

# Parent Educational Background, Parental Involvement and Students Achievements in Biology in Ibadan Metropolis

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**Abstract:** *This study sought to investigate parent educational background, parental involvement and student's achievements in biology in Ibadan Metropolis Oyo State. A simple random sampling accustomed to select a sample of 200 hundred (200) senior secondary schools students from the population. The instruments used were Parental Involvement Questionnaire (PIQ) ( $r=.794$ ), Parental Educational Background Questionnaire (PEBQ) ( $r=.814$ ) Biology Student Achievement Test (BSAT) ( $r=.781$ ). Four research hypotheses were tested at 0.05 level of significance. Frequency and simple percentages accustomed to analyze the demographic information and Pearson Product Moment Correlation was used for hypotheses 1, 2 and 3 while Multiple Regression was used for hypotheses 4. The outcome of the study revealed that there is a significant relationship between parental involvement student achievement in biology ( $r=.825$ ,  $P<.05$ ). There is a substantial connection between parent educational background and student achievement in biology ( $r=0.723$ ,  $P<.05$ ). Also, there is a significant and positive relationship between school factors and student attitude to biology ( $r=.905$ ,  $P<.05$ ). Considering the outcome of this study, recommendations were made as follows; Parents should provide a home environment that will fosters their children education and know how to provide support and encouragement for their offspring's success. Therefore, there is need for the Government, parents, and stakeholders in education to rise up to address the identified problems that led to the poor performances in sciences especially in biology.*

**Keywords:** Biology, Students, Achievement, Parental Involvement, Stakeholders

## Introduction

Using science education as a tool used to achieve scientific literacy which is gateway to achieve scientific and technological advancement and economic survival. It is strong machinery for improving the social, economic, and the political life of mankind. This justifies the inclusion of science in the curricular of schools. Science is also the bedrock for the advancement of science and technology in a society that is culture sensitive. The product of science is technology and the integration of both leads to advancement and the improvement of conditions of living.

Hunt (2007) and Blevins (2009) suggest that a student's family history, including their degree and career, plays an important part in determining the effectiveness of a home background impacts for academic performance. They believe that relationships between both parents and kids correlate with a certain level of academic success. Additionally, they contend that the relationship between family effects and children's academic outcomes can only be fully utilized if resources related to family backgrounds are available. The socioeconomic factors (parents' educational level, occupation, and family size), family structure (family size), and parents' propensity for education (provision) are the categories of home background factors that are thought to have an impact on students' academic success in biology in Oyo state, Nigeria are segmented into socioeconomic factors (parent education level, occupation of parents), family structure (family size), parent education preference (provision of educational resources, parent attendance at school, provision of pocket money, additional lessons, and social amenities), and family roles (parental obligations, parental expectation).

Parental involvement in a child's educational life may perceive as aiding the child in achieving the goals or wishes one's parents for that child. Parental support is also referred to as a method or intervention utilized by every family to educate and train the child to grasp him or her full potential in life, according to Anthony (2019). Unquestionably, all parents want their kids to become better, more civilized adults. According to Durisic (2017), given how dynamic today's world is, most parents feel obligated to provide their kids with a secure atmosphere from the moment they are born until they graduate from high school. The academic various factors affect a child's development. parenting practices, reading at home, and supervising homework; parental support is frequently important. The Pennsylvania Cyber Charter School (2015) defines parent involvement in their offspring's education as: "Parent involvement means the participation of parents in regular, two-way, and meaningful communication involving student academic learning and other school-related activities, such as making sure that (a) parents are actively encouraged to take part in their child's education at school; (b) parents contribute significantly to helping their child's learning; and (c) parents are supported in their efforts to be involved in their child's education."

A school learning community welcomes all families, as Epstein (2001) noted. A wide variety of students, including recent immigrants and refugees, are served by several schools. Like any parents, the parents of such pupils desire the best for their kids in school. Like all students, these kids perform better when their parents and instructors collaborate. In a warm school, teachers respect individual diversity and actively involve all families throughout the school year. For all nations, this idea holds true. Gaitan (2004) states that "Educators think that parents need to interact actively with the school and not submit their parenting obligations to the school" while

discussing the significance of parental involvement in their offspring's education. Parental participation is a critical factor in children's development, learning, and performance in school and in life, according to Patrikakou, et al. (2005). The simple truth that children of participating parents have a substantially larger opportunity to develop into healthy, knowledgeable, responsible, and compassionate individuals has been repeatedly reinforced by decades of study in the domain of family participation. Even for students in high school, parental participation continues to be one of the main indicators of academic performance. It's critical to dispel the widespread misconception that parental influence over their kids declines as they approach puberty. The quest for autonomy among adolescents is sometimes misinterpreted by both parents and educators as a developmental obstacle to parental involvement.

However, studies have shown that high school students believe they may perform better in class if they know that their families care about and want them to succeed in their academics, countering the widely held belief that teenagers do not want their parents to be engaged in any way. These kids' learning and conduct have also been proven by research. Parents who are involved in their kids' education see changes in their students' academic and behavioral performance. The same pattern can be seen in the situation in India. A study on the consequences of parental education employment on students' academic success was undertaken by Suman B. in 2011. In his opinion, parents' professional and educational backgrounds have a favorable impact on their children's academic performance. According to Femi (2012), Students' academic performance is significantly influenced by the parents' educational background and the health of the pupils. The parents' education has the greatest significant impact on their kids' academic performance progress, according to Akinsanya et al. (2014). Because they have access to the internet, newspapers, and media, children from educated families have many opportunities to work hard in their studies. They receive additional instruction at home as well. There are few materials accessible to pupils were reared in illiterate families. It has been noted their parents' financial situation is among the influencing elements for the declining academic standards. If you look at the country's current economic circumstances, many impoverished parents send their kids to do menial housework before they go to school. These kids didn't understand how they could support their family in that way. However, parents' poverty has a flexible impact on their kids' academic performance since they don't have the money or resources to pay for their kids' education, good schools, decent housing, health care, and social services. A home is where children reside with their guardians or parents and is also where they receive training or grooming. The students there start to pick up on the customs and values of the society in which they live.

However, over time, it has been noted that pupils who have been exposed to the same teachings by the same teacher often behave differently when they are evaluated (Adesina, 2013).. In a similar vein, Tella and Tella (2003) found that students' home environments have a significant impact on their academic performance. At the youngest possible age and when the child's mind is most receptive, the home has an impact on him. The pupils' family history is referred to as a person's "home environment," which also refers to all the material and human resources that are available to them and at home have an impact on their quality of life including the parents' work, socioeconomic background, education level, and socialization amenities offered when at home. The child learns about notions like love and hate first time ever in the family. In actuality, the family experiences and faces the same difficulties as the kids. As a result, other people's parents adult caregivers should fulfill their duties to raise kids with morally sound values. Each child's academic success is significantly impacted by their atmosphere at home. Each child comes from a unique family, which is reflected in how they behave and perform in class. Previous studies on the domestic setting of students reveal that a variety of demographic aspects, such as social, economic, and educational influences on students' families, have remained of considerable interest to research (Beaton and O'Dwyer, 2002; Kellaghan and Madaus, 2002; Kilfer, 2002). Mayer, S. E. (2010) notes that Children of wealthy parents are frequently noted to have higher levels of succeed in life than children of poor parents. This is likely because wealthy parents invest more in their offspring than poor parents do, and the outcome of these "investments" are better outcomes for their offspring. Giving families access to resources to make direct investing or making investments through the use of education, healthcare, & other human resources inputs could help enhance the life chances of disadvantaged children, according to the author, if the scenario is correct. It is reasonable to assume that parental socioeconomic status may have an impact on their children's academic performance in school. MH Machebe et.al

When parents can assist their children financially and spiritually by supporting their at-home reading, Students do better than their peers. A parent with a background in education would be in an excellent position to be their child's second teacher, according to Ahmad et al (2013) findings in another study. Additionally, to teach and advise the child on how to succeed academically. Likewise, give the child the tools they need. This motivation is further reinforced by Musgrave (2000), who claimed because youngsters with educated parents always like to follow in their families' academically active footsteps. Ekber (2013) supported it in his study of 691 senior undergraduate students. He discovered that parents with academic qualifications give their kids the best atmosphere possible for learning. Academically, students from parents with a university degree outperform those from parents who are less educated. The communication skills of at-home, educated parents, who employ a wide vocabulary, clear pronunciation, and logical arguments in discussion, have an impact on children's language development. Parents who are educated may also point their children in the right path because they have previously completed their schooling and are aware of the advantages and disadvantages of other educational options. They can also tell their children instructive life experiences that are quite useful at motivating them to study.

These experiences help the individual mold their actions and appropriately adjust to the circumstance, which produces a positive, successful and intellectual existence.

**Statement of Problem**

Globally, societies try to provide their citizens with a quantitative education. So many elements must be taken into account in order to complete this great course. One of them is the child's family history. The family has a significant impact on the child's general development and, in particular, his educational upbringing. Experience has demonstrated that among students in secondary schools, several distinctions exist that have an impact on the academic success of students, such as timely payment of the school fee, provision of learning facilities among others. Over the years, performance in Science subjects has been dwindling. The implication of this persistent poor performance of students in Biology is that a great percentage of them fail to get grades that will take them to higher institution for higher studies which now prevent them from building career in science based courses. Thus, researchers in science education in Nigeria have continued to seek for ways of improving the situation and maximize meaningful learning of Biology by the students. In light of this, the main essence of this work to ascertain if there exists in Ibadan Metropolis a connection between the parental involvements, parent educational background and the students' achievements in Biology.

**Research Hypotheses**

- H0<sub>1</sub>:** There is no significant relationship between parental involvement and Student achievements in Biology
- H0<sub>2</sub>:** There is no significant relationship between Parent Educational background and Student achievement in biology
- H0<sub>3</sub>:** There is no joint contribution of parent involvement and parent educational background and Parental Involvement on students' achievement in Biology.
- H0<sub>4</sub>:** There is no relative contribution of parent involvement and parent educational background and Parental Involvement on students' achievement in Biology.

**Methodology**

The study adopted a descriptive survey research design. It also adopted the correlation approach because the relationship between Home and achievement were investigated. The population this research is aiming to reach consisted of all Biology students in SSS2 in senior schools in Ibadan Municipality, Oyo State. The sample of 200 respondents was used for the research. The sampling technique used was random sampling procedures is used in this investigation. Two (2) Local Government in Ibadan Metropolis namely Ibadan north local government and Ibadan south west local government, was selected to carry out the research. Four (4) schools in each local government and fifty (50) Biology students each was selected in each of the school. This accustomed to select SS2 students and Biology who were eager to take part in the research. Two research tools were utilized in the study titled; Parent Involvement Questionnaire (PIQ), Parent Educational Background Questionnaire (PEBQ), and Biology Students Achievement Test (BSAT). Cronbach Alpha and Kuder-Richardson accustomed to evaluate the devices' dependability and co-efficient index of  $r = .794$  (PIQ),  $.081$  (PEBQ) and  $.781$  (BSAT) respectively. Data collected was analyzed using inferential statistics of Pearson Product Moment Correlation, Analysis of Variance and Multiple Regression Analysis.

**Results**

**Testing of Hypotheses**

- H0<sub>1</sub>:** There is no significant relationship between parent involvement and student achievements in biology

**Table 1: Pearson Product Moment Correlation on the relationship between the parent involvement and student achievements in biology**

Variables	Mean	Std	N	P	Sig.	Remarks
PIQ	2.127	1.0643	200	.825	.000	Sig.
SBAT	2.200	0.8866	200			

It shows in table 4.2.1 that there is a positive significant relationship between parent involvement and students' academic achievement in senior secondary Biology. ( $r = .825$ ,  $N = 400$ ,  $P < .05$ ). Hence, parent involvement influence students' academic achievement in Biology.

**Hypothesis 2**

- H0<sub>2</sub>:** There is no significant relationship between parent educational background and student achievements in biology

**Table 2: Pearson Product Moment Correlation on the relationship between parent educational background and student achievements in biology**

Variables	Mean	Std.deviation	N	P	Sig.	Remarks
PEBQ	2.1667	0.7833	200	.905	.000	Sig.
SBAT	3.5051	1.8866	200			

It shows in table 4.2.2 that there is a positive significant relationship between parent educational background and students' academic achievement in senior secondary Biology. ( $r=.905$ ,  $N=400$ ,  $P<.05$ ). Hence, Parent Educational background influences students' academic achievement in Biology.

**Hypothesis 3**

**H<sub>03</sub>:** There is no joint contribution of Parent Educational Background and parent involvement on students' achievement in Biology

**Table 3: Multiple Regression Analysis on parent educational background, parental involvement and students' academic achievement in biology**

Model	Sum of squares	Df	Mean square	F	Sig.
Regression	430.558	3	143.519	73.442	.000 <sup>b</sup>
Residual	50.809	26	1.954		
Total	481.367	29			

Dependent Variable: SBAT

R = .746

R Square = .694

Adjusted R Square = .682

Table above revealed that the joint effect of parent educational background, parent involvement and students' academic achievement in biology was significant ( $F, 3, 26 = 73.442$ ;  $R \text{ square} = .694$ ,  $\text{Adj. } R \text{ square} = .682$ ;  $P < 0.05$ ).

This indicates that about 69% of the variance in Biology is accounted for by the independent variables. The remaining, about 31% is said to be residual and this could be due to error and other factors not investigated.  $R^2$  of the variables is statistically significant ( $F=73.442$ ).

**Hypotheses 4**

**H<sub>04</sub>:** There is no relative contribution of parent educational background and parent involvement on students' achievement in Biology

**Table 4: Multiple Regression Analysis showing the relative contribution of parent educational background and parent involvement on students' achievement in Biology**

Model	Unstandardized coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	4.386	.817		5.366	.000
PEBQ	1.004	.328	.252	3.059	.002

<b>QPI</b>	1.483	.422	.376	3.511	.000
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Dependent Variable: SBAT

Table above revealed the relative contributions of each of the independent variables, parent educational background ( $B=.252$   $P<.05$ ), parent involvement ( $B=.376$   $P<.05$ ) respectively.

This indicates that parental involvement contributes more to the student achievement in biology than parent educational background.

### Discussion of Findings

Table 1 showed that there is a positive significant relationship between parent involvement and students' achievement in biology. Hence, parental involvement influences students' achievement in biology. These findings are in line with Masa and Tucker (2013) who found that parental involvement (i.e., home involvement, school involvement, parent– teacher communication) was predictive of children's school engagement and socio-emotional adjustment. If parental involvement does indeed buffer the effects of children's mathematics anxiety on children's mathematics achievement, the importance of supporting parental involvement initiatives becomes even more evident. Seifert (2014) asserts that a parent's education is a key predictor of a child's success in school.

In his study of 250 students from the University of Sargodha in Pakistan, Musarat (2013) discovered a link between parental education and students' G.P.A. He believed that students with educated parents had higher GPAs. compared to people with ignorant parents. He also made note of the important role that parental education has in determining students' GPAs. Students with excellent GPAs have mothers who hold advanced degrees. Additionally, Femi (2012) discovered that students with educated parents had higher mean test scores than those with illiterate parents. Therefore, parent qualification has significance effects on students' academic performance.

Another According to Ahmad et al.'s (2013) study, parents with educational backgrounds are well-suited to serve as their children's second teachers. Additionally, to teach and advise the child on how to succeed academically. And provide necessary materials needed by the child. Parents' education has the greatest significant impact on their children's academic performance. Akinsanya et al (2014), this is due to the fact that a child from an educated home has many options to work hard in school because they have access to the internet, newspapers, and television. Additional lessons can be taught to them at home. There are a dearth of resources for students were reared in illiterate families. It has been noted that the parents' financial situation is one of the influencing elements for the declining academic standards. If you look at the country's current economic position, you'll see that many impoverished parents send their kids to do menial housework before they go to school. These kids weren't sure how they could support their family using that. However, parents who are poor are less able to support their children's education, good schools, decent housing, health care, and social services, which has an adverse impact on their academic performance.

### Summary of findings:

The study's conclusions could be summarized as follows:

1. There is a positive significant relationship between Parent involvement and students' academic achievement in biology.
2. There is a positive significant relationship between Parent Educational background and students' academic achievement in biology.
3. There is a joint effect of parent educational background, parental involvement and students' academic achievement in biology

### Conclusion

The outcome reported this study underscore the importance of the parent involvement and parent educational background on the performance of students in biology. Parental Involvement, parent educational background, and other factors affect students' academic achievement. The domestic setting conditions and financial position of the families have been favourable as well as unfavourable towards the academic outcomes of the students. It is well known that education is essential for fostering general advancement for people, communities, and the country. To be able to attain educational qualifications and to enhance one's talents and skills, it is vital to do well academically and obtain good grades. Hence, Parent must engage their young ones at home and be actively involved by providing basic needs that will facilitate learning and bring success when studying.

### Recommendations

1. Parents should provide a home environment that will fosters their children's learning and know how to provide support and encouragement for their offspring's success.
2. It is important to recommend that parents should feature prominently in future educational reforms. This is intended to initiate and increase more support to education from parents/individuals rather than government alone.

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