



Study Habit as a Predictor of Academic Performance among Biology Students in College of Education Zaria

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ABSTRACT

This study investigated study habit as a predictor of academic performance among biology students in Federal College of Education, Zaria, and whether the students' study habit is affected by socio-demographic factors. Two research questions and two hypotheses were formulated for the study. A quasi-experimental research design was adopted for the study. The population of the study consist of biology students at various levels of study in Federal College of Education, Zaria, from which five hundred and ninety were selected as sample, using stratified random sampling technique. The research instruments used for the study were Study Skills Inventory and Biology Performance Test. The data collected was analysed using t-test and Pearson Product Moment Coefficient (PPMC) statistical tools at 0.05 level of significance. Finding revealed that the students' study habit was found to be significantly correlated with the biology performance test, though their study habit was very low in the measured scale. Recommendations proffered included there is a need for cultivating better study habit among Biology students in FCE Zaria through development of effective study template by the management and made available to students. This study concluded that study habit of biology students Federal College of Education, Zaria is significantly correlated with the academic performance in biology.

ARTICLE INFO

Article History

Received: March, 2022

Received in revised form: March, 2022

Accepted: March, 2022

Published online: March, 2022

KEYWORDS

Academic performance, Biology, Study habits

INTRODUCTION

Education is indisputably the greatest mechanism that man has devised for his own progress. It begins at birth and continues throughout life. It is constant and ongoing. Schooling generally begins averagely between the ages three and six, when children are gathered together for the purpose of specific guidance related to skills and competencies that society deems important, Agina-Obu, Amakiri and Emesiobi (2011).

Human life, which is the best creation of God, has two aspects: The biological and sociological or cultural aspects. While the former is maintained and transmitted by food and reproduction, the latter is preserved and transmitted by education. It is again through education that man promotes his intelligence and adds his knowledge with which he can move the world for good and for evil according to his wishes. Education in fact, is one of the major "life processes" of the human beings "just as there are certain indispensable

vital processes of life in a biological sense. Thus, education may be considered a vital process in a social sense. Education is indispensable to normal living, without education, the individual would be unqualified for group life, (Gudaganavar and Halayannavar 2014).

The world is becoming more and more competitive. Quality of performance has become the key factor for personal progress. Parents desire that their children climb the ladder of performance to as high a level as possible. This desire for a high level of achievement puts a lot of pressure on students, teachers, schools and the education system itself. In fact, it appears as if the whole system of education revolves round the academic achievement of students, though various other outcomes are also expected from the system. Thus, a lot of time and effort of the schools are used for helping students to achieve better in their scholastic endeavours. The importance of scholastic and academic



achievement has raised important questions for educational researchers. What factors promote achievement in students? How far do the different factors contribute towards academic achievement? (Ali, Toriman and Gasim 2014).

Study habit according to Azikiwe, (1998) is the adopted way and manner a student plans his private readings after classroom learning, so as to attain mastery of the subject. According to her, "good study habit are good asset to learners because they (study habit) assist students to attain mastery in areas of specialization and consequent excellent performance, while the opposite constitute constraints to learning and achievement leading to failure." Nneji (2002) defined study habit as the learning tendencies that enable students work privately. Furthermore, Igun and Adogbeji (2007), defined study habit as those habit and skills that are particularly important for secondary school students, whose needs include; time management, note-taking, Internet skill, the elimination of distractions, and assigning a high priority to study. Study habit according to Anyanwu (2018), is the deliberate planned pattern of study which has attained a form of consistency on the part of the student towards understanding of academic subjects and passing an examination. From the foregoing, study habit can therefore, be defined as a regular pattern of action employed by a learner to acquire knowledge or relevant information about a particular subject or course.

Study habit encompass a variety of activities, including time management, setting appropriate goals, selecting an appropriate study environment, employing appropriate note-taking strategies, concentrating, selecting main ideas, self-testing, organization, and managing anxiety.

Over the years, the investigations into the factors that influence academic performance of students have attracted the interest and concern of teachers, counsellors,

psychologists, researchers and school administrators. This is because of the public outcries concerning the poor academic performance in the country. Nuthana and Yenagi (2009) noted that students' academic achievement occupies a very important place in education as well as in the learning process. It is considered a key criterion to judge one's total potentialities and capacities, which are frequently measured by the examination results. It is used to pass judgment on the quality of education offered by academic institutions. In fact, it is still the most topical debate in citadels of learning that poses great concern to educators and researchers due to the poor examination performance of students.

Akuburo and Joshua in Okenyi and Enyi (2015) noted that in recent times, there had been complaints from almost every part of the country about the poor performance of students in education. More worrisome is the fact this science subjects (biology inclusive) bear a reasonable size of this failure rate. This situation does not favour Nigeria's move towards developing scientific and technological culture. Thus, the focus of this study is to examine study habit as predictor of students' academic performance, among biology students of Federal College of Education, Zaria, Nigeria.

As biology science has become ever more deeply embedded in everyday life, how people perceive science has attracted more attention not only from the scientific community, but also from social scientists (Onwuegbuzie, 2010).

Students' achievement in biology subject in Senior Secondary School Certificate Examination (SSSCE) has been unsatisfactory over many years. Anyanwu & Alafiatayo (2019) analysed the statistics of candidates' achievement in biology in Kaduna state between the years 2013-2019, and noted a worrisome fluctuation in the achievement of students in biology, as indicated in Table 1:

Table 1: Students academic Achievement in Biology in Kaduna State (2013-2019)

Year	Total No of Candidates that sat	No of candidates with A1-C6	No of candidates with D7-F9
2013	115,015 100%	51069 44.41%	63948 55.59%
2014	126,821 100%	59,657 47.05%	67161 52.95%



Year	Total No of Candidates that sat	No of candidates with A1-C6	No of candidates with D7-F9
2015	134,852 100%	56570 41.95%	78282 58.05%
2016	130,653 100%	56155 42.99%	74498 57.01%
2017	150,925 100%	72204 47.85%	78722 52.15%
2018	143,936 100%	62008 43.09%	81928 56.91%
2019	136,462 100%	66314 48.59%	70148 51.41%

Source: West African Examination Council, Kaduna Office (2019)

More often, the teacher is blamed for the students' poor academic performance, and even when the child is blamed, explanation is proffered only in terms of the child's cognitive or intellectual ability. Little or no attention is paid to the study habit/skills the child employs in studying, which could influence his performance in the subject.

The causes of poor academic performance in biology are diverse and cannot be associated with a single major factor alone. It is therefore, the opinion of the researcher that as most SSCE graduates transit into tertiary education (FCE, Zaria inclusive), a gap exists in the understanding of the possible relationship between study habit and students' academic performance in biology at NCE level. This study therefore, seeks to investigate study habit as predictor of academic performance among biology students of Federal College of Education, Zaria, Nigeria.

Objectives of the Study

The objectives of this study are to:

1. Determine whether biology students' academic performance could be predicted by the study habit that they adopt in studying biology in Federal College of Education, Zaria;
2. Determine whether biology students study habit is affected by gender in Federal College of Education, Zaria.

Research Questions

The following research questions were formulated to guide the study;

1. Is biology students' academic performance predicted by their study habit in Federal College of Education, Zaria?
2. Are biology students study habit affected by gender in Federal College of Education, Zaria?

Research Hypothesis

HO₁ There is no significant difference between biology students study habit and their academic performance in Federal College of Education, Zaria

HO₂ There is no significant difference between biology students' gender and the study habit they exhibit in Federal College of Education, Zaria

RESEARCH METHODOLOGY

The research design used for the study was a quasi-experiment. A quasi-experimental design is an empirical study used to estimate the causal impact of an intervention on its target population. The population of the study comprised all NCE biology students in the Federal College of Education, Zaria, Nigeria. According to academic records (2020), there are about 3200 students in the department of Biology, studying at various levels (Pre-NCE, NCE, B.Sc Ed) in the Federal College of Education, Zaria.

Stratified random sampling technique was used to select 15% from each of the levels of study (NCE I-III, B.Sc (Ed)), bringing a total of 520 students as the research sample. This is presented in the table below

Table 2: Sample of the Study

	Level	Male	Female	Total
1	NCE I	80	90	170

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2	NCE II	65	75	140
3	NCE III	60	60	120
4	B.Sc. Ed 200 Level	40	40	80
5	B.Sc. Ed 400 Level	40	40	80
Total		285	305	590

The instruments were used in the research are Study Skills Inventory (SSI) adapted from Dennis Congo 2010 study skills inventory; and self-constructed Biology Performance Test (BPT), which draw questions from the students previous semester examinations, from 2011-2018.

Face and content validity of the research instruments was done by two senior lecturers each in the departments of Psychology and Science Education, ABU, Zaria, with minimum qualification of PhD.

To ensure reliability, the instruments were pilot-tested using 80 students studying biology from Kaduna state College of Education, Gidan Waya. The reliability of the instrument was established through the Test-Retest method. A reliability coefficient of 0.89 obtained from the tests indicated the

instrument's reliability

The data for this study was collected from the biology students of F.C.E, Zaria. The researchers were personally involved in this process to avoid malpractices during the test. The necessary instruction needed for the successful completion of the test was clearly stated and explained to the students before the commencement of the test.

The data collected for this study was analyzed using t-test statistics and Pearson Product Moment Correlation Coefficient (PPMC) statistical tools, at 0.05 level of significance.

PRESENTATION OF RESULTS

Research Question 1: Is biology students' academic performance predicted by their study habit in Federal College of Education, Zaria?

Table 3: Mean Scores of the Students on Study Habit and Academic Performance

Variables	N	Mean	S.D	S.E	Mean diff
Study habit	220	2.02	1.12	.029	
BPT	220	13.55	0.64	.038	11.53

From the mean scores in Table 3, the students' study habit could be said to have been generally low below average (3.00), considering the six-point interval scale of the instrument adopted for this study. This indicates a further demonstration of the poor study habit among the students. Most of the students did not agree that it was true that they study with their classmates or group or that when they do not understand something, they get help from classmates, instructors or from the teachers. In most cases, they do not do all

assignments or submit their assignments on time.

From the aggregate mean score of 2.02 obtained, it could be said most of the students have very poor study habit, hence the poor performance in relation to Biology. As such, study habit have a positive impact on students' academic performance in biology.

Research Question 2: Are biology students study habit affected by gender in Federal College of Education, Zaria?

Table 4: Mean Scores on Study Habit of Male and Female Students

Gender	N	Mean BPT	S.D	S.E	Mean diff
Male students	107	2.04	0.51	0.038	
Female students	113	1.99	0.45	0.043	1.61

There is not much variability in BPT mean scores of the male students from the female students as indicated in the Table 4. While the male students had 2.04±0.51, the scores for female students was 1.99±0.45.

One observation here is that both groups have very low study habit as indicated by the scores. The significance of the variability in the mean scores is therefore subjected to post-test statistical analysis in the related hypothesis.

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Test of Hypotheses

Hypothesis One: There is no significant difference between biology students study

habit and their academic performance in Federal College of Education, Zaria

Table 1: Correlation between Biology Students' Study Habit and their Academic Performance

Variables	N	Mean	Std. Deviation	Std. Error	r-calc.	DF	P
BPT	590	14.35	6.828	.401	0.413	488	0.000
Study habit	590	5.02	0.488	.02868			

The result in the table revealed that biology students study habit is positively correlated with their academic performance in Federal college of Education, Zaria. The observed correlation coefficient (0.413) indicates a positive relationship between the two variables which directly imply the more positive the students study habit, the higher their academic performance in biology.

Therefore, the null hypothesis that there is no significant difference between biology students study habit and their academic performance in Federal College of Education, Zaria is thus rejected.

Hypothesis Two: There is no significant difference between biology students' gender and the study habit they exhibit.

Table 2: Two sample t-test on Students Study Habit and Gender Difference

School type	N	Mean	Std. Deviation	Std. Error	t-value	DF	P
Male	285	3.34	0.528	0.048	0.854	488	0.378
Female	305	2.99	0.472	0.041			

From the observed t-value of 0.378 obtained in the test at 488 degree of freedom compared with the critical value of 1.96, the variability between the mean could be considered not statistically significant. The observed probability level of obtained for the test is 0.378 ($P > 0.05$). Therefore, the null hypothesis that there is no significant difference between biology students gender and the study habit or self-concept they exhibit is thus retained. The result imply that gender orientation of the students have no effect on their study habit in relation to biology.

DISCUSSION OF FINDINGS

Two hypotheses were tested in this study to establish study habit as predictor of Academic Performance among Biology Students in Federal college of Education, Zaria, Kaduna State, Nigeria.

From the test of hypothesis I, the students were found to have very low study habit. Most students were found to exhibit negative study habit in relation to preparedness for performance in biology in the College. From the result of the test of the hypothesis, it was found that study habit has significant impact on the students' academic performance in biology. The null hypothesis was therefore rejected. The finding here agrees with Igun and Adogbeji

(2007) who opined that study habit are important for secondary school students whose need included, time management, note-taking, among others the elimination of distractions and assigning high priority to study. The finding agrees with the report of Nuthana and Yenagi (2009) who reported a significant relationship between study habit and academic achievement of students through critical reflection in skills outcomes such as selecting, analyzing, critiquing and synthesizing.

Hypothesis two tested for significant difference between biology students' gender and the study habit they exhibit towards biology in the college. The result of the two sample t-test procedure used for the test did not reveal significant difference in the study habit of the male and female students in the study. It was therefore observed that the gender orientation of schools may not necessarily play a significant role in the students' study habit exhibited to the subject in senior secondary schools of the Educational Zone. This finding contradicts the report of Crede and Kuncel (2009), who reported a significant relationship between gender and study habit, in favour of the males.

CONCLUSION

Based on the findings from the result



obtained from the investigation into study habit as predictor of Academic Performance among Biology Students in Federal College of Education, Zaria, the following conclusion could be drawn:

1. Biology students F.C.E, Zaria have very low study habit in relation to biology.
2. Study habit of the biology students in F.C.E, Zaria is significantly correlated with the academic performance.
3. There is no gender impact in the study habit exhibited by the students toward biology

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made:

1. There is a need for cultivating better study habit among the students through effective development of study template in the College.
2. Teaching and learning of biology should be devoid of any gender bias since this factor has no impact on the students' academic performance in the subject.
3. Teachers and school management should help students through teaching and public enlightenment in the schools to develop positive study habit to enhance academic performance.

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