THE INFLUENCE OF SCHOOL AND HOME ENVIRONMENT ON THE ACADEMIC PERFORMANCE OF BIOLOGY STUDENTS IN SECONDARY SCHOOLS IN IKERE LOCAL GOVERNMENT AREA OF EKITI STATE, NIGERIA

FALEMU, Funke A. & AKINWUMI, I.O.
Department of Biology, College of Education, Ikere-Ekiti, Ekiti State, Nigeria

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ABSTRACT: The study investigated the influence of school and home environment on the academic performance of biology students in secondary schools in Ikere Local Government Area of Ekiti state, Nigeria. The research design adopted was a descriptive survey research which was questionnaire based. Design in which self-structured questionnaire was administered to one hundred and twenty five respondents who are from five selected secondary schools within Ikere in Ikere Local Government, Ekiti State. The instrument was subjected to validity and reliability mechanism. From the data collected, it was revealed that teacher uses different kinds of methods to help students understand biology Concepts. Teacher uses a wide variety of visuals (pictures, graphs and charts) and models to explain biology concepts since there are adequate provision of equipment and facilities, specimen and standard laboratory room for practical work and to aid instruction. Furthermore, findings indicated that schools are not located in a noisy area. Invariably, the serenity of the school environment enhances concentration and foster students’ understanding in Biology class. On the home based factors that could affect students’ performance in Biology lessons, Findings indicated that parents always check students’ school work at home. Parents encourage them to learn at home, teach and guide them in doing their homework and through this parental involvement in students’ learning activities; this positively influences students’ levels of achievement. Respondents believe that students who achieve high performance in Biology class are those from urban areas with parents of higher occupation status. Furthermore, it was revealed that when family set rules for children about academics, it helps students to improve their grades. Based on the findings, appropriate recommendations were made.

Key Words: school, home, home environment, school environment, academic performance.

Introduction

The desire of every country to develop human capital is hinged on education. Globally, education is a useful instrument for political, social, economic, scientific and technological developments. Among the levels of education in Nigeria is secondary school education which is the pivot of the entire educational system. Student’s performance at this level become a great concern to stakeholders in education and a subject of discussions and debate among scholars (Alaka, 2011).

Over a period of time, it has been observed that the students who are exposed to the same lesson by the same teachers are likely to perform differently when they are evaluated. Within and outside the school environment, students are faced with some factors that influence their academic performances. This also clearly shows that there are factors that influence the academic of both gifted and non-gifted children which can be traced to the students’ environment.

Environment according to Oxford Advanced dictionary (2008) is the natural conditions like land, air and water, in which people, animals and plants live and also circumstances affecting their life. Environment can be physical or psychological. Physical environment deals with material aspects such as infrastructure, availability of resource facilities. The psychological environment includes the home, school community and significantly other people in our lives such as parents, peers and siblings.

It is acknowledged that many factors affect students’ performances in schools. The environment plays a very remarkable role in the life of every individual and the educational aspect is also affected. It is a fact that is surrounding environment of students influences their performance. Adesoji (2008) on the other hand observed that students’ school environment is a major predictor of their academic achievement whether positive or negative. Therefore, the students’ environment remain an important indicator for students’ academic motives (Ajila & Olutola, 2007)
The home environment means the family background of the child, which includes all the human and material resources present in the home that affects child’s living such as the parent’s level of education, occupation, social-economic status and the socializing facilities available in the house. Thus the home is the basic in situation for providing the child’s primary socialization and laying the educational foundation for the child upon which the other agents of socialization build. Research shows that favourable home environment in children’s learning positively affects the child’s school performance including higher academic achievements (Lisa, 2003). Parents not only provide good learning experiences, and through talking with the child, sharing experiences and teaching but also help to organize a child’s learning experiences. Also, children with richer home literacy environments demonstrate higher levels of reading knowledge and skills than those low academic exposures.

Parents contribute a lot to the academic achievement of their children in school, it is assumed that students from homes that do not have interest for education tend to perform poorly in their subjects like chemistry, Biology, English Language, Mathematics, and physics. This is because they lack encouragement and incentives from parents which affect them negatively. The school environment refers to factors within the school that influence the teaching-learning process. The school environment includes classrooms, library, technical workshops, teachers’ quality, teaching methods, peers, mutual relationship between the students and the teachers among others variables that can affect the teaching–learning process (Ajayi, 2001). The extent to which students learning could be enhanced depends on their interaction within the school premises, the structure of their classroom, availability of instructional facilities and accessories (Ajao 2000), it is believed that a well-planned school will gear up expected outcome of education that will facilitate good social political and economic emancipation, effective teaching and learning process and academic performance of the students.

‘Learning is enhance when given in a rich environment, if the classroom environment is conducive and has all necessary learning facilities that is, the more conducive school environment is, the greater the opportunity to learn. Also, if parents’ commitment and attitudes such as, cultural and norm practices, child rearing, their roles and involvement in education are positive, there will a positive motivation for students to learn well in schools.

Environment is one of the major factor that determine an individual’s capacity to learn and also provides basis for success in future achievement, therefore, this calls for concerted efforts on the parts of the parents, educators and government to provide adequate school facilities such as well-equipped laboratories, functional libraries, and sporting facilities complimented with favourable home environment to enhance the intellectual and academic performance of the school

The academic performance of students in Nigeria has been of great concern to the government, teachers, parent and the students themselves, the standard of education does not depend only on the teacher as reflected in the performance of their duties but also in the effective coordination of the home environment (Ajao, 2001) Beyond the direct effect which these inadequate facilities have on students ability to learn, it’s combination with other home variables such as Parents level of education, Occupation and socio-economic status, Family size and type, creates uncomfortable frustrating work space for teacher as well as conducive atmosphere for the students which manifests in poor concentration and hyperactivity, thereby resulting in poor performance of students.

To this end, there is need to study the influence of school and home environmental factors on the academic performance of secondary school biology students in Ikere Local Government Area of Ekiti state

**Statement of the Problem**

Biology is a branch of natural science that deals with the study of living organisms, including their structures, functioning, evolution, distribution and interrelationships. (The American Heritage Dictionary of the English language, 2009). Biology occupies a unique position in the secondary school education curriculum because of its importance as science of life. In Nigeria, the secondary school Biology curriculum is designed to continue students’ investigation into natural phenomena, to deepen students’ understanding and interest in biological sciences, and also to encourage students’ ability to apply scientific knowledge to everyday life in matters of personal, community, health and agriculture among others (Federal Ministry of Education, 2009). Biology is a very important science subject and stands as the bedrock upon which are based many other science courses like Medicine, Pharmacy, Nursing, Biochemistry, Genetic, Agriculture etc., that are of great economic importance to a nation. Besides, the importance of Biology to mankind as science of life, enables one to understand himself and his intermediate environment.

**Statistics on academic performance of secondary school students in Biology** has it that there has been a persistence poor performance of secondary school student. This implies that students who are exposed to the same teaching and
learning experience perform differently. It has also been proved by psychologists that difference in intelligence is not the only factors responsible for the difference in performance of students.

The magnitude of environment problems on teaching and learning in schools is very difficult to determine because so many extraneous variables impinge on the teaching skills and learning capabilities of teachers and students in the classroom at different times. The time between school environment and home environment is hard to define and varies from person to another.

Most schools are faced with problems such as inadequate libraries, classroom, staffroom, laboratory, teaching equipment like instructional aids, and technical workshop. Likewise, some parents are either unable or refuse to provide the basic need of the child due to the socio-economic attainment existing among the various homes.

These problems have posed great challenges to the teaching and learning process and also hinder the academic performance of Nigerian students. It is generally believed that if the learning environment is conducive, and availability of teaching materials, biology students in secondary schools will be more educated and there will be less risk of low academic performance, hence, many conflicting views have been expressed by various authors as the factors that are responsible for this poor standard of academic performance of secondary school students especially in Biology. While some blame this poor performance on the government inadequacy in fulfilling its entire obligation towards education and school facilities, others maintain that home environment of a child goes a long way in determining the educational development of students in Biology. The goal of this study is to critically examine and analyze the effect of home and school environmental factors on the academic performance of secondary school students in Biology in Ikere Local Government Area of Ekiti state

Research Questions
1. To what extent do teaching equipment and instruction materials influence students’ academic performance in Biology in Ikere Local Government Area of Ekiti state?
2. To what extent does school location influence the academic performance of secondary school students in Biology in Ikere Local Government Area of Ekiti state?
3. To what extent does class size influence the academic performance of students in secondary school?
4. To what extent do the level of academic of parents affects the degree of the academic performance of the student in Biology in Ikere Local Government Area of Ekiti state?
5. To what extent does socio-economic status of the parents influence the academic performance of the student in Biology in Ikere Local Government Area of Ekiti state?
6. How do size and family residence affect the academic performance of students in Biology in Ikere Local Government Area of Ekiti state?

Literature Review
Concepts of school environmental factors and Students’ Academic Achievement
School environmental factors are those aspects within the pupils’ surrounding at school that influence the process of teaching and learning. The school environment is an important aspect of educational planning. The quality of education not only depends on the teacher as reflected on performance of their duties, but also in the effective coordination of the school environment (Ajao, 2001) quoted in Chuma (2012).

It is believed that a well-planned school will gear up expected incomes of education that will facilitate good social, political and economic emancipation, effective teaching and learning process and academic performance of pupils. Everything within the school environment has an influence on the teaching-learning process.

In this study, physical facilities, instructional materials, class size and school location are some factors within the school environment that were found to have an influence on the process of teaching-learning hence the school environment remains an important area that should be studied and well managed to enhance students’ academic performance (Ajayi, 2001 & Luchukwu, 2000) quoted in Kilel (2012).

Adequacy of physical facilities and Students’ Academic Achievement
The image of a school is dependent on the quality of its infrastructure. The physical facilities of the school have a variety of effects on teachers, students and the teaching-learning process. They include; administration office, staffrooms and offices, classrooms, laboratories, workshop equipment stores, libraries, hostels, staff houses and school ground.
The library is an essential factor in the teaching-learning process. Fuller (1986) identified a library as an instructional resource which may significantly influence the teaching-learning process and eventually the performance of students.

Ayoo (2002) and Eshiwani (1993) agree that school environment such as; classrooms, desks and books have a direct impact on good performance among the students. In developing countries, Classrooms are a place that pupils spend the greatest part of their day. Wabuoba (2011) quoted in Chuma (2012) observed that overcrowding in classrooms make it difficult for pupils to write the teacher is also unable to move around the class to assist needy pupils and this affects the teaching-learning process. Crowded classroom conditions not only make it difficult for learners to concentrate but inevitably limit the amount of time teachers can spend on innovative teaching methods such as cooperative learning and group work.

Schools with equipped laboratory have their students performing better than their counterparts in schools without laboratories or those with ill equipped laboratories. Laboratory work stimulates learners’ interests as they are made to personally engage in useful scientific activities and experimentations (Owoeye & Yara, 2010).

**Sufficiency instructional materials and Students’ Academic Achievement**

Availability of instructional materials is a core determinant in the successful implementation of any curriculum. The head teacher should ensure there is proper selection and procurement of teaching-learning resources. According to Agosiobo (2007) the use of teaching resources is important because they motivate learners to learn as the offer stimulus variation and assist in sustaining learners’ attention throughout the lesson.

Ashton (2001) observes that instructional materials are crucial in planning and implementing a successful life skill program. The availability of learning resources is the most influential factor which may explain differing performance levels. It is generally assumed that the use of instructional materials leads to better performance. Kathuri (1986) in his study, found that the presence or absence of resources have an effect on teaching and learning. Performance of students in examinations is influenced by the availability of instructional materials and school facilities such as laboratories, libraries, textbooks, laboratory equipment among others (Eshiwani, 1993). The quality and adequacy of such equipment as, instructional materials have a direct bearing on quality of education as they determine how effectively the curriculum is implemented (Agosiobo, 2007).

Avalos (2003) pointed out that the quality of education the learners receive bears direct relevance to the availability or lack of instructional materials. Schools with adequate facilities such as textbooks and other instructional materials stand a better chance of having better results than poorly equipped ones. Textbook ratio should be one book per three pupils in lower primary and one book per two pupils in upper primary (Avalos, 2003). Sharing of these books may have an effect on the teaching learning process since sometimes a pupil may be absent from school yet he/she had the book hence inconveniencing the colleague.

Sufficient quality and quantity resources and facilities determine how effectively the process of teaching and learning takes place. Fuller (1986) found that instructional materials such as textbooks, visual and audio materials not only enhance communication between teachers and learners but, also facilitate child centered learning through discovery. With the availability of text books pupils will be able to read on their own while at home and do their homework. Availability of good quality instructional materials is an important factor on pupils’ achievement. Thus a well-produced and easily available reference material is an important asset. Lockheed et al. (1993) noted that no meaningful teaching-learning can take place without adequate instructional materials.

Asikhia (2010) pointed that adequately well prepared instructional materials determine the amount of learning that can take place in a learning institution. Good quality instructional materials can motivate interest, maintain concentration and make learning more meaningful. The studies above reveal that there is a relationship between availability of instructional materials and Students’ Academic Achievement.

**Class size and Students’ Academic Achievement**

The influence of class size has a great impact on Students’ Academic Achievement. The smaller the class size, the easier it is for the teacher-learner interaction thus improving the teaching-learning process since the teacher will be able to give the learner individual attention. Large class size impacts negatively to the teaching-learning process since the teacher is not even able to move freely to assess the pupils work as they do their exercises.

According to National Council for Teacher Education (NCTE) in India, small class size leads to engagement of the learner increased participation, and attentiveness. Smaller class size allows educators to
focus more on the pupils in their teaching coming to better understanding and adjust their methods to diverse individual needs. Large class size makes monitoring of pupils’ attendance very difficult thus encouraging pupils’ absenteeism, and the quality of feedback to pupils become very low thus making the teaching learning process ineffective (Bascia, 2003). Wabuoba (2011) observed that overcrowding in class rooms make it difficult or the pupils to write and the teacher is also unable to move around to help the needy pupils.

School location and Students’ Academic Achievement

The school location has variables such as schools in rural or urban areas, economic status of the neighbourhood, clanism, and schools built near market centers among other variables that affect the teaching-learning process (Ahmen, 2003). The extent to which pupils learning could be enhanced depends on the location of the school. When a school is built near market center, the noise from the market will distract the learners from concentrating thus affecting the process of teaching-learning.

Economic status of the school neighbourhood also has an impact on the teaching-learning process. Barbarin (2008) noted that schools located in low economic status communities are often under resourced and this affects the teaching-learning process. Parents from low economic status are unable to afford resources such as books, computers or tutors to create this positive literacy environment. Woolfolk (2007) noted that when the communities’ economic status is low, they may not be able to support the school financially. Economic status of the community will make the community have the ability to support or not support the schools within their communities.

The urban or rural location of the school has an effect on the teaching learning process. Most schools in the urban areas are well staffed as compared to those in rural areas since everyone wants to work in the urban centers due to the technology which is high in the urban areas as compared to the rural areas. This causes under staffing in the rural areas thus affecting the teaching learning process. Clanism also affects the process of teaching and learning. Chuma (2012) noted that parents prefer taking their children to schools within their clan despite the performance of such schools. This affects teaching-learning and Students’ Academic Achievement since some schools have a record of poor performance yet they still stick to them because of clanism.

Students’ Perceptions of Family Roles and Academic Achievement

Education remains an indisputable means for individuals and national development. It is a vehicle that contributes significantly to all spheres of human endeavour and evidently, it has been used by people to promote their social, economic, and political status (Rahuman & Uddin, 2009). Njuguna (2011) viewed education as a tool for change and currently efforts are geared toward enhancing educational process to improve students’ academic achievement through parental roles. The desire for parents to provide better educational opportunities to their children depends on their level of influence both at home and in schools. Particularly, children of secondary school age can recognize their parents’ efforts and can cite their parental sacrifices as sources of motivation to succeed in their academic pursuits (Osonwa, 2013).

The social learning-cum-humanistic theory gave insight on how people acquire and maintain certain behavioral patterns with implication for initiating educational intervention strategies (Bandura, 1997). Evaluating behavioral change largely depends on environmental factors, people and behavior. Environment (home/school) is a factor that can affect a person’s behavior (academic achievement). Similarly, environment and situation (family roles) or state of the learner (age, sex) provides a framework for understanding behavior (Parraga, 1990). To harvest human motivation such as creativity, human potentials and positive academic achievement, Clay (2002) stressed that a hierarchy of individual’s needs; human choices, capacity for self-direction individual’s feelings and understanding of his or her own development should be targeted through effective and realistic family roles which motivate children’s educational and academic motives. Trusty (2002) found that high achieving children perceived their parents as having high expectations for them without distinct differences of their socio-economic backgrounds.

Dieneye (2006) and Urdan & Schoenfelder (2007) asserted that, parents who hold high academic aspirations for their children influence their academic motivation which make them work hard in school activities. Study by Urdan and Schoenfelder (2007) show that children whose parents were more nurturing showed eagerness of success for examinations.

Parents’ Socio-economic Factors and Students’ Academic Achievement

The social learning-cum-humanistic framework affirmed that parental influence is a major factor that is conceptually associated with the social and educational indicators of their children (Chen & Kaplan, 2001 and Stull, 2013). According to the social learning-cum humanistic perspective, the desire of children to
imitate their parents and respond to parental stimuli is crucial to understanding the process by which social and economic indicators are transmitted across generations (Stull, 2013). Sirin (2005) mentioned that students’ academic achievements may differ because of their peculiar differences. For example, it was hypothesized that parents with higher levels social status such as education have positive influence on the educational outcomes of their children because of the expectation that such parents will be seen as good role models by their children.

However not all parents, even despite the good opportunities they have can support their children’s cognitive and psychosocial development throughout their school years. Consequently, Tiwari & Bansal (2004) and Stull (2013) stressed that a child with high academic achievement is well motivated by his/her family while low achievers are deprived of such motivation due to poor parenting. Studies on students’ family socio economic factors further show a great impact on preparedness and disposition to education by parents through social, educational and economic advantages were being the main source of educational imbalance among students (Considine & Zappala, 2002 and Osonwa, 2013). This is so on the premise that these parents make available sufficient psychological and emotional stimuli to their children by providing good educational and learning environment that produce confidence and the improvement of skills needed for success.

Related to parental socio-economic effects on children’s schooling is the level of economic resources of the parents which often predict better schooling indicators of children (Ermisch & Francesconi, 2001 and Massey, 2007). For instance, Alderman et al. (2001) and Gordon. (2004) mentioned that children in families with more resources like incomes and assets are more likely to live in areas with better schools and parents who can afford to pay for supplemental tutoring and other auxiliary services.

Studies by Considine & Zappala (2002) and Eamon (2005) found that children from families with low income have low literacy level, low retention rate, problems in school behaviour and more difficulty in their studies and mostly display negative attitude towards studies. The total income of families, monthly or annually and their expenditures put a great effect on the learning and academic opportunities accessible to children and their chances of educational success. Parents who are in the high income class are found with good occupational status and often motivate their children’s physical, psychosocial and health status to learn (Eamon, 2005). McCain & Mustard (2009) observe that creating healthy environment at childhood plays an important role in providing the basis for a healthy life and a successful formal schooling. Therefore, children with supportive food, healthcare and care from home are assumed to succeed in schools. arental education and occupation not only influence parent-child interactions related to learning, but also affects parents’ income and the need for motivating children’s learning (Willms, 2000).

Pedrosa & House (2006) however report that students from deprived socioeconomic and educational background ay perform better than those from higher socioeconomic status. It is obviously true that the criteria for categorizing socio-economic standard particularly educational and income levels of parents in different countries are different depending on the norms and values in those countries (Massey, 2007). For instance, the criteria for low socio-economic status for developed countries will be different from the criteria of developing nations including Nigeria, reasons for which this study was partly premised. But, Marjoribanks (2003), Oribhabor & Okodugha (2010) report that different family social statuses determine the type of support children will receive to meet up with their personal and educational needs.

However, Rothestein (2004) & Ogunshola (2011) deny that socio-economic status of parents affect academic performance of their children, but rather make it possible for children from low background to compete well with their counterparts from high socio-economic background under the same academic environment. This however depends on the parental commitment to education (Jeynes, 2002). The literature survey on socio-economic differences in school academic achievement at different levels of education indicates mixed study results. However, one common finding is that students with high socio-economic status outperform their low socio-economic counterparts.

Family Residence and Students’ Academic Achievement

Research examining predictors of home environment on students’ academic achievement has focused on basic distractions in the process of acquiring knowledge and skills by students. The nature of such distractions either in the rural or urban areas may differ to some extent. For instance, Leland & Harste (2005) posited that students who lived in the urban areas have varied social statuses and different upbringing and often experience more crimes in the neighborhoods and violence on the streets than their counterparts from suburban and rural areas who relatively live in a safe and pleasant environment.

Mattingly & Stransky (2010) further reported that students from rural areas who merely have similar social statuses lack basic amenities and are bedeviled with family economic problems most of whom live below the United Nation’s poverty line than their counterparts from the urban areas. In spite of all these
overwhelming challenges in both urban and rural areas, there are still a significant number of students who overcome the obstacles and manage to succeed in their academic pursuits (Graham, 2012).

These study findings so far indicate variations in students’ achievement due to geographical location, resources and availability of technology of the residential areas. Brown (2003) asserts that the low level performing students usually come from the rural areas that experience lack of conducive environment for learning. Although rural students typically achieve less than their counterparts from the urban areas, variations do exist between one area and the other (Graham, 2012). Brown (2003) mention that achievement gap between urban and rural areas did exist as a result of their peculiar differences. But while some students from rural areas had above average, others are just an average (Brown, 2003). It is important to keep in mind that both urban and rural students might differ from one another on the basis of the peculiarities in their residential settings. Students can generally do well in examination scores as well as or do better than one another depending on the level of influence of their geographical and demographic factors and the educational opportunities given by the environment (Loveless, 2003 and Williams, 2003).

The Nigerian nationwide secondary schools’ academic achievement levels vary from state to state and locations. For example, urban students perform significantly better in some settings while in another setting the rural students do perform well (Slavin, 2006 and Abdullahi, 2011). Such differences are linked to variances in a wide range of factors within the students’ localities (Lee & McIntire, 2000). However, the spread of internet access now a day, increased number of educated parents, emergence of more economic opportunities and better social services might be the reasons for such disparity in students’ academic achievement (Graham, 2012).

These developments seem to have created academic opportunities for students. Consequently, the equality in educational achievement became an issue of debate globally. This is because all countries are more or less alike in their educational policy aspirations to ensure equal opportunities for a qualitative education to all individuals. But differences in students’ geographical representations remain an educational challenge to researchers. As a result of which became the key social factor that bring inequalities in the educational achievement among students (Graham, 2012).

**Family Structure and Students’ Academic Achievement**

Previous studies report that growing up in various family structures have educational consequences (Schiller, 2002; Sun, 2003 and Hofferth, 2006). Literature shows that a child’s emotional, psychological and educational wellbeing is influenced by the combine action of the family; parenting styles, structures type, socio-cultural status, and family size (Jeynes, 2002 and Eamon, 2005).

Children from single parents usually develop less concentration and greater social and psychological problems in school (Eamon, 2005). Again, literature on children’s family structures reveal that the age gaps between parents and the age at which a mother gives birth affects the children academic achievement either positive or negative (Laosa, 2005). Adewale (2002) point out that in rural communities there is large family size due to polygamy and uncontrolled birth which are associated with illiteracy and such families often are characterized by low nutritional status, health problems which in turn influence students’ academic success and students’ dropout from school. To move beyond this static approach to study family structure, a growing body of recent studies have used a humanistic perspective to guide their research (Abdullahi, 2011 and Osonwa, 2013).

In conclusion, the literature so far studied shows that family structure composition has shown a large impact on students’ life experiences and schooling process as well as their academic achievement. Even in schools with high quality, family structure differences among students generate larger students’ academic achievement disparities. However, one important position taken is that, while family structure and family inputs still vary among parents, their resilience in educating their children as required by NPE, differences in students’ achievement can be reduce through this family background influence.

**Parental Predisposition to Education and Students’ Academic Achievement**

Parental predisposition to education or involvement in education is unequivocally essential to students’ academic achievement. Parental involvement in education has been seen as parents’ interactions with schools and with their children to promote academic success (Hill, 2004). Such interactions extend beyond the engagement with schools, to the home life and the expectations of values for education that are communicated directly or indirectly to children (Hill, 2004). Several studies indicate that there are positive academic outcomes as a result of parental involvement with benefits beginning in early childhood throughout adolescence and beyond.

Hill & Craft (2003) found that parental involvement was associated with academic outcomes because it increased academic skills, social emotional competencies of students. Similarly, parental
involved is differentially associated with achievement based on whether parents have high or low social status (Fan & Chen, 2003 and Hill, 2004).

Some researchers have identified theories which play significant roles in parent involvement in education (Epeisten, 2002; Fan & Chen, 2003; Seginer, 2006 and Chao, 2009). These authors support that demographic factors of parents promote their involvement in education which improve their children’s potentials. This provides evidence that, parents’ involvement in education affects the overwhelming academic achievement of their children (Fan & Chen, 2003). Eamon (2005) stated that low level home commitment prevents children access to resources, motivation, and incentives.

Cotton & Wikelund (2005) observes that children do well in examinations when parents intensively involved in their education. Hill (2004) affirms that it is the parents’ interest in education which makes them actively involved in matters affecting their children’s education. Further study findings show that students value their education when their parents show interest in their education (Domina & Knipprath, 2005). Sheldon (2003) however show that minimal resources of parents are one of the limiting factors why they are less involved in their children’s education. Therefore, the general believe is that a parent’s enthusiasm about education is, in most instances the underlying factor that contributes the child’s academic success. The foregoing theories have guided a number of research and conceptualized that parents’ involvement in education includes communication between families and schools, parental participation in education at school, parental commitment at home such as providing educational experiences, support in child’s learning materials and extra lessons (Epstein, 2002).

Methodology

A descriptive survey research design was adopted in this study to determine the influence of school and environment on academic performance. It involved the use of questionnaires to a sample of students to collect information about their opinions pertaining to issues that influence of home and school factors on their academic performance in Biology.

The population of this consists of all students in government owned secondary school in Ikere, Ikere Local Government Area of Ekiti State.

In this study, the researchers used five (5) secondary schools in the study area. Using simple random sampling technique, twenty-five (25) students from SS II were randomly selected from each secondary school making a total number of 125 respondents.

The researchers used a self-structured questionnaire to collect data from the sampled students. Questionnaires were considered best for this study because they are easy to administer to the respondents and convenient to collect information within a short span of time. They also help produce more candid answers than is possible in an interview. The questionnaire developed had two sections. Section A obtained data on student’s demographic information while Sections B obtained information about data related to research objectives. The respondents were expected to indicate the extent to which they agree with the items provided. The study subject was required to tick (√) the option they feel was most appealing to them.

The instrument was subjected to validity and reliability mechanism. For instruments to be valid the content selected and included in the questionnaire were relevant to the variables being investigated so as to ascertain the effectiveness of the instrument in soliciting information regarding the topic. The draft of the research instrument was made available to experts in Research Methodology. The contents of the research instrument were scrutinized, corrected and all the corrections made by the experts were effected in the final draft of the instrument as verdict by the research supervisor.

In establishing the reliability for the instrument in the original scale, the split half reliability method was used in which the responses to the instrument after administering were subjected to a split half reliability co-efficiency analysis using Pearson product moment co-efficient correlation for the administration was found to be 0.92 which was considered high enough for the reliability.

The researchers visited the selected schools and explain the purpose of study and how to respond to the questionnaire correctly; allow them to provide appropriate answers to question, collect the questionnaire, collate and present for analysis.

The questionnaires collected from the respondents were checked to ascertain they were completed and accurate. They were then edited and coded. Descriptive analyses (mean and percentages) were used to summarize and describe the characteristics of the sampled population. The results are presented in form of tables, and figures.
Results and Discussion

Research Question 1:
To what extent do teaching equipment and instruction materials influence students' academic performance in Biology in Ikere Local Government Area of Ekiti state?

**Table 1:** Analysis of influence of teaching equipment and instruction materials on students' academic performance in Biology

<table>
<thead>
<tr>
<th>S/N</th>
<th>Description</th>
<th>SA</th>
<th>A</th>
<th>D</th>
<th>SD</th>
<th>X</th>
<th>Decision</th>
</tr>
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<tbody>
<tr>
<td>I</td>
<td>Your teacher uses different kinds of methods to help students understand biology Concepts.</td>
<td>55</td>
<td>35</td>
<td>20</td>
<td>15</td>
<td>3.04</td>
<td>Accepted</td>
</tr>
<tr>
<td>II</td>
<td>Your teacher uses a wide variety of visuals (pictures, graphs and charts) and models to explain biology concepts.</td>
<td>50</td>
<td>40</td>
<td>20</td>
<td>15</td>
<td>3.00</td>
<td>Accepted</td>
</tr>
<tr>
<td>III</td>
<td>There are adequate provision of equipment and facilities, specimen and standard laboratory room for practical work and to aid instruction</td>
<td>70</td>
<td>25</td>
<td>20</td>
<td>10</td>
<td>3.24</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

Table 1 above reveals that respondents agreed with a mean score of 3.04 that their teacher uses different kinds of methods to help students understand biology Concepts. It revealed with a mean score of 3.00 that their teacher uses a wide variety of visuals (pictures, graphs and charts) and models to explain biology concepts. With a mean score of 3.24, the respondent reveals that there are adequate provision of equipment and facilities, specimen and standard laboratory room for practical work and to aid instruction.

Research Question 2:
To what extent does school location influence the academic performance of secondary school students in Biology in Ikere Local Government Area of Ekiti state?

**Table 2:** Analysis of influence of school location on the academic performance of secondary school students in Biology

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<thead>
<tr>
<th>S/N</th>
<th>Description</th>
<th>SA</th>
<th>A</th>
<th>D</th>
<th>SD</th>
<th>X</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Your school is located in a noisy area</td>
<td>60</td>
<td>30</td>
<td>20</td>
<td>15</td>
<td>2.2</td>
<td>Rejected</td>
</tr>
<tr>
<td>II</td>
<td>The serenity of your school environment enhance concentration and foster understanding in Biology class</td>
<td>45</td>
<td>40</td>
<td>25</td>
<td>15</td>
<td>2.92</td>
<td>Accepted</td>
</tr>
<tr>
<td>III</td>
<td>Your School is located in an area that facilities the availability of professional Biology teachers and teaching aids</td>
<td>70</td>
<td>35</td>
<td>10</td>
<td>10</td>
<td>3.32</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

Table 2 indicated the extent to which school location influence the academic performance of secondary school students in Biology in Ikere Local Government Area of Ekiti state. With a mean score of 2.2, the respondent disagreed that their school is located in a noisy area. With a mean score of 2.92, the respondent agreed with the statement that the serenity of their school environment enhance concentration and foster their understanding in Biology class. With a mean score of 3.32, the respondents indicated their School is located in an area that facilities the availability of professional Biology teachers and teaching aids.

Research Question 3:
To what extent does class size influence the academic performance of students in secondary school?

**Table 3:** Analysis of influence of class size on the academic performance of students in secondary school

<table>
<thead>
<tr>
<th>S/N</th>
<th>Description</th>
<th>SA</th>
<th>A</th>
<th>D</th>
<th>SD</th>
<th>Mean</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>There is adequate furniture (tables and stools) and space to accommodate students in Biology class</td>
<td>50</td>
<td>45</td>
<td>20</td>
<td>10</td>
<td>3.08</td>
<td>Accepted</td>
</tr>
</tbody>
</table>
II. There is proper arrangement of seats for free movement in Biology class

<table>
<thead>
<tr>
<th>S/N</th>
<th>SA</th>
<th>A</th>
<th>D</th>
<th>SD</th>
<th>Mean X</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>75</td>
<td>25</td>
<td>15</td>
<td>10</td>
<td>3.32</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

III. Hearing the teacher from the back is not difficult in Biology class

<table>
<thead>
<tr>
<th>S/N</th>
<th>SA</th>
<th>A</th>
<th>D</th>
<th>SD</th>
<th>Mean X</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>60</td>
<td>30</td>
<td>25</td>
<td>10</td>
<td>3.12</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

IV. The size of Biology class enables utilization of the available teaching aids for effective learning

<table>
<thead>
<tr>
<th>S/N</th>
<th>SA</th>
<th>A</th>
<th>D</th>
<th>SD</th>
<th>Mean X</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>55</td>
<td>50</td>
<td>15</td>
<td>5</td>
<td>3.24</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

Respondents agreed to all the items in the table above. The mean score of all the items are above 2.5. The result of statistics shows with a mean score of 3.08 that there is adequate furniture (tables and stools) and space to accommodate students in Biology class. With a mean score of 3.32, the respondents agreed that there is proper arrangement of seats for free movement in Biology class. With a mean score of 3.12, the table also revealed that hearing the teacher from the back is not difficult in Biology class. With a mean score of 3.24, the table revealed that the size of Biology class enables utilization of the available teaching aids for effective learning.

Research Question 4:
To what extent do the level of academic of parents affects the degree of the academic performance of the student in Biology in Ikere Local Government Area of Ekiti state?

Table 4: Analysis of influence of level of academic of parents’ on the academic performance of the student in Biology

<table>
<thead>
<tr>
<th>S/N</th>
<th>SA</th>
<th>A</th>
<th>D</th>
<th>SD</th>
<th>Mean X</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>80</td>
<td>20</td>
<td>13</td>
<td>12</td>
<td>3.34</td>
<td>Accepted</td>
</tr>
<tr>
<td>II</td>
<td>55</td>
<td>35</td>
<td>25</td>
<td>10</td>
<td>3.08</td>
<td>Accepted</td>
</tr>
<tr>
<td>III</td>
<td>57</td>
<td>30</td>
<td>23</td>
<td>15</td>
<td>3.03</td>
<td>Accepted</td>
</tr>
<tr>
<td>IV</td>
<td>95</td>
<td>15</td>
<td>10</td>
<td>5</td>
<td>3.6</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

Table 4 indicated the extent to which the level of academic of parents affects the degree of the academic performance of the student in Biology in Ikere Local Government Area of Ekiti state. Table 4 indicated with a mean score of 3.34 that their parents always check their school work at home. With a mean score of 3.08, the table reveal that parents encourage students to learn at home, teach and guide them in doing their homework. With a mean score of 3.03, the study indicated that parental involvement in students’ learning activities positively influences their levels of achievement. Also, the table further indicated with a mean score of 3.6 that their family set rules for children about academics and this help to improve their grades.

Research Question 5:
To what extent does socio-economic status of the parents influence the academic performance of the student in Biology in Ikere Local Government Area of Ekiti state?

Table 5: Analysis of effect of socio-economic status of the parents on the academic performance of the student in Biology

<table>
<thead>
<tr>
<th>S/N</th>
<th>SA</th>
<th>A</th>
<th>D</th>
<th>SD</th>
<th>Mean X</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>95</td>
<td>15</td>
<td>10</td>
<td>5</td>
<td>3.6</td>
<td>Accepted</td>
</tr>
</tbody>
</table>
Table 5 indicated the extent to which socio-economic status of the parents influence the academic performance of the student in Biology in Ikere Local Government Area of Ekiti state. The table indicated with a mean score of 3.6 that students from average/high income home environment have some educative media in their homes such as Computer, television set, radio, tape recorder that enhances learning of Biology. With a mean score of 3.2, the table reveals that they believe students who achieve high performance in Biology class are those from urban areas with parents of higher occupation status. With a mean score of 3.12, the study indicated that students from well up families have more learning materials.

Research Question 6:
How do size and family residence affect the academic performance of students in Biology in Ikere Local Government Area of Ekiti state?

Table 6: Analysis of influence of size and family residence on the academic performance of students in Biology

<table>
<thead>
<tr>
<th>S/N</th>
<th>Ability of parents to provide necessary facilities/materials that can help in making the learning of Biology easy depends on the needs to other siblings</th>
<th>SA</th>
<th>A</th>
<th>D</th>
<th>SD</th>
<th>Mean X</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>50 40 20 15 3.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Accepted</td>
</tr>
<tr>
<td>II</td>
<td>Limited number of family improves students’ performance.</td>
<td>80 25 15 5 3.44</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>Family residences to which students live tend to influence students’ levels of performance in Biology.</td>
<td>60 30 20 15 3.08</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6 indicated how the size and family residence affect the academic performance of students in Biology in Ikere Local Government Area of Ekiti state. With a mean score of 3.0, the table reveal that ability of parents to provide necessary facilities/materials that can help in making the learning of Biology easy depends on the needs to other siblings. With a mean score of 3.44, the study indicated that limited number of family improves students’ performance. Equally, with a mean score of 3.08, the respondent agree that family residences to which students live tend to influence students’ levels of performance in Biology.

Discussion of Findings
Findings on school based factors that affect academic performance of secondary school students in Biology revealed that teacher uses different kinds of methods to help students understand biology Concepts. Teacher uses a wide variety of visuals (pictures, graphs and charts) and models to explain biology concepts since there are adequate provision of equipment and facilities, specimen and standard laboratory room for practical work and to aid instruction. Furthermore, findings indicated that schools are not located in a noisy area. Invariably, the serenity of the school environment enhances concentration and foster students’ understanding in Biology class. This finding is in line with Ogundele (2014) who stated that a good teaching aid must be visible, attractive and hold attention. He stated that instructional materials must have the characteristics of visibility, sufficiency, simplicity, attraction, appropriateness and relevancy to the topic, and simplicity if they must be used to influence students’ academic performance. Also, Adeyemo, (2015) stated that instructional materials should be used to supplement oral explanation and descriptions.

Equally, findings on the extent to which class size influence the academic performance of students in secondary school revealed that there is adequate furniture (tables and stools) and space to accommodate...
students in Biology class. Also, there is proper arrangement of seats for free movement in Biology class. Hence, hearing the teacher from the back is not difficult in Biology class and the size of Biology class enables utilization of the available teaching aids for effective learning. The finding is supported by Angrist & Levy (2014), Hoxby (2012) and Urquiola (2016). They reported that large classes do not encourage active interaction between the students and the class no matter how competent the teachers are, large class outstretches the inadequate instructional materials and place many problems on the teacher in case he/she considers improvisation. Also, Adeyefa (2014) opined that there is evidence about improvement in students’ achievement that can be attributed to smaller classes.

On the home based factors that could affect students’ performance in Biology lessons, Findings indicated that parents always check students’ school work at home. Parents encourage them to learn at home, teach and guide them in doing their homework and through this parental involvement in students’ learning activities; this positively influences students’ levels of achievement. This finding tallies with Robinson (2014) who reveals that the more a parent is educationally equipped, the more a child succeeds and he will likely go on succeeding. He stressed that parents who have received primary and extended education will more likely have a good standard of living and their children will be well academically equipped. Another study by Ahmad (2013), stated that a parent with an educational background would be in good position to be second teachers to their child. And even to guide and counsel the child on the best way to perform well in education. And provide necessary materials needed by the child.

Findings on the extent to which socio-economic status of the parents influence the academic performance of the student in Biology in Ikere Local Government Area of Ekiti state, the table revealed that family set rules for children about academics and this help to improve their grades. Respondents believe that students who achieve high performance in Biology class are those from urban areas with parents of higher occupation status. Furthermore, it was revealed that when family set rules for children about academics, it helps students to improve their grades. This is reaffirmed by the earlier studies of Onotai, Tabansi & Asuquo (2012) that concluded educated families with good income could afford to provide media devices at home. Pupils from average/high income home environment have some educative media in their homes such as Computer, television set, radio, tape recorder that enhances learning.

Similarly, the study of Lawrance (2013) affirms that pupils whose parents encourages and provides their educational needs always perform excellently. His study discovered that many parents who prefer to have their children working with them in their trade and those that are interested in keeping their children at school, never bordered to give a follow up by checking their children's note. This medium makes the children performance to go below average at school.

Conclusion

Undoubtedly, the findings of this study has clearly linked school variables such as school environment, location, teaching methods and material vis a vis home factors such as socioeconomic status of the parents and the performance of students in Biology. This study confirmed that these variables are quite essential and that they are inextricably linked to academic achievement of students in Biology. The school environment plays a vital role in determining how students’ perform or respond to circumstances and situation around them. Beyond speculation, a desirable performance of students in Biology requires a professionally trained, experienced, matured and dedicated teacher to create a positive learning environment for his or her students to strive. Moreover, the classroom structure and population, laboratory facilities, human resources and instructional materials must be accorded proper attention in order to stimulate students’ senses and develop the visual model-based reasoning of students which will to effective understanding of Biology concepts, thus causing high performance in Biology.

From the findings of this study, it can also be concluded that Parent/Family Involvement influence students’ academic performance in secondary schools. This can be done by attending the school education days, checking on the student’s performance and motivating the student. This is likely to go a long way in improving the student’s performance. Equally, the parent’s economic status influences students’ academic performance. This is because the parents will be able to pay school fees in good time and provide other learning materials. This is likely to help the student to perform well in their academics.

Recommendations

Based on the findings, the researcher makes the following recommendations:

i. Secondary Schools should ensure to create learning environment that facilitate students’ acquisition and development of cognitive, psychomotor and affective skills.
ii. School authorities should not relent in their efforts to provide teaching aids such as laboratories and computer set to aid instruction for favorable performance of students in Biology. They should equally create a school environment that attractive with adequate infrastructure.

iii. Biology teachers should provide practical-oriented activities to develop the students' senses and reasoning which will enhance competency in problem-solving and better understanding of Biology topics.

iv. The Government should increase the bursary allocation to the students from poor families so as to retain them in school to enhance their performance.

v. Parents ought to improve their parenting styles as this can affect their children performance.

vi. Government should give adequate priority attention to the education industry, particularly, the public secondary schools to satisfy the minimum education establishment standards.

vii. Government should always ensure that private schools are approved based on their ability to meet up with required standard before the operations and management of such schools by their private owners. This should be in accordance with the enabling laws to put a stop to proliferation of private secondary schools.

viii. The National Association of Proprietors of Private Schools (NAPPS) and the Rivers State Ministry of Education should partner for the purposes of training and retraining of teachers. This is because, teaching manpower, especially in private schools, requires urgent 'surgical' operation.

References


