter that are educative (opportunity to learn), a student that is well fed, educated parents to still teach and guide the students at home or employ the service of private lesson teacher, being psychological and emotional stable, perform better than those from low socio-economic background that have little or nothing.

Table 5. Relative effect of Access to the internet and socio-economic background on student achievement in agricultural science

Model	Unstandardized Coefficient		Standardized Coefficient		Sig.
	B	Std. Error	Beta	T	
Constant	-44.640	11.196		-3.987	.000
Use of Internet	.389	.216	.090	1.801	.073
Socio-economic background	2.032	.197	.511	10.301	.000*

Dependent Variable: students' Achievement

4. DISCUSSION

The finding of this study revealed the correlation between access to internet and socio-economic background on students' achievement in Agricultural Science. It was revealed that there is no significant relationship between students' socio-economic background and access to internet. This study disagrees with, [13] and [14] who stated that race and socio-economic status (SES), are indicators of unequal access to and useof ICT. It has been observed that students' poor attitude to internet use may be attributed to socio-economic background which may be due to socio-economic differences in students' background [12]. This could be further explained that students' access to internet browsing is not determined by socio-economic background either from high or low socio-economic status. Student from low Socio-economic background

can surf the Net through their friends phone, their friends 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 Agricultural science and access to internet. This result agrees with [11] 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 agricultural science. In other words, students' frequency to internet facility cannot be used to define students' achievement in school subjects (Agricultural Science inclusive).

Moreover, the study established that there is a significant relationship between Parent Socio-economic Background and Students' Achievement in Agricultural Science. This result agrees with [6] 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, [7] 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 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, Agricultural Science in particular.

The findings also revealed that when access to internet and socio-economic background combined, they have significant contribution to students' achievement in Agricultural Science. This agrees with [11] who claimed that the more students use the internet for academic purpose, the better their performance. The more the students use the internet for academic purpose, the higher the number of students' from high socio-economic status, the better their academic achievement in Agricultural Science.

It was also revealed that when variables are sought on a relative ground only socio-economic background contributed significantly to students' achievement in Agricultural Science while use of internet have no significant contribution to students' achievement in agricultural science.

5.   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 socio-economic background.It was observed that most of the students visit socio-networking 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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