

The Impact of Study Habits on Academic Performance in Biology: A Study of Students in Ilorin West LGA, Kwara State

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ABSTRACT This study investigates the impact of study habits on the academic performance of Biology students in Ilorin West Local Government Area, Kwara State. Recognizing that effective study practices are crucial for academic success, the research explores how factors such as family background, study methods, and the school environment influence students' study behaviors and performance. Utilizing a descriptive survey design, data were collected from 100 students across five secondary schools through a structured questionnaire titled "Study Habit and Academic Performance in Biology" (SHAPB). The analysis employed both descriptive and inferential statistics, including frequency counts, percentages, and chi-square tests to evaluate the relationships between study habits and academic outcomes. The findings revealed significant relationships, indicating that effective study habits, supportive family backgrounds, and conducive school environments positively affect students' academic performance in Biology. The study highlights the necessity of fostering positive study habits and providing adequate educational resources to enhance student achievement, emphasizing that students who cultivate strong study habits are more likely to succeed academically.

KEYWORDS: Study habits, Biology education, Family background, School environment, Student achievement.

I. INTRODUCTION

Education is widely recognized as a fundamental instrument for driving societal change and fostering national development. It encompasses the acquisition of knowledge, skills, values, and attitudes essential for adapting to and thriving amidst change (Abidoye and Abidoye, 2023). The National Policy on Education in Nigeria emphasizes that education should cultivate creativity, promote a nationalistic perspective, and encourage mental independence, thereby reducing reliance on external influences. The core purpose of education is to transmit values and ideas that students can internalize, shaping their identities and worldviews (Abidoye, 2021). Science, as a discipline, focuses on understanding and interpreting the natural world through observation and experimentation. It is divided into three primary branches: physical science, biological science, and applied science. Science plays a crucial role in education due to its relevance to everyday life and its methodological approach to knowledge acquisition. Definitions of science encompass it as a body of knowledge, a method of inquiry, and a way of thinking critically about nature (Abidoye et

al. 2022, Adedoyin and Bello, 2017). The images associated with science, from lab equipment to theoretical concepts, illustrate its diverse nature and its essential place in educational curricula (Adeyemi, 2018).

The effectiveness of instructional materials in enhancing learning outcomes has been extensively researched. Studies have demonstrated that well-designed instructional resources significantly improve students' academic performance across various subjects, including biology and science. For instance, findings from research by Bukoye (2019) and Awolaju (2016) underscore the positive correlation between the use of instructional materials and student achievement. These materials not only facilitate understanding but also stimulate interest and encourage active participation among students (Syatriana, 2013; Omuna, et al. 2016). Despite the recognized benefits, challenges such as inadequate resources, poor laboratory facilities, and discrepancies between public and private school provisions continue to hinder effective teaching and learning in science subjects (Ekundayo and Alonge, 2012, Ehebha and Adeyinka, 2022).

The influence of study habits on students' academic performance is a critical area of educational research, particularly in subjects such as Biology, where conceptual understanding and retention of information are essential for success. In Ilorin West Local Government Area, Kwara State, the dynamics between students' study habits and their academic outcomes merit thorough investigation. Previous studies have highlighted that effective study habits, including time management, self-regulation, and active engagement with material, are strongly correlated with improved academic performance (Neji and Ntibi, 2019, Abdu-Raheem, 2012). Furthermore, factors such as family background, learning environment, and personal motivation significantly shape students' study behaviors and ultimately their achievements in academic subjects (Arop et al. 2015, Asrizal et al. 2018). Understanding these relationships can provide valuable insights into enhancing educational practices and supporting students' learning experiences in Biology and beyond.

The academic success of students is significantly influenced by the study habits they cultivate and apply throughout their educational journey. Students who adopt effective study habits are more likely to achieve higher academic performance compared to those who do not. Good study habits play a crucial role in the academic achievements of students at every educational level. However, many secondary school students struggle to develop appropriate study techniques, which can hinder their academic progress (Glaze, 2021). Research by Akwayamai et al. (2020) highlights that many students face challenges related to their study habits, often resulting in a decline in academic performance. Each student possesses unique study habits, and discovering the most effective strategies for individual learning is essential. A supportive and positive study environment can enhance students' study habits and contribute to improved academic outcomes. Conversely, studying in a disruptive or harsh environment can impede a student's ability to concentrate, ultimately affecting their academic success (Okhakhu et al. 2016). In Nigerian secondary schools, students are particularly vulnerable to underperforming in both internal and external examinations, such as WAEC, NECO and JAMB. Analysis of WAEC results in science subjects, particularly Biology, from 2015 to 2022 reveals a consistent decline in students' overall performance in school certificate examinations (Abidoye and Abidoye, 2023). The blame for this decline is often placed on various stakeholders: parents criticize teachers for their lack of commitment, teachers hold the government accountable for inadequate salaries and resources and the government points to parents for not ensuring their children complete homework. Meanwhile, students are often faulted for their lack of discipline and commitment to their studies. Given these circumstances, it is evident that many secondary school students exhibit poor study habits and overlook supplementary educational opportunities, which may contribute to their academic difficulties. This study aims to investigate the impact of study habits on the academic performance of Biology students in Ilorin West LGA, Kwara State. The primary aim of this research is to investigate how study habits affect students' academic performance in Biology within Ilorin West LGA, Kwara State. More specifically, the study will focus on examining the various aspects of study habits and their impact on student achievement in this subject.

- i. To find out whether family background has any influence on students' study habit on the academic performance of students in Biology in Ilorin West LGA, Kwara State.

- ii. To find out whether method of studying have any influence on students' academic performance in Ilorin West LGA, Kwara State.
- iii. To find out whether school environment has any influence on students' time of studying in Ilorin West LGA, Kwara State.

II. METHODOLOGY

This study utilized a descriptive survey design to focus on individual opinions and perspectives. This approach is particularly effective for gathering essential data from respondents, allowing the researcher to explore the relationship between study habits and academic performance. The target population for this research consists of all Biology students in senior secondary schools within the Ilorin West Local Government Area of Kwara State, encompassing both male and female students. For the sample, one hundred (100) students were selected from five secondary schools in Ilorin West LGA. The sampling method employed was simple random sampling, which involved selecting twenty (20) students from each of the five schools. A questionnaire titled "Study Habit and Academic Performance in Biology" (SHAPB) was developed as the primary data collection instrument, consisting of two sections. Section A collected demographic information such as sex and class, while Section B included twenty items designed to address the four research questions. The researcher personally administered the questionnaire in the selected schools, ensuring that permissions were obtained from the principals prior to distribution. To validate the instrument, it was reviewed by the researcher's supervisor for face and content validity, and adjustments were made based on the feedback received. The reliability of the instrument was assessed using the test-retest method, where the same group of students completed the questionnaire twice, three weeks apart, demonstrating consistency in results. Data analysis was conducted using descriptive statistics, including frequency and simple percentages, while chi-square statistical methods were employed to test the hypotheses.

A. RESEARCH QUESTIONS

- i. Do study habits have influence on student academic performance in Biology in Ilorin West, Kwara State?
- ii. Does family background has any influence on students' study habits and performance in Biology in Ilorin West, Kwara State?
- iii. Does method of studying by students influence their academic performance in Biology in Ilorin West, Kwara State?
- iv. Does school environment influence students time to studying in Ilorin West, Kwara state?

B. RESEARCH HYPOTHESES

- H₁: There is no significant relationship between study habits and secondary schools students' academic performance in Biology.
- H₂: There is no significant relationship between family background and academic performance of students in Biology.
- H₃: There is no significant relationship between method of study and academic performance of students.
- H₄: There is no significant relationship between the school environment and academic performance of students in Biology.

III. RESULTS AND DISCUSSION

In this section, we present the results of the study, focusing on the impact of study habits on the academic performance of Biology students in Ilorin West LGA, Kwara State. The findings are analyzed and discussed in relation to the research questions posed earlier. We aim to interpret the data collected through the questionnaires, highlighting key trends and patterns that emerge from

the responses of the sampled students. Additionally, the implications of these results for educational practices and policies will be explored, providing insights into how study habits can be improved to enhance academic outcomes. This discussion will also consider the limitations of the study and suggest areas for future research.

Table 1: Gender Distribution of Students

Gender	Frequency	Percentage
Male	50	50%
Female	50	50%
Total	100	100%

Source: Field Survey, 2023

Table 1 indicates that the student population comprised 50% males and 50% females.

Table 2: Distribution of Students Based on Class

Class	Frequency	Percentage
SS I	18	18%
SS II	24	24%
SS III	58	58%
Total	100	100%

Source: Field Survey, 2023

Table 2 reveals that 18% of the students were in SS I, 24% were in SS II, and 58% were in SS III.

Table 3: Students Response on their Parent Educational Qualification

Parents Educational Qualification	Frequency	Percentage
Lower qualification	32	32%
Higher qualification	68	68%
Total	100	100%

Source: Field Survey, 2023

Table 3 indicates that 32% of the students reported that their parents had lower qualifications, such as a primary school leaving certificate or SSCE, while 68% stated that their parents possessed higher qualifications, including NCE, HND, and B.Sc. This suggests that the majority of the students have educated parents.

RESEARCH QUESTION ONE: Do study habits have influence on student academic performance in Biology in Ilorin West, Kwara State?

Table 4: Study Habit and Students Academic Performance in Biology

S/N	ITEMS	SA%	A%	D%	SA%
1.	Do biology student needs to have a well-planned well time-table for their study to help their performance?	62%	34%	2%	2%
2.	Do biology students who have access to study privately outside the school perform excellently in the subject?	64%	32%	1%	3%
3.	Does private study at home enables one to perform better during Biology examination?	60%	30%	8%	2%
4.	Do biology students who stick to the schedule of their time table and study will perform better in the subject?	49%	47%	2%	2%
5.	Do biology students who prepare ahead of class often get good grades?	72%	18%	8%	2%

Source: Field Survey, 2023.

Table 4 indicates that 62% of the students strongly agreed, and 34% agreed that Biology students need a well-structured timetable to enhance their academic performance, while 2% disagreed and another 2% strongly disagreed. Additionally, 96% of the respondents believed that Biology students who have opportunities for private study outside of school perform exceptionally well in the subject, with only 4% expressing disagreement. Furthermore, 90% of the students felt that studying at home positively impacts their performance in Biology exams, while 10% disagreed. The data also shows that 96% generally agreed that students who adhere to their study timetable are more likely to excel in the subject, with 4% disagreeing. Lastly, 90% agreed that Biology students who prepare in advance of class tend to achieve better grades, while 10% disagreed.

RESEARCH QUESTION TWO: Does family background has any influence on students' study habits and performance in Biology in Ilorin West, Kwara State?

Table 5: Family Background and Student Study Habits and Performance in Biology

S/N	ITEMS	SA%	A%	D%	SA%
6.	Do parents who are educated provide most of the recommended Biology textbooks and other learning aids for their children for ease of learning of the subject?	34%	58%	8%	—
7.	Do educated parents arrange for supportive teachers for the subject/subjects which their wards/children find difficult in the school?	48%	46%	6%	-
8.	Does home of educated parents conducive for studying?	34%	48%	10%	8%
9.	Do biology students from small size families enjoy more parental attention than those from large size families?	22%	50%	22%	6%
10.	Do parents who are educated provide most of the recommended Biology textbooks and other learning aids for their children for ease of learning of the subject?	54%	36%	10%	-

Source: Field Survey, 2023.

Table 5 presents the students' responses regarding the influence of family background on study habits and performance in Biology. The findings show that 92% of the respondents agreed that educated parents are more likely to supply recommended Biology textbooks and other learning resources to facilitate their children's understanding of the subject, while 8% disagreed. Additionally, 90% of students generally believed that parents with educational backgrounds arrange for additional support from teachers for subjects their children find challenging, with 10% disagreeing. Furthermore, 72% agreed that homes with educated parents provide a more conducive environment for studying, while 18% disagreed. The data also revealed that 72% of students felt that Biology students from smaller families receive more parental attention compared to those from larger families, whereas 28% disagreed. Lastly, 90% of the respondents reiterated that educated parents tend to provide essential learning materials, with only 10% expressing disagreement.

RESEARCH QUESTION THREE: Does method of studying by students influence their academic performance in Biology in Ilorin West, Kwara State?

Table 6: Method of Study and Students Academic Performance in Biology

S/N	ITEMS	SA%	A%	D%	SA%
11.	Do biology students who study for more than an hours are likely to perform well in the academic achievement.	32%	58%	6%	4%
12.	Do biology students who are very good in cramming have good grades in their results?	28%	42%	27%	3%

13.	Do biology students who read and study a topic repeatedly always have deeper understanding of the topics read which makes them perform better in their examination?	62%	28%	10%	-
14.	Do biology students who have the capacity and able to sustain study period for over 2 - 3 hours are nicknamed 'scholars' because they are surely to perform above other students during exams or test?	30%	60%	10%	-
15.	Do biology students who have the habit to prepare possible answers to essay questions in advance perform excellently in their examination?	46%	46%	8%	-

Source: Field Survey, 2023.

Table 7 indicates that 90% of the students agreed that Biology students who study for more than an hour are likely to achieve better academic results, while 10% disagreed. Additionally, 70% of the respondents felt that students who excel in cramming tend to obtain higher grades, whereas 30% disagreed. Furthermore, 90% generally believed that Biology students who read and study a topic multiple times develop a deeper understanding of the material, which enhances their exam performance, with only 10% disagreeing. Moreover, 90% of the students agreed that those who can maintain study sessions lasting 2 to 3 hours are often referred to as 'scholars' due to their expected superior performance compared to their peers, while 10% disagreed. Lastly, 92% of the respondents agreed that Biology students who prepare potential answers to essay questions in advance tend to excel in their examinations, while 8% disagreed.

RESEARCH QUESTION FOUR: Does school environment influence students time to studying in Ilorin West, Kwara state?

Table 7: School Environment and Student Time of Studying

S/N	ITEMS	SA%	A%	D%	SA%
16.	Does school environment students lived contribute to students lackadaisical attitude to study causing them to perform poorly in Biology subject?	32%	48%	20%	-
17.	Does many activities in school always got me distracted to stay focused during my studying time at home because of stressed involved in the activities?	16%	34%	46%	4%
18.	Does school environment often interfere with my study thereby making me lazy and feel distracted to create my personal studying time?	27%	34%	40%	4%
19.	Does time schedule for some activities in school always stood against my studying time period?	24%	30%	42%	4%
20.	Does students always feel weak and exhausted after engaging in home and school activities which tends to affect their time of studying?	20%	52%	24%	4%

Source: Field Survey, 2023.

Table 7 reveals that 80% of the students generally agreed that the school environment contributes to a lackadaisical attitude towards studying, which in turn negatively impacts their performance in Biology, while 20% disagreed. Half of the respondents (50%) indicated that various school activities often distract them from focusing on their home study time, with the other 50% disagreeing. Additionally, 56% strongly agreed that the school environment frequently interferes with their study habits, leading to feelings of laziness and distraction, while 44% disagreed. Furthermore, 54% of the students generally agreed that the scheduling of certain school activities conflicts with their study time, adversely affecting their academic performance, whereas 46% disagreed. Lastly, 72% agreed that students often feel fatigued and worn out after participating in both home and school activities, which negatively influences their study time, while 28% disagreed.

HYPOTHESIS ONE: There is no significant relationship between study habits and secondary schools students' academic performance in Biology.

Table 8: Chi-Square analysis on the relationship between students study habit and academic performance

N	Mean	S.D	Df	X ² Cal	X ² Crit	P-value	Remark
100	71.6	16.4	12	37.5	21.03	0.05	Rejected

Source: Research Computation 2023

Table 8 presents the summary results of the chi-square analysis conducted to determine whether a significant relationship exists between study habits and academic performance. The calculated chi-square value is 37.5, which exceeds the critical value of 21.03. As a result, the first null hypothesis asserting that there is no significant relationship between study habits and academic performance is rejected. This outcome indicates a significant relationship between study habits and academic performance in Biology.

HYPOTHESIS TWO: There is no significant relationship between family background and academic performance of students in Biology

Table 9: Chi-Square analysis on the relationship between family background and academic performance of students in Biology

N	Mean	S.D	Df	X ² Cal	X ² Crit	P-value	Remark
100	79	28.9	12	39.2	21.02	0.05	Rejected

Source: Research Computation 2023.

Table 9 summarizes the results of the chi-square analysis conducted to investigate the relationship between family background and students' academic performance in Biology. The calculated chi-square value is 39.2, which is greater than the critical value of 21.03. Consequently, the second null hypothesis—asserting that there is no significant relationship between family background and academic performance in Biology is rejected. This finding suggests a significant relationship between family background and students' academic performance in Biology.

HYPOTHESIS THREE: There is no significant relationship between method of study and academic performance of students.

Table 10: Chi-Square analysis on the relationship between method of study and student academic performance

N	Mean	S.D	Df	X ² Cal	X ² Crit	P-value	Remark
100	53.2	37.1	12	36.09	21.03	0.05	Rejected

Source: Research Computation, 2023.

Table 10 presents the summary results of the chi-square analysis aimed at determining whether a significant relationship exists between the method of study and students' academic performance in Biology. The calculated chi-square value is 36.09, which exceeds the critical value of 21.03. Therefore, the third null hypothesis asserting that there is no significant relationship between the method of study and academic performance is rejected. This result indicates a significant relationship between the method of study and students' academic performance in Biology.

HYPOTHESIS FOUR: There is no significant relationship between the school environment and academic performance of students in Biology.

Table 11: Chi-Square analysis on the relationship between the school environment and students academic performance in Biology

N	Mean	S.D	Df	X2. Cal	X2. Crit	P-value	Remark
100	57.34	14.31	12	52.8	21.03	0.05	Rejected

Source: Research Computation, 2023.

Table 11 summarizes the results of the chi-square analysis conducted to examine the relationship between the school environment and students' academic performance in Biology. The calculated chi-square value is 52.8, which is greater than the critical value of 21.03. Consequently, the first null hypothesis asserting that there is no significant relationship between the school environment and academic performance in Biology is rejected. This finding suggests a significant relationship between the school environment and students' academic performance in Biology.

The results of the first hypothesis suggest that students' study habits play a crucial role in determining their academic performance. This aligns with Adedoyin & Bello, (2017) findings, which highlight that poor study habits can lead to academic failure, while students who develop effective reading habits tend to achieve better results compared to those with inadequate study practices. The second hypothesis indicates that family background significantly influences students' academic performance, either positively or negatively. This observation is consistent with Bukoye, (2019) research, which emphasizes that the family, as the primary social institution, shapes the learning environment and habits that students develop at home, ultimately impacting their academic outcomes. The third hypothesis reveals that the methods students use during private study sessions have a significant effect on their academic performance. This finding correlates with the work of Crede & Kuncel, (2018), who argue that a structured approach to studying fosters self-monitoring, self-reinforcement, and increased motivation, all of which contribute to improved academic achievement. Lastly, the fourth hypothesis highlights the importance of the school environment on students' performance in Biology, supporting the claims of Bhan & Gupta, (2020) and Arietal, (2018) that peer group pressure is one of the key factors influencing student behavior, thereby affecting their study habits and overall performance.

IV. CONCLUSION

This study aimed to investigate the impact of study habits on the academic performance of students in Biology within Ilorin West Local Government Area, Kwara State. It specifically assessed whether factors such as study habits, family background, study methods, and the school environment influenced students' academic performance in secondary school. The research was guided by four research questions and hypotheses, with a comprehensive literature review covering various topics, including the concepts of study habits and academic performance, factors affecting students' study practices, the role of homework and assignments, and methods for monitoring progress in developing effective study habits. Utilizing a descriptive survey design, the study targeted Biology students from five selected secondary schools, with a sample of 100 students chosen through simple random sampling. A questionnaire titled "Studying Habit and Academic Performance in Biology" (SHAPB) was administered, comprising two sections: personal data and twenty items relevant to the study's objectives. Data analysis employed descriptive statistics (frequency counts and percentages) and inferential statistics (Chi-Square test).

The findings led to the rejection of all four null hypotheses. The first hypothesis, which posited no significant relationship between study habits and academic performance, was rejected, indicating that students' study habits significantly influence their academic outcomes. The second hypothesis regarding family background and its impact on study habits and performance was also rejected, confirming that family

influences can positively or negatively affect students. The third hypothesis, which addressed the relationship between study methods and academic performance, was similarly rejected, highlighting the importance of effective study techniques. Lastly, the fourth hypothesis regarding the school environment's influence on academic performance was rejected, affirming that various factors within the school setting—such as teacher interactions, peer influences, classroom organization, and available resources—directly affect students' study habits. Overall, the study concludes that family background, peer pressure, personality types, and the school environment significantly impact students' study habits and their academic performance in Biology. Furthermore, it emphasizes the importance of providing students with essential educational resources to foster effective study practices, as those who develop positive study habits often receive encouragement from parents, siblings, peers, and teachers. Ultimately, students with strong study habits tend to achieve higher academic scores, while those with poor study habits generally perform at lower levels.

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