MERIT RESEARCH JOURNALS
www.meritresearchjournals.org

Merit Research Journal of Education and Review (ISSN: 2350-2282) Vol. 11(7) pp. 100-105, August, 2023
Available online http://meritresearchjournals.org/er/index.htm

Original Research Article

Study Habits as Predictors of Secondary School Students' Interest and Achievement in Biology

Ogochukwu Ebere Emenike and Josephine Nwanneka Okoli*

Department of Science Education, Faculty of Education, Nnamdi Azikiwe University, Awka

***Corresponding Author's E-mail: jn.okoli@unizik.edu.ng**

Abstract

This study was carried out to ascertain study habits as predictors of secondary school students' interest and achievement in Biology in Nsukka Education Zone. Two research questions guided the study and two null hypotheses were tested at 0.05 alpha level. The design of the study was a correlation survey. The sample size of 475 was drawn out from the 1529 population in 62 public secondary schools using a multi-stage sampling technique, simple random procedure by balloting, and purposive sampling. The instruments for the data collection were structured questionnaires titled Study Habits Questionnaire (SHQ) and Biology Interest Inventory (BII) which was validated by three experts in Nnamdi Azikiwe University, Awka. The reliability of the instruments was established using Cronbach alpha reliability co-efficient to test for internal consistency of the items which yielded reliability indices of 0.78 for SHQ and 0.90 for BII. The results revealed that study habits are significant predictors of students' interest scores in biology. The results also revealed that study habits are not significant predictors of students' achievement scores in biology.

Keywords: Achievement, Biology, Interest, Study habits

INTRODUCTION

Biology is a natural science that studies living organisms and plays major roles in a nation's growth and advancement. Biology is a unique science subject that provided some of the most important unifying themes and intellectual growth and development for the whole human existence.

For every student to grow and develop his/ her intellectual ability in order to achieve high in education there is a need for good study habits. Study habits are the habitual practice that students use to help themselves to study and learn. Study habits are in fact the gateway to success and differ from person to person. Jafari et al. (2019) refer to study habits as different individual behaviours in relation to studying and a combination of study methods and skills. In other words, study habits include behaviours and skills that can increase motivation and convert the study into an effective process with high returns, which ultimately increases learning. Also, Mendezabal (2013) described study habits as the pattern of behaviours adopted by students in the pursuit of their studies that serve as the vehicle of learning. It is the degree to which the student engages in regular acts of studying that are characterized by appropriate studying routines (e.g review of materials, frequency of studying session, etc) occurring in an environment that is conducive to studying. Skill is defined as any activity that facilitates the process of learning. Study skills involve reading, listening, making reference, and so on. Shazia (2014) stated that the Success or failure of each student depends upon his/her study habits, intelligence ability, and effort of students. If the habits are developed in a young age they will definitely cherish the joy of its fruitin for the rest of their lives, because grown-up children are habituated to certain things.

However, it is the desire of parents to see that their children climb the ladder of performance to the highest level in education as much as possible. The desire of the parents puts a lot of pressure on students, and the entire

education system in general, in other to revolve around the academic achievement of students. However, it is better to develop good study habits in secondary school; according to Shazia (2014) that is the proper time and age to cultivate study habits because they will be able to know what is good and bad. How students' seriously take their studies greatly determines their level of interest and academic achievements. Ebele and Olofu (2017) state that the level of preparation and learning strategies developed and employed consciously by students, go a long way to influence their academic achievement. Shazia (2014) indicates that study habits are one of the greatest students key factors or learning factors that hugely influence students' academic achievements. It is in the absence of proper habits and skills that they fail to achieve the maximum within the limited time schedule.

There are study habits that help students to perform well in their academics, such as reading textbooks, note taking, memorizing, time management, concentration, and so on, they are all disciplines students to achieve their education goals. Students' who cultivate certain study habits well perform better than students who have bad study habits. Study habits can be classified as good, or bad. According to Jafri, Aghaei, and Khatony (2019), good study habits include studying in a quiet place, studying daily, being organized, keeping good notes, reading textbooks, listening in the class, turning off devices that interfere with study (such as TV and mobile phones). Some of the bad study habits include procrastination, skipping class, not doing assignments, watching television or playing games instead of studying, studying in inappropriate conditions. Shazia (2014) states that it is good study habits will help the learners to obtain meaningful and desirable knowledge. Good study habits act as strong weapon for the students to excel in life. Poor study habits according to Shazia (2014) states that bad study habits are not only retard school progress but develop frustration, destroy initiative and affect academic achievement. Study habits are in fact the gateway to success and differ from person to person. Poor study habits among students contribute to the massive failure, issue of examination mal-practices, school dropout and so on. As a result of poor study habits among students, lack of close monitoring by the parents and the impact of socio-economic factors and social forces like ethnicity, crises could influence student's study habits towards their academic achievement. It is imperative for educators to continue to find ways and to encourage parents to become involved in the educational process of their children regardless of social and socio-economic challenges.

Grace (2013) also maintains that the process of learning is still a little mysterious, but studies do show that the most effective process for studying involves highly active behaviours over a period of time. In other words, for students' to study effectively, the students must read, draw, compare, memorize, and test themselves over time. So, Shazia (2014) states that parents and teachers should help in improving the study habits of students. The attitude of learners towards their study habits could contribute greatly to their academic achievement; enhance their self-efficacy belief and good study pattern. Successful learners adopt positive self-confidence towards their study and do not waste time or energy over what they have to learn.

Statement of the problem

The importance and need for the knowledge of Biology cannot be overemphasized as Biology serves as a springboard to many science and technology-related disciplines. Studies have shown that students' achievement in Biology has been unsatisfactory with factors like bad study habits, lack of interest as well as low self-efficacy of students coming into play. However, bad or poor study habits of students in their education, due to overuse of phone, strike, crises and the incidence of insurgence, hoodlums, unknown gunmen, kidnappers and other anti-social activity disrupt school activities and student plans could have led to the bad study habits developed by the students as this affects their interest and achievements in Biology. Poor study habits among students contribute to massive failure, issue of examination mal-practices, school dropout and so on. Students meaningful learning will always depend on the degree of study habits to which learners are able to make their own and support their study could enhance their interest and achievement in biology. The problem of this study put into the interrogative is, "to what extents do the level of study habits predicts secondary school students' interest and achievement in Biology?''

Purpose of the Study

The general purpose of the study is to ascertain the study habits as predictors of secondary school students' interest and achievement in Biology. Specifically, the study seeks to examine the extent to which:

1. Study habits predict students' interest in Biology.
2. Study habits predict students' achievement in Biology.

Research question

The research questions guided the study:

1. to what extent do study habits predict students' interest in Biology.
2. to what extent do study habits predict students' achievement in Biology.

Table 1. Pearson Correlation Coefficient showing the Amount of Variance in Students' Interest in Biology that is Accounted for by Students' Study Habits

Model	r	r^2	Adjusted R Square	Std. Error of the Est.
1	0.091[a]	0.01	0.006	6.03527
a. Predictors: (Constant), SH, *SH=Study Habit*				

Hypotheses

The null hypotheses guided the study at 0.05 level of significance.

Ho_1: Study habits are not a significant predictor of students' interest in Biology.

H02: Study habits are not a significant predictor of students' achievement in Biology.

METHODOLOGY

Correlation survey research design was adopted for the study. Correlation research design according to Sassower (2017) is concerned with establishing associations and similarities between two or more variables in the population. The study was carried out in Nsukka Education Zone of Enugu State. Nsukka Education Zone is made up of three Local Government areas namely; Igbo-Etiti Local Government, Uzo-uwani Local Government and Nsukka Local Government. The population of the study comprised 1529 SS2 Biology students distributed in the 62 public secondary schools in the zone. The sample size was 475 students drawn using multistage sampling. The instruments for the data collection were structured questionnaires titled Parental Involvement Questionnaire (PIQ), Study Habits Questionnaire (SHQ), and Biology Interest Inventory (BII) which were adapted for the study. The copies of the questionnaires on SHQ, and the BII were given to three experts; one from the Department of Science Education, one from the Department of Educational Foundations (Measurement and Evaluation), and one from (guidance and counseling) all in the Faculty of Education, Nnamdi Azikiwe University Awka. The data collected was analyzed using Conbach's Alpha reliability coefficient. The internal consistency of the instruments was established using Cronbach's alpha. The results yielded reliability indices of 0.89 for PIQ, 0.78 for SHQ, and 0.90 for BII. The data obtained were analyzed using the Statistical Package for the Social Science (SPSS) version 25. Simple correlation was used to answer the research question and the null hypotheses were tested using regression analysis of variance.

RESULTS

Research Question one: to what extent do study habits predict students' interest scores in Biology?

Table 1 shows that the Pearson correlation coefficient was weak and positive for the relationship between students' study habits and students' interest in Biology *(r=0.091).* The positive linear relationship between the two variables indicates that the higher the students' study habits increased, the higher the students' interest in Biology. However, the $r^2$was 0.01, indicating that the one percent variance in students' academic interest was explained by the variance in students' study habits. This percentage variance was very negligible. To ascertain whether this amount of variance in students' interest that was accounted for by students' study habits was significant, an analysis of variance for the model was examined.

Hypothesis one (Ho_1)

Study habits are not a significant predictor of students' interest scores in Biology. Table 2 shows the simple linear regression conducted to predict students' academic interest in biology based on students' study habits. The regression equation was significant *(F(1,473)= 3.981, P=0.047<0.05)* with an r^2 of 0.01. The students' predicted interest score was equal to *46.181+0.025 (SH).* Students' average interest in Biology increased by 0.025 for each unit increased in students' study habits. The level of significance (0.05) stated for testing the null hypothesis was lesser than the associated P-value (0.047). Hence, the null hypothesis which states that study habit is not a significant predictor of students' interest scores in Biology is thereby rejected. Therefore, the inference drawn is that study habits is a significant predictor of secondary school students' interest in Biology.

Research Question Two

To what extent do study habits predict students' achievement scores in Biology? Table 3 shows that the Pearson correlation coefficient was weak and positive for the relationship between students' study habits and students' academic achievement in Biology (*r=0.004*). The linear relationships between the two variables indicate that the higher the students' study habits improved, the higher the students' achievement in Biology. However, the r^2 was 0.001 indicating that the percentage of variance in students' academic

Table 2. A test for the Significant in the Amount of Variance in Students' Interest in Biology that is accounted for by Students' Study Habits

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	145.016	1	145.016	3.981	0.047[b]
	Residual	17228.761	473	36.424		
	Total	17373.777	474			
a. Dependent Variable: BI						
b. Predictors: (Constant), SH						

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	46.181	2.205		20.948	.000
	SH	0.025	.013	.091	1.995	.047
a. Dependent Variable: BI=Biology Interest						
b. Predictors Variable: SH= Study Habits						

Table 3. Pearson Correlation Coefficient showing the Amount of Variance in Students' Achievement in Biology that is accounted for by Students' Study Habits

Model	r	r^2	Std. Error of the Estimate
1	0.004[a]	0.000	13.92

Table 4. A test for the Significant of the Amount of Variance in Students' Achievement in Biology that is accounted for by Students' Study Habits

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.520	1	1.520	0.008	0.930[b]
	Residual	91759.520	473	193.995		
	Total	91761.040	474			
a. Dependent Variable: Achievement						
b. Predictors: (Constant), SH						

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	63.113	5.088		12.405	.000
	SH	0.003	.029	.004	.089	.930
a. Dependent Variable: Achievement in Biology						
b. Predictor Variable: SH=Study habits						

achievement that was explained by the variance in students' study habits was negligible. To ascertain whether the amount of variance in students' achievement that was accounted for by students' study habits was significant, an analysis of variance was examined.

Hypothesis two (Ho_2)

Study habits are not a significant predictor of students' achievement scores in Biology. Table 4 shows the simple linear regression conducted to predict students' academic achievement in biology based on students' study habits. The regression equation was not significant *($F(1,473)= 0.008, P=0.930^b>0.05$)* with an r^2 of 0.000. The students' predicted achievement scores were equal to *$63.113+0.003(SH)$*. Students' average achievement in Biology score increased by 0.003 for each unit increase in students' study habits score. The level of significance (0.05) stated for testing the null hypothesis was lesser than the associated P-value (0.930). Hence, the null hypothesis two which states that study habits are not a

significant predictor of students' achievement scores in Biology is thereby not rejected. The inference drawn is that study habit is not a significant factor in secondary school students' achievement in Biology.

DISCUSSION

The finding of the study presented in table 2 shows that secondary school students' study habits are a significant predictor of interest scores in biology. The result is in line with the findings of Ashish (2013), admits that if students must ensure academic success throughout their entire school year, it is important to ditch bad study habits and establish good ones. It is believed that each student is unique and has a different study habit and it is very important for one to find out the suitable way to study. Students needs a good and conducive environment that encourages their study habits and which might upgrade students' interest.

However, some of good study habits like reading textbooks, note-taking, memorizing, concentration, time management, test preparation, and so on enhanced students' interest in Biology.

The results of the data analysis presented in Table 4 indicated that study habits do not significantly predict academic achievement in biology. This could be the attitude of students towards school, distance or school location, lack of parental care, inadequate textbooks in the library, lack of school biology laboratory, and so on. The findings on study habits have proved to be ineffective in academic achievement. The findings deviate from the opinion of Marc (2011) who observes that good study habits contribute to successful academic future as well as good grades. Ashish (2013) admits that if students must ensure academic success throughout their entire school year, it is important to ditch bad study habits and establish good ones. It is believed that each student has a different study habit and it is very important for one to find out the suitable way to study. Students need a good and conducive environment that encourages their study habits and which might upgrade their academic achievement. The finding of Azonwu and Ochonma, (2023), revealed that allocation of study time management, note-taking, learning motivation and memorization are variables of study habits that contribute to students' academic achievement. Ozioko (2019) also revealed that study habits significantly predicted the academic achievement of senior secondary school Biology students. Study habits are not inherited but are acquired with the help of parents, teachers, peers, and so on. Parental involvement and close monitoring could build good study habits which enhance students' understanding of biology topics and create ideas depending on their capacity or ability. Teachers and school management should assist students' study habits at the early stage of life in order to develop good study habits. Note-taking, textbook reading type of study habit enhances student achievement in biology if properly built in an early stage of life. Study habits are very important if the student could succeed in any academic endeavour. Therefore, parents, teachers, peers, and so on should encourage them on how to build strong study habits.

CONCLUSIONS

Based on the findings of the study, it was concluded that school administrators in collaboration with parents should from time to time organize program supports on mental development intervention on how to improve students' study habits and self-efficacy.

RECOMMENDATION

Based on the findings of this study, it was recommended that, teachers, parents, and the school management to collaboratively guide students on how to develop good study habits, thereby enhancing the students' interest and academic achievement. Teachers should interact and strive to make the learning environment supportive of students' basic psychological needs by encouraging them to focus on mastering growth to form good study habits rather than depending on others.

REFERENCES

Ashish R (2013). Study Habits for Students: must Develop study habits. Calabar Rixmas publishing company. Bad ones to Avoid, Good ones to Achieve success, www.educaton.Wisc.education/ soe/newsevents. Retrieved 19 October 2020

Azonwo ME, Ochonma PI (2023). Influence of study habits on the academic performance of biology students in senior secondary schools in Port Harcort metropolis, Rivers State. *Asian Journal of Education and social stdies, 39 (4). 13-21. ISSN2581-6268 hhps://doi.org/10.9734/ajess/2023/v3914851*

Ebele UF, Olofu PA (2017). Study habit and its impact on secondary school students' academic performance in biology in the Federal Capital Territory, Abuja. Department of science and environmental education, University of Abuja, Nigeria. http://www.academic*Journals.org/ERR 12(10) 583-558 retrieved 23th May 2020*

Grace F (2013). Would group study improve your grade? Retrieved from www.About. Com. 19/10/2020.

Jafari H, Aghaei A, Khatony A (2019). Relationship between Study habits and Academic Achievement in Students of Medical Science in Kermanshah- Iran Doi: https/doi.org/102147AME PS208874

Marc K (2011). The importance of Good study habits. Retrieved 19/ 5/ 2022

Mendezabal MJN (2013). Study Habits and Attitude: the Road to Academic Success. Open Science Repository Education, Online (open access), e70081928. Doi: 10,7392/Education. 70081928.

Ozioko SU (2019). Students Variables as predictors of academic achievement in Biology in senior secondary schools, Imo State, Nigeria. Unpublished PhD Thesis, Department of Science Education University of Ilorin, Ilorin, Kwara State, Nigeria.

Sassower R (2017). Causality and Correlation. In B.S. Turner (Ed). The Wiley- Black well Encyclopedia of Social Theory. New York, NY: Wiley

Shazia S (2014). Self- Concept, Learning Styles, Study Habits and Academic Achievement of Adolescents in Kashmir. Retrieved on October 25th, 2020 on https://m.anchor-publishing.Com/ document/787499