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Parental Input and Intelligence Quotient as Correlates of Secondary School Students' Achievement in Biology

PATRICK, U. OSADEBE (Ph.D.)[1*] & IFUKOR, Chukunalu Wisdom[1]

[1] Department of Guidance and Counselling, Delta State University Abraka, Nigeria

[*] PATRICK, U. OSADEBE (Ph.D.), Department of Guidance and Counselling, Delta State University Abraka, Nigeria

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Abstract

This study investigated the influence of parental input and intelligent quotient on secondary school students' achievement in Biology. The study was guided by four research questions and four hypotheses. This study employed a survey research design. A sample of 500 students was used for the study using the stratified sampling and simple random technique. The instrument that was employed in this study is intelligent quotient test and parental input questionnaire, which were adequately validated. The regression method of data analysis was employed. The study revealed that there was a significant relationship between intelligence quotient, parental input and academic achievement of senior secondary school students in Biology. It was recommended that Parents should spend more time to check their children's books to see what they are doing in schools and that Parents should be in contact with teachers who, on daily basis are in position to guide the children.

Keywords

Parental Influence, Intelligence Quotient, Secondary School Students, Achievement, Biology

1. Introduction

Every educational system is driven towards solving the problems facing the society and a particular country at large. This desire for problem solving is inculcated into the individuals of that society or nation through teaching and learning. This emphasizes the use of education as a tool for problem-solving. Nigeria as a country aims at solving her problems with education as a tool. This is obvious as one of its educational goals is the training of the mind in the understanding of the world around us (NPE, 1981). On this note, every individual must understand the world and his or her environment for better knowledge and at the same time promote a sustainable environment. The

students' performance in Biology proves the fact whether the environment will be sustained or not.

Biology is made a core subject for those in science, social science and art in the senior secondary school. This is as a result of the fact that it is through the learning of Biology that the students will gain the full knowledge of promoting good health and preserving the environment for sustainability. Nobody would argue the phenomenon that despite the large numbers of hospitals in Nigeria and the out pour of medical doctors from the universities, people with serious ailments are still being flown abroad for the so-called proper medication. These reveal the quality of medical practitioners and those in other health related areas who are being produced in Nigeria.

It is necessary that a solid background on Biology should be laid on Biology education. This is because the students' academic achievement in biology in senior secondary schools goes a long way to prove the success of the medical or health sector of any country and Nigeria is not left out. Those who pass out from the secondary schools are those we have in the society who are meant to maintain their environment for the promotion of good health and at the same time sustain the environment through a cultured preservation attitude and maintenance of government policy. Literally, Biology is being perceived by most students to be a difficult subject and as a result of this, many students shy away from learning the subject with full concentration and it always affects them in their performance in their final examination. This problem has really eaten deep into Nigerian education and as a result, student's interest in Biology is at stake and the sustainability of the environment is highly affected.

However, some factors have been found to be responsible for the poor performance of students in biology. These factors are parental input, intelligent quotient as well as socioeconomic status (Oseji, 2012). According to online dictionary, Intelligence Quotient (IQ) is the power to learn or retain knowledge. According to David (2009), intelligence quotient is a score derived from a collection of tests which rank academic achievement with a particular group. IQ of a child goes a long way in determining the achievement of that child. Every good teacher is concerned about the mental growth and development of the students. Both researchers and educators have observed that there is individual difference, in learning potential and achievement. These differences classify the student into three groups. Those with low intelligent quotient which can be regarded as slow learner, those with average intelligence quotient and finally those who are academically talented are also known as high intelligent quotient.

Anastasi (1976), observed that Intelligence Quotient (IQ) is not identified with a particular type of score on a particular test, but is often shortened designation for intelligence. So prevalent has his usage become, that it cannot be ignored or deplored as a popular misconception. There is an ability through intelligence to learn. Because of intelligence, man profits from experience, see and modify errors and conceptualize new and untried ideas. Thousands of students learn at school about countries, ideas, and activities they have never seen and may never see. There is an environmental influence on intelligence. The social conditions one comes from may enhance or depress one's intellectual activities. Generally, the richer the experiential background of the individual socially, the higher his level of intellectual

functioning (Tatama, 1978, p. 142).

The attitudes of Parents are very important because of their primary role than those of either student or teacher (Wiseman, 1969). If the parents believe in education, if they support the school in its efforts, if their aim is broadly similar to that of the teachers, then the child already has an enormous advantage over other students who come from less conforming homes. Parents are supposed to provide their children with writing materials, good reading environment and emotional support. At the practical level it is obvious that the child who is being held back in his/her school work by inadequate writing materials, inadequate care at home or poor housing condition cannot learn effectively no matter how intelligent that child is. In some cases for a child to perform well in his/her academic activities he/she needs extra lessons at home. Sadly enough, some parents do not feel that it is necessary where it is being organized.

However, a caring parent is supposed to check what the child does at school daily when they come back home no matter how busy that parent is. Parents can liaise with the teacher to see whether the child gets to school early, stay in school and attend his/her lesson. Some parents are not only indifferent to education but actively hostile to it. Parents may be so busy with fathers putting in overtime or working shifts and more. Also, many mothers work regularly, so it may be difficult for either parent to get to the school in the daytime to find out what their children are doing. In the evening or weekends when they are free, the school is shut. It follows that if parents can come into the school more often than they do, teachers will have to fit in with the times, which the parents can manage.

Parents need to be told more about what is going on in the school, its organization, its curriculum and techniques and of course about the kinds of school, the kinds of further educational and the kinds of job—their children can go to. To some extent this can be done through the ordinary methods of communication. Parents can donate some materials such as tables and buildings to the school as their contribution for effective learning of their children. This can be done through parent's teachers association. Parents can be invited to collect their children's result so that they will have opportunity to discuss the progress of their children and suggest what can be done to improve their children's achievement (Osunloye, 2008). However, a notable step would be to associate parents with the school every possible way as aids to the teachers. In some cases parents can be invited to decide how to tackle the common problems of students roaming the streets during school period instead of being in their classes. This might in time make a real difference. In this respect parents will be contributing their quotas in teaching and learning thereby improving students' achievement.

Academic performance of the students in biology is also determined by the socio-economic status of the family. Social economic status is an economic and sociological combined total measure of a person's work experience and of an individuals or family's economic and social position in relation to others, based on income, education and occupation. When analysing a family's social economic status, the household income, and earners' education and occupation are examined as well as combined family income, versus with an individual, when their own attributes are assessed (Abdu-Raheem, 2013).

Socio-economic status is typically broken into three categories, high SES, Middle SES, and low SES to describe the three areas a family or an individual may fall into. When placing a family or individual into one of the categories any or all of the three variables (income, education and occupation) can be assessed. Additionally, low income, and little education have shown to be strong predictors of a range of physical and mental health problems ranging from respiratory viruses, arthritis, coronary disease, and schizophrenia. These may be due to environmental conditions in their workplace or in the case of mental illness may be the entire cause of that person's social predicament to begin with.

Education in higher socio-economic families is typically stressed as important topic in the household and local community. In poorer areas where food and safety are priority education can take a backseat. While youth audience are particularly at risk for many social issues and mental health problems which in turn affect their performance in school? School in low SES neighbourhoods tend to have fewer resources. heir student beginning school with little preparation require an educational system with a more skilful and focused approach. However, the teachers in the low SES schools are often less paid and less trained than the teachers in the higher SES schools. The result is low achievement rates for the students.

The socio—economic status of the family goes a long way in determining the attitude of the parent towards education and educational needs of the child. Onimole (1986) explained that income has an effect on the kind of materials or the economic motivation given to the child in schooling. Inability to pay school fees, buy books and overcrowding in the home are result of poverty. The financial status of the home can affect the parental attitude towards childrens' education. This could be found from the reference to Douglas (1964), from his observation that lower class family does not often times concentrate on academic survival, which in turn severe limit on the amount of attention parents can allocate to a non-essential activity of stimulating intellectual growth or planning the educational future.

Kobiowu (1994) explained that the higher the student's social class the lower will be his or her educational opportunity. This emphasized the above-mentioned variables as correlates of senior secondary school student's achievement in Biology. The role of parents in students learning is found to be over emphasised in the sense that the child after closing from school, retires home where they spend the rest of their day with their parents whose impact at home will go a long way to determine whether the student would continue his/her learning at home or not.

Most parents neglect the role of encouraging their children or wards in continuous reading even after school hour. The teachers are employed to teach in school, but the role of the teacher ends in school as he/she guides the students in their learning towards achieving the earlier stated objectives in line with the curriculum and scheme of work drawn by the school. Parents on their own part are meant to provide the child with whatever the school or teacher demands from the child in the process of teaching and learning.

There should be a follow-up by the parents. That is the idea of the parents checkmating the activities of the teachers and the students in school by assessing the notebook to know the areas where the child will

need an individual attention for special help. Uinsingh (2011) stated that the parents are the first children's teacher and that their role should not be neglected. In relation to this, the parents should monitor their children's activities after school so as to know their attitude towards assignment given in the form of homework. The books and learning facilities should be provided as well as a conducive environment for proper learning.

The intelligence quotient of a child can be improved or nurtured by the role of parents. Uinsingh (2011) stated it clearly that the problem-solving ability of a child is always triggered by the readiness of the parents to encourage their children. This problem-solving ability is what is referred to as intelligence and it varies among children in terms of the ratio of the mental age and chronological age. The parental encouragement could be done in many ways and one of such way is providing for the child every necessary learning tools. The variables associated with this research include academic achievement as the dependent variable, parental input and intelligent quotient as the independent variables while parental social economic status is the intervening variable.

Williams (2005) conducted a Meta-analysis to determine the overall effects parental involvement on K-12 students' academic achievement and to determine the extent to which certain expressions of parental involvement are beneficial to children. The Meta-analysis drew from 77 studies, 36 included data only from elementary and secondary schools. Two reviewers used in this study rated the overall quality of the studies as 2.3 on a 0.0 (lowest)—3.0 (highest) scales. The results of the Meta-analysis indicate that parental involvements are associated with higher student achievement outcomes. The limitation of this study is that it fails to take cognisance of other variable such as socio-economic status of the students' parents.

Mau (1997) carried out a study on the High School Students Academic Achievement: A comparison of Asian immigrants, Asian Americans, and white Americans. He was of the opinion that success was to be attributed to personal effort and emphasized that parents should develop in their children skills of participation responsible actions for sustainable development through student's skill in decision making and the basis of good science teachings. The limitation of this study is that it fails to express the roles of parents in enhancing the intellectual development of their child.

Oseji (2012) carried out a study to investigate the influence of intelligent quotient and parental input on senior secondary school student's achievement in mathematics, the investigation was guided by five research questions and five research hypotheses. The investigation employed correlation design. Out of the estimated two thousand eight hundred students in Warri South, samples of four hundred and eighty tudents were selected. The data collected from the four hundred and eighty students were analysed using regression analysis. Based on the data analysis presented, the following findings were summarized. There was a significant relationship between intelligent quotient, parental input and academic achievement of senior secondary school students in mathematics.

There was no significant relationship between parent location and academic achievement of senior secondary school students in mathematics. From the result of the study the following recommendation

was made: parents should aim at providing a good home environment for their children, invest more time to check their children's books, monitor the time their children spend in watching television and provide the necessary writing materials and textbooks. School should provide enabling environment for close parent/teacher relationship and also create opportunities for teacher/parent problem solving. Government should provide facilities, library and classroom with a good sitting arrangement, employ qualify mathematics teachers, and also employ trained counsellors to see to the emotional and psychological needs of the students while in school. The limitation of the study is that she used a survey method of investigation instead of correlational studies.

The review carried out in this study indicated that many studies have been carried out on parental input and intelligent quotient but not much, known to the researcher has been done involving the three variables-parental input, intelligence quotient and socio-economic status. This is the gap the researchers covered.

1.1 Statement of the Problem

Experiences shown that many students who aspire for the study of medicine and other health related courses cannot boast of full knowledge of biology which is supposed to be a bedrock for the preambles to expose them to the study of their environment and human body and every other living creature have created a gap in the teaching and learning of Biology. Fewer roles are being played by parents and their less interest shown on their children's learning go a long way to determine their children's achievement in their academic pursuits.

The child's parental involvement goes a long way in affecting his/her academic achievement positively or negatively. Parents helping students in doing their homework shown negative effect on the student, rather than helping their children to learn, they are helping them to pass. While parents who do not show interest at all allow their children to struggle over what they cannot do for themselves. Scott (2014) stated that no matter what the parents' class, race or level of education, few measurement outcomes showed parental involvement had positive impact on academic achievement. In a few cases, certain types of parental involvement seemed to harm achievement.

The position of parents in children's learning has posed a very big challenge as some researchers; Rothestein (2004); and Adeyemo and Babajide (2012) are encouraging it while others are condemning it. Lack of parental support is sometimes blamed as a central factor when schools perform poorly on standardized test. If parents of hard-working students play their parts, their children would do better in school, making the teacher's job easier and making class time more productive for everyone.

From the various sections discussed above, student's achievement in Biology is interwoven with input made by parents but the question is; should parents be blamed over their children's failure or poor performance in Biology? What is the relationship between parental input, intelligence quotient, socio-economic status and student's achievement in Biology?

1.2 Research Questions

The following research questions guided the study:

1) What is the extent of relationship between parental input, intelligence quotient, socio economic-status and senior secondary school student's achievement in Biology?

2) What is the extent of relationship between parental input and senior secondary school student's achievement in Biology?

3) What is the extent of relationship between Intelligence Quotient (IQ) and senior secondary school student's achievement in Biology?

4) What is the extent of relationship between socio-economic status and senior secondary school student's achievement in Biology?

1.3 Hypotheses

The following null hypotheses were tested at 0.05 level of significance:

Ho_1 There is no significant relationship between parental input, intelligence quotient, socio-economic status and senior secondary school student's achievement in Biology.

Ho_2 There is no significant relationship between parental input and senior secondary school student's achievement in Biology.

Ho_3 There is no significant relationship between intelligence quotient and senior secondary school student's achievement in Biology.

Ho_4 There is no significant relationship between socio-economic status and senior secondary school student's achievement in Biology.

2. Method

The design employed in this study is a survey research design. This is because the study sought to find out the relationship between students' intelligent quotient and parental input as well as socio-economic status in the achievement of senior secondary student in Biology.

The population of this study comprises public Senior Secondary School one (SS1) in Delta North Senatorial District of Delta State. The population comprised of 5,760 SS1 students from public secondary schools in Delta North Senatorial District of Delta State (Ministry of Education, Delta State, 2014).

From the population, a total of 500 students in SS1 were sampled for this study in Delta North Senatorial District of Delta State. The sampling technique adopted for this study was the stratified sampling and simple random sampling technique. Stratified sampling involves the division of the population into subgroups which are known to have special characteristics relating to the variables being investigated. The division of the students was based on the nine Local Government Areas that make up Delta North Senatorial District of Delta State. The division became necessary to allow proportional representation of the students in the population. The sample size was regarded adequate since the population is relatively homogenous and gave similar response. Analysis had shown that an

increase in the sample size would not have increased the precision (De Vaus, 1996, p. 76).

The instrument that was employed in this study is Biology Intelligence Test (BIT) and Parental Input Questionnaire (PIQ). The result of first term examination was collected from the sample students to enable the researcher get information on the academic achievements of SS1 students.

The questionnaire is meant to elicit information about the respondent's individual behaviour, feelings, beliefs, and action about their parental input towards their education likewise their parental socio-economic status. Statements were made to which numbers were assigned and respondents were to tick from the four point scale as shown below;

Strongly Agree (SA) = 4

Agree (A) = 3

Disagree (D) = 2

Strongly Disagree (SD) = 1

Each statement on the questionnaire was used to elicit responses from the student which was either negative or positively. In all, twenty items measuring a wide range of parental input towards students' academic achievement were written.

The Scholastic Biology Intelligence Test that was used for the study was drawn from Junior Secondary Three (JS3) Basic Science. The Junior Secondary Three (JSS3) Basic Science questions were drawn using the test blue print/table of specification to ensure a high content validity. The generated items were further validated by expert judgement from two experienced subject teachers and measurement and evaluation experts,

The questionnaire was constructed and given to the research supervisor who is an expert in measurement and evaluation, who read and corrected the items, comments and suggestion of the researcher's supervisor. In other to establish the face validity of the constructed test item and questionnaire, the physical appearance of the test items with respect to the format for presenting the test items, the typing and the general outlook of the test items were considered. Therefore, the questionnaire had face and content validity.

The reliability of the instrument was established by using test-retest method. A pilot test was carried out to determine the reliability of the instrument. The test was administered on two occasions personally by the researcher and two assistants to thirty students who were not part of the sample. An interval of two weeks was observed between the two administrations. The test scores of the students were correlated using Pearson Product Moment Correlation (PPMC). A reliability index of 0.70 was obtained as measure of stability for parental input, 0.78 for Biology Intelligence Test and 0.82 for student academic achievement.

The schools sampled were visited, with the aid of the resident teachers in the school; the instruments were administered to the students. The Biology Intelligent Test items were given to the students under strict examination condition. The questionnaire was equally administered to the students for their responses. The instruments were retrieved from the respondents at the stipulated time. The researcher

ensured that the instruments were administered under conducive atmosphere.

The regression method of data analysis was employed to show the level of correlation between the scores obtained by the students in the intelligence test, the scores from the student's first term examination and the scores obtained from the questionnaire. The data generated from the sampled respondents were analysed and used in answering the research questions and testing the null hypothesis formulated for the study. Each hypothesis was tested at 0.05 level of significance.

3. Results

Research Question 1: What is the extent of the relationship between parental input, intelligence quotient and senior secondary school students' achievement in biology?

Table 1. Correlation Analysis of Parental Input, Intelligence Quotient, Socioeconomic Status and Senior Secondary School Students' Achievement in Biology

Variables	N	r	r^2	r^2%	Decision
Parental Input Intelligent Quotient Socio Economic Status Students Achievement	500	.240	.058	5.8%	Positive Relationship

Table 1 showed that 0.240 is the extent of relationship between parental input, intelligence quotient and students' achievement in senior secondary school in biology. The coefficient of determination was 0.058 and the amount of contribution of parental input, intelligence quotient and students' achievement in Biology is 5.8%. However, the result showed a positive relationship between parental input, intelligence quotient, socioeconomic status and students' achievement in biology. Hence, parental input, intelligence quotient and socioeconomic status contribute to students' achievement of senior secondary school in Biology.

Research Question 2: What is the extent of relationship between parental input and senior secondary school students' achievement in Biology?

Table 2. Correlation Analysis of Parental Input and Senior Secondary School Students Academic in Biology

Variables	N	r	r^2	r^2%	Decision
Parental Input Students Achievement	500	0.218	0.47	47%	Positive Relationship

Table 2 showed that 0.218 is the extent of relationship between parental input and students' achievement of senior secondary school in Biology. The coefficient of determination is 0.47 and the amount of contribution of parental input to students' achievement is 47%. Therefore, the result showed positive relationship between parental input and academic achievement of senior secondary school in Biology. Thus, the result showed that parental input contributes to students' achievement of senior secondary school in Biology.

Research Question 3: What is the extent of relationship between Intelligence Quotient (IQ) and senior secondary school student's achievement in Biology?

Table 3. Correlation Analysis of Intelligence Quotient (IQ) and Senior Secondary School Students Achievement in Biology

Variables	N	r	r^2	r^2%	Decision
Intelligent Quotient					
Students Achievement	500	0.086	0.007	0.7%	Positive Relationship

Table 3 showed that 0.086 is the extent of relationship between Intelligence Quotient (IQ) and senior secondary school students' achievement in Biology. The coefficient of determination was 0.007 and the amount of contribution of Intelligence Quotient (IQ) to students' academic achievement was 0.7%. The result showed a positive relationship between Intelligence Quotient (IQ) and students' achievement in Biology. The result showed that Intelligence Quotient (IQ) contributes to students' achievement in Biology.

Research Question 4: What is the extent of relationship between socio-economic status and senior secondary school students' achievement in Biology?

Table 4. Correlation Analysis of Socio-Economic Status and Senior Secondary School Students' Academic in Biology

Variables	N	r	r^2	r^2%	Decision
Socio Economic Status (SES)					
Students Achievement	500	0.229	0.052	5.2%	Positive Relationship

Table 4 showed that 0.229 was the extent of relationship between Socio-Economic Status (SES) and students' achievement of senior secondary school in Biology. The coefficient of determination is 0.052 and the amount of contribution of socio-economic status to students' achievement is 5.2%. Therefore, the result showed positive relationship between socio economic-status and academic achievement of senior secondary school in Biology. Thus, the result showed that socio economic-status contributes to students' achievement of senior secondary school in Biology.

Hypothesis 1: There is no significant relationship between parental input, intelligence quotient and senior secondary school students' achievement in Biology.

Table 5. Regression Analysis of Parental Input, Intelligence Quotient and Senior Secondary School Students' Achievement in Biology

MODEL SUMMARY						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.240[a]	.058	.052	9.05851		
ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2489.543	3	829.848	10.113	.000[b]
	Residual	40700.079	496	82.057		
COEFFICIENTS						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	45.401	9.378		4.841	.000
	Parental Input	.159	.136	.096	1.169	.243
	Intelligent Quotient	.216	.168	.057	1.285	.199
	Socio Economic Status	2.266	1.340	.140	1.691	.091

Table 5 contains the correlations, regression coefficients and beta-standardized regression coefficients between parental input, intelligence quotient and senior secondary school students' achievement in Biology. The results indicated that there was significant relationship between parental input, intelligence quotient and senior secondary school students' achievement in Biology, $F(2,499) = 10.113$, $P \leq r = 0.240$ which account for 5.8% variance of parental input, intelligent quotient and senior secondary school students' achievement in biology. Therefore, the null hypothesis which states that there is no significant relationship between parental input, intelligence quotient and senior secondary school students' achievement in Biology was rejected. The result revealed that there is significant relationship between parental input, intelligence quotient and senior secondary school students'

achievement in Biology.

Hypothesis 2: There is no significant relationship between parental input and senior secondary school students' achievement in Biology.

Table 6. Regression Analysis of Parental Input and Senior Secondary School Students' Achievement in Biology

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.218[a]	.047	.045	9.08974		
ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2043.210	1	2043.210	24.729	.000
	Residual	41146.412	498	82.623		
	Total	43189.622	499			
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	48.485	3.992		12.145	.000
	Parental Input	.363	.073	.218	4.973	.000

Table 6 contains the correlations, regression coefficients and beta-standardized regression coefficients between parental input and senior secondary school students' achievement in Biology. The results indicated that there was significant relationship between parental input and senior secondary school students' achievement in Biology, $F(1,499) = 24.729$, $P \leq r = 0.218$ which account for **47%** variance of parental input and senior secondary school students' achievement in Biology. Therefore, the null hypothesis which states that there is no significant relationship between parental input and senior secondary school students' achievement in Biology was rejected. The result revealed that there is significant relationship between parental input and senior secondary school students' achievement in Biology.

Hypothesis 3: There is no significant relationship between intelligence quotient and senior secondary school students' achievement in Biology.

Table 7. Regression Analysis of Intelligence Quotient (IQ) and Senior Secondary School Students' Achievement in Biology

Model Summary					
Model	R	R Square	Adjusted R	Std. Error of the	
1	.086	.007	.005	9.27835	
ANOVA					
Model		Sum of	Df	Mean Square	Sig.
	Regression	317.892	1	317.892	.055
	Residual	42871.730	498	86.088	42871.
	Total	43189.622	499		43189.622
Coefficients					
Model		Unstandardized Coefficients		Standardized	Sig.
		B	Std. Error	Beta	
1	(Constant)	53.933	7.454		.000
	Intelligent	.324	.169	.086	.055

Table 7 contains the correlations, regression coefficients and beta-standardized regression coefficients between Intelligent Quotient (IQ) and senior secondary school students' achievement in Biology. The results revealed that there was significant relationship between intelligence quotient and senior secondary school students' achievement in Biology, F (1,499) = 3.693, P≤ r = 0.086 which account for 0.7% variance of intelligence quotient and senior secondary school students' achievement in biology. Therefore, the null hypothesis which states that there is no significant relationship between intelligence quotient and senior secondary school students' achievement in biology was rejected. The result revealed that there is significant relationship between intelligence quotient and senior secondary school students' achievement in biology.

Hypothesis 4: There is no significant relationship between Socio-Economic Status (SES) and senior secondary school students' achievement in biology.

Table 8. Regression Analysis of Socio-Economic Status (SES) and Senior Secondary School Students' Achievement in Biology

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.229	.052	.051	9.06509		
ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.

	Regression	2266.038	1	2266.038	27.575	.000
1	Residual	40923.584	498	82.176		
	Total	43189.622	499			

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std.Error	Beta		
	(Constant)	60.608	1.508		40.198	.000
1	Socio Economic Status	3.720	.708	.229	5.251	.000

Table 8 contains the correlations, regression coefficients and beta-standardized regression coefficients between socio-economic status and senior secondary school students' achievement in biology. The results revealed that there was significant relationship between socio-economic status and senior secondary school students' achievement in biology, $F(1,499) = 27.575$, $P \leq r = .229$ which account for 5.2% variance of socio economic status and senior secondary school students' achievement in biology. Therefore, the null hypothesis which states that there is no significant relationship between socio economic-status and senior secondary school students' achievement in biology was rejected. The result revealed that there is significant relationship between socio economic-status and senior secondary school students' achievement in biology.

4. Discussion

The finding from hypothesis one revealed that there was a significant relationship between parental input, intelligence quotient and academic achievement of senior secondary school students in biology. Mau (1977) is of the opinion that success was to be attributed to personal effort. Okebukola (2007) emphasized that parent should develop in their children skills of participation responsible actions for sustainable development through student's skill in decision making and the basis of good science and biology teachings. Walberg (1994) found a commonality which he called a curriculum of the home which has an effect on achievement. This curriculum includes parent-child conversation about everyday events, encouragement and discuss of leisure reading, expression of affection and interest in children's academic and personal growth. The finding of this study is also in line with the studies of Asikhia (2010), Osunloye (2008) and Hassan (1983) whose studies revealed that there is a relationship between parental input, intelligence quotient and academic achievement of senior secondary school students.

The result of hypothesis two showed that there was a significant relationship between parental input and academic achievement in biology. This finding support the findings of Yusuf and Adigun (2010) whose studies revealed that academic achievement of student is related to parental input, the study also agree with the studies of of Adebayo (2001), Yuonne and kola (1998) whose findings revealed that level of parental involvement determine students' academic achievement. The finding was also supported by the work of Lacour and Tissingtin (2011) who discovered that low achievement is closely connected with lack of parental input while the result of the findings do not support the findings of Epstein (1995), Louchs (1992) and Oseji (2012) whose findings revealed that there is no significant relationship between parental input and student academic achievement.

The finding on hypothesis three showed that there was a significant relationship between intelligent quotient and students' academic achievement. This finding agrees with the findings of Brody (1977), Gustafsson and Undheim (1996) and Sattle (2001) whose findings revealed that children higher intelligence quotient do better in standardized test, has higher school grades and complete more years of education. This assertion was also confirmed by the study of Gottfredson (1990) which is of the opinion that high intelligence quotient is necessary ingredient to the achievement of students. In a similar study by Spearman (1904) with regard to intelligence asserted that it takes a student whose intelligence quotient is above average to perform well in mathematic while the finding contradicts the finding of Owoeye (2000).

The result of hypothesis four revealed that there was a significant relationship between socio-economic status and students academic achievement. This finding confirmed the reports of Musarat, Sundus, Faqiha, Fozia and Ayesha (2013) whose study indicated that student's belonging to strong socio-economic status perform better than those who have face problem in finance. The study was also supported by the findings of Asikhia (2010) that socio-economic status plays pivotal role in the learning process of the child. Ushie, Owolabi and Emeka (2012) confirmed that family type, size, socio-economic status and educational background play important role in student's educational attainment while the study is in contradiction to that of Ebenuwa-Okoh (2007) and (2010) who discovered that financial status do not significantly influence academic performance. She believes that enhanced academic performance is a matter of personal determination than financial determination.

5. Recommendations

Based on the findingsof this study, the following recommendations were made:

1) Parents should invest more time to check their children's books to see what they are doing in school.

2) Schools should create opportunities for parent/teacher problem solving and assistance in understanding instructional strategies and how they could help their children improve the quality of homework, assignment, classroom work and behaviour as they relate to academic success.

3) Government should provide facilities and conducive environment that can enhance good learning activities. A good library, classroom with good sitting arrangement and teaching aids should be

provided.

4) Parents should interact with teachers who on daily basis are in position to influence, guide and provide for their children's education.

5) Government should employ quality biology teachers, train and retrain them to be abreast with new innovation in the education sector.

6) Parent should invest their money in buying textbooks and other educational related material rather than investing in fashion and other pleasurable materials.

7) Parents should monitor the time their children spend in watching television and playing computer games. Some this time if well utilized will bring improvement in the academic achievement of the child.

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