

STUDY BEHAVIOUR AS PREDICTOR OF SENIOR SECONDARY SCHOOL STUDENTS' ACHIEVEMENT IN ENGLISH AND MATHEMATICS IN ANAMBRA STATE

Didacus Chima ILO¹, Christopher A. NWANKWO² and G. C. UNACHUKWU³

^{1&3}Department of Educational Foundations, Nnamdi Azikiwe University, Awka, NIGERIA

²Department of Guidance and Counselling, Nnamdi Azikiwe University, Awka, NIGERIA

Abstract

This study examined study behaviour as predictor of academic achievements of secondary school students in Anambra State. Two research questions guided the study and two hypotheses were tested at 0.05 level of significance. The study adopted a correlational survey design. The population of the study consists of 18,852 senior secondary school students (SSS II) in the 258 public secondary schools in Anambra State. The sample for the study was 943 SSII students who were drawn using multi-stage sampling. One instrument was used for the data collection of this study. The instrument was: Study Behaviour Scale (SBS). The instrument was a standardized one and has been properly validated and tested for reliability. The data collected were analysed using simple regression for answering the research questions and testing the null hypotheses. The findings of the study showed that study behaviour is a predictor of students' achievements in English language and Mathematics. Based on the findings conclusions were drawn, and the study recommended that students should be helped to develop an appropriate study behaviour by the teachers, counsellors and the school authorities.

Key words: Academic achievements, English language, Mathematics, Predictor and Study Behaviour,

Introduction

The importance of education lies in the fact that it is considered as a key for bolstering human resource for sustainable economy and social change. It is for preservation, transformation, transfer and advancement of knowledge and it is also devoted to bring changes for the good of the society. This is in line with the Nigerian vision 2020 which recognizes education and training within the social pillar, as one of the platforms that will transform Nigeria into a large, strong, diversified, sustainable and competitive economy

that effectively harnesses the talents and energies of its people and responsibly exploits its natural endowments to guarantee a high standard of living and quality of life for its citizens. In education, students' educational outcomes and achievements are evaluated and graded using examinations/tests (Chinta, 2005). Testing is common in everyday life as students have to take many highly competitive centralized and high stakes examination such as the Common Entrance Examination (C.E.E.), First School Leaving Certificate Examination (F.S.L.C.E.), Junior Secondary School Certificate Examination (J.S.C.E), Senior Secondary School Certificate Examination (S.S.C.E.), Unified Tertiary Matriculation Examination (UTME), and a host of others. These series of examinations play a dramatic role in the lives of students and their parents. In other words, achievement in these high stakes examinations is crucial for moving from one level of education to another, and also to gain access into prestigious careers.

One of the highly academic constructs that correlates with test anxiety to affect student's achievement is study behaviour of students. Study behaviour according to Ghulam (2013) is the mental readiness to learn. It is organized through experiences, objects and the situations in study. For him, positive or negative reaction to a specific object of the study represents study behaviour. In the words of Bliss and Mueller cited in Devi and Woldetsadik (2011), study behaviour is defined as what students actually do, that is, observed actions of students in the process of learning. They went further to differentiate it from study skills which for them is referred to as tasks students are capable of doing and strategies to accomplish them.

Study behaviour according to Crede and Kuncel (2008) denoted the frequency/degree to which the student engages in regular acts of studying that are characterized by appropriate studying routines occurring in an environment that is conducive to the studying. Student's negative/positive behaviour in utilizing appropriate study strategies has the ability to affect their academic achievement. Students, who have poor study skills, have the tendency to develop high stress, exhibit poor coping strategies and also avoidance behaviour. Those students who suffered from such avoidance coping styles might likely resist completing assignments and addressing other deadlines that eventually evoked tension and anxiety.

Quality of education is reflected through motivation which is a function of study behaviour of students (Ghulam, 2013). For Bliss and Sandiford (2004), study behaviours of students constitute one of the major factors that might limit or facilitate the acquisition of content knowledge. So, appropriate study behaviour is believed to contribute to students' academic success or failure in college (Zimmerman, 2009). Thus, such students are bound to experience high test anxiety and low academic achievement.

It would be reasonable that the student who studies more effectively will have higher grades than the student who studies less effectively. Research had consistently supported the idea that study behaviour is highly related to academic achievement. In addition, the

appropriate use of study behaviour has demonstrated positive academic outcome in various areas. For instance: Yang (2011) carried out a study to explore the reciprocal relationship between learning experience and study behaviour to examine the relative impact of learning experiences and study behaviour on university students' academic performance. The participants were 396 undergraduate students from Hong Kong. Students' learning experience and study behaviours were measured by Course Experience Questionnaire and Study Strategy Inventory respectively. Primary data were collected by the test and Post technique with the time gap of 12 months. Students' cumulative grade point averages and level scores were obtained from institutional records. The findings depicted that both learning experiences and study behaviours were found to be significant in influencing each other reciprocally. Moreover, the learning experience (B=29) and study behaviour (B=36) were significantly predicted the academic performance of students with the more contribution of the study behaviour.

In their study, Devi and Woldetsadik (2011) investigated the gender difference among student's study behaviour and their academic achievements. Quantitative survey research method was used to conduct the study. On the study, 1340(53.28%) male, (46.22%) female students from Woldia University, Ethiopia participated. Study Behaviour Inventory (SBI) was employed to collect data. Mean and standard were calculated and difference in study behaviour was tested by independent t- test at 0.05 level of significance. The result showed that students have appropriate study behaviour. There were significant gender differences in management of time for routine, recurring tasks and in overall study behaviour among university students in favour of males.

Salami and Aremu (2006) studied the relationship between problem solving ability and study behaviour of secondary school students in South -western Nigeria. A total of 430 SS 3 students randomly selected from fifteen secondary Schools in South Western Nigeria participated in the study. A problem solving Inventory and a Study Behaviour Inventory were employed in the data collection from the respondents. Multiple regression analysis was used to treat the data. The results obtained indicated that problem solving ability was significantly predictive of study behaviour.

Woolfort (2009) examined the influence of behaviours exhibited in the classroom on reading and Maths achievement in the first, third and eighth grades; and the influence of teacher perceptions on reading and Mathematics achievement of African-Americans versus White students and male versus female students in Blacksburg, Virginia. Lastly, the study examined teacher ratings of student behaviour and standardized measures of intelligence in predicting reading and Maths achievement. The Classroom Behaviour Inventory (CBI) was used to measure student classroom behaviour. The CBI contains 10 subscales of classroom behaviours: extroversion, introversion, independence, dependence, creativity/curiosity, task orientation, verbal intelligence, hostility, distractibility, and considerateness. Reading and Maths achievement were measured using reading and math

subtests from the Woodcock-Johnson Psycho educational Battery. The Peabody Picture Vocabulary Test (PPVT) in first grade, and the Weschler Intelligence Scale for Children-Revised (WISC-R) in third grade, were used as standardized measures of intelligence. Results revealed that overall, teacher ratings, as measured by the CBI, were better predictors of reading and Maths achievement than standardized measures of intelligence in first, third and eighth grades. Students who were rated higher on positive behaviours had overall higher achievement scores than students who were rated higher on negative behaviours. Minor differences in teacher ratings of classroom behaviour based on race and gender were observed. Teachers rated White students higher on consideration and independence, while African American students were rated as more dependent and hostile. Males were rated as more hostile, introverted and distracted, while females were rated higher on consideration.

The rate of failure of students in West African Examination (WAEC) and Nigerian Examination Council especially in English and Mathematics has been an issue of concern to teachers, parents and education stakeholders. The persistent failure has prevented many of the students from gaining admission into tertiary institution since credit pass in these subjects have been compulsory required for admission. The situation is more worrisome in Anambra where the number of students seeking admission into tertiary institutions is far beyond the availability of tertiary institutions in their catchment area. This unhealthy situation does not augur well with the nation's goal to attain sustainable educational development by 2030.

Therefore, finding means of improving students' performance in English and Mathematics is a hilltop task confronting educators and researchers in the recent times. Factor such as study behaviour is a variable which seem to have great effect on the achievement of students as a predictor. This propelled the study to investigate study behaviour as predictor of academic achievements of senior secondary students in Anambra State in English language and mathematics.

Purpose and Scope of the Study

The major purpose of this study is to investigate study behaviour as predictor of academic achievements of senior secondary school students' achievement in English language and Mathematics in Anambra State. This study is specifically designed to determine: (a) The extent secondary school students' study behaviour scores predict their academic achievement in English Language. (b) The extent secondary school students' study behaviour scores predict their academic achievement in Mathematics.

The study is delimited to investigation of study behaviour as predictor of public senior secondary school students' achievements in English and Mathematics in Anambra State. The students' achievement scores in English language and Mathematics for a term in an academic year and the questionnaire were used. The study is delimited to SS II students.

The SS III students were exempted because they were preparing for their final examinations while the SS I students were new in the senior class.

Research Questions

The following research questions guided this study: (a) To what extent do secondary school students study behaviour scores predict their academic achievement in English Language? (b) To what extent do secondary school students' study behaviour scores predict their academic achievement in Mathematics?

Research Hypotheses

The following null hypotheses formulated guided the study and were tested at 0.05 significance levels. (a) Senior secondary school students' study behaviour scores do not significantly predict their academic achievement in English language. (b) Senior secondary school students' study behaviour scores do not significantly predict their academic achievement in Mathematics.

Design of the Study

The study is a correlational survey. Correlation survey research aimed at establishing relationships among two or more variables without any attempt to influence them. Correlational research is used to describe the relationship between two or more naturally occurring variables (Nworgu, 2016). It is adopted for this study to establish the predictive effect of the independent variables on the dependent variable. This study is on study behaviour as predictor of academic achievements in English and Mathematics of senior secondary school students in Anambra state.

Area of the Study The study was carried out in Anambra State. Anambra State has six education zones which include: Aguata, Awka, Nnewi, Ogidi, Onitsha and Otuocha education zones. All the public senior secondary schools in the six zones are under the administration of Post Primary School Commission Awka. There are 258 senior secondary schools in the area. Most of the inhabitants are farmers and traders of all categories. The students in this area help their parents in farm work or in business after their school. These students therefore are confronted with various problems arising from study behaviours.

Population of the Study Sample and Sampling Techniques The population of the study consists of 18,852 senior secondary school students (SSS II) in the 258 public secondary schools in Anambra State (PPSC, 2017). These SS II students are in the six education zones in the state. The sample of this study consists of 943 SSII students. A multistage sampling procedure was employed in the selection of the sample of the study. In the first stage, simple random sampling technique was used to select three out of the six education zones in Anambra State. Proportionate stratified sampling was used to select 35 percent of the schools in each of the six education zones in the state. This gave a total of 90 secondary

schools. From each of the schools selected, simple random sampling technique was used to select an intact class. But in a situation where there is only one SS II class in a selected school that class was selected and students in the class were used for the study.

Instrument for the Data Collection One instrument was used to collect data for the study. Study Behaviour Scale (SBS) by J.O Akinboye (1977). This instrument was developed by J.O Akinboye (1977) and was adopted for this study. The instrument is divided into two parts. Part one is targeted at personal information of the respondents such as Age, Sex, Religion, Nationality, State and Town. This was done in order to obtain the necessary information of the respondents. The part two of the instrument is on the students' study behaviour index. The part two is made up of 25 items. It was structured on nine points rating scale ranging from "least like me" to "most like me". In addition, the students' termly achievement scores in English Language and Mathematics from the state standard general examination for senior secondary two students were collected from their form masters/mistresses in their schools and used for the study.

Validation and Reliability of the Instruments Study Behaviour Scales (SBS) used, is the section (B) of Adolescent Personal Data Inventory (APDI) developed and validated in Nigeria by Akinboye (1977). All the inventories in APDI were validated by Akinboye using Nigerian students. For the SBS, the researchers could not see the psychometric properties and as such, it was subjected to reliability by administering the instrument to 50 SS11 students in Enugu State public secondary schools. To determine the internal consistency of the instrument Cronbach alpha was used which gave the coefficient alpha of 0.874.

Method of Data Collection The researchers adopted face to face method of instrument administration which was done during their free periods in each school selected. This was done through the help of eight trained research assistants specifically Mathematics and English teachers in each of the sampled schools. The copies of the questionnaire were distributed and collected by the researchers with the help of the assistants. In each school, the researchers gave copies of questionnaire to the research assistants to distribute to the students and allowed them some times to fill the questionnaire while the research assistants supervised them. The copies of questionnaires were later collected by the researcher with the help of the assistants. This was to ensure high percentage of returned questionnaire. Then the termly results of the students were collected from the form masters/mistresses of the schools used in the study. The copies of the questionnaire were numbered and tagged in line with the arrangement of the students' names in the termly result sheets to ensure that each student's scores were correlated with his score in the questionnaire.

Method of Data Analysis The administered questionnaires were analysed using statistical package for Social Science (SPSS 21). Regression analysis was used to interpret both the research questions and hypothesis, where Beta standardized coefficient, t value and P value guided the decisions of the researchers.

RESULTS

Research Question 1

To what extent do secondary school students' test study behaviour scores predict their academic achievement in English language?

Null Hypothesis 1

Senior secondary school students' study behaviour scores do not significantly predict their academic achievement in English language.

Table 1: REGRESSION ANALYSIS ON STUDENTS' STUDY BEHAVIOUR AS A PREDICTOR OF THEIR ACADEMIC ACHIEVEMENT IN ENGLISH LANGUAGE

Variable	R	R ²	R ² Change	B	BETA	Cal.t	df	Pvalue	Remark
Study Behaviour	.218	.047	.047	.089	.218	7.303	124	.000	S

Table 1 indicates that study behaviour of secondary school students had Beta of 0.218. This indicates that study behaviour predicted to -21.8 percent of academic achievement in English language of the students. Also at 124df and 0.05 level of significant, the calculated $t_{7.30}$ with Pvalue 0.000 which is less than the 0.05, the third null hypothesis is rejected. Therefore, secondary school students' study behaviour is a significant predictor of their academic achievements in English language.

Research Question 2

To what extent do secondary school students' study behaviour scores predict their academic achievement in Mathematics?

Null Hypothesis 2

Senior secondary school students' study behaviour scores do not significantly predict their academic achievement in Mathematics.

TABLE 2: REGRESSION ANALYSIS ON STUDENTS' STUDY BEHAVIOUR AS A PREDICTOR OF THEIR ACADEMIC ACHIEVEMENT IN MATHEMATICS

variable	R	R ²	R ² Change	B	BETA	Cal.t	Df	Pvalue	Remark
Study Behaviour	.202	.041	.040	.086	.202	6.733	124	.000	S

In table 2, it was observed that study behaviour of secondary school students had Beta of 0.202. This indicates that study behaviour predicted 20.2 percent of academic achievement in Mathematics of the students. Also at 124df and 0.05 level of significant, the calculated t

6.73 with Pvalue 0.000 which is less than the 0.05, the fourth null hypothesis is rejected. Therefore, secondary school students' study behaviour is a significant predictor of their academic achievement in Mathematics.

Discussion of Results of Findings

Study behaviour and achievement in Mathematics and English language

Study behaviour has to do with the mental preparedness (and willingness of the students to learn. All the activities to which the students are involved in, which enable them to learn and reproduce what they have learnt, forms their study behaviour. When students have healthy study behaviour it will aid their performance in academic activities.

The present study revealed that study behaviour predicts senior secondary school students' academic achievement in English and Mathematics. The finding agrees with Wentzel (2007) who observed that there was a significant relationship between academic achievement and academically oriented behaviour, teacher preferences for behaviours, and pro-social behaviour. While negative behaviours have been associated with negative academic outcomes, research has shown that positive and socially appropriate student behaviours such as independence, appropriate classroom conduct, compliance with classroom rules, and socially appropriate interactions with peers, contribute to positive academic outcomes (Woolfort, 2009). Students who show strong self-will to learn, who see themselves as intelligent and committed at finding appropriate ways to solve their learning difficulties had better achievement in English and Mathematics achievement.

When the students show positive behaviours such as interest, focus, quality time on task, activeness in sourcing for extra material, it will improve their achievement in the whole learning process. This shows that the place of students' study behaviour in teaching and learning is paramount. Woolfort (2009) found out that students who exhibited these positive behaviours generally had higher reading and Maths achievement scores than students who were perceived as exhibiting negative behaviours such as hostility or dependence. No matter the amount of time spent by the teacher in preparing lesson and learning activities, if the students are not appropriately motivated and show good study behaviours the learning will generate minimal result. As important learning activities and methods are study behaviour of the students serves as a significant predictor of students' achievement in English and Mathematics.

Conclusion and Recommendations

Study behaviour is equally a significant predictor of academic achievement of in English and Mathematics. Based on the findings of this study, the following recommendations are

made: (a) Students should develop positive study behaviour and map out a study program that suits their intellectual capability. (b) Students should develop good study habit in order to understand how long they can study for effective outcome. Students should get assistance from instructors, classmates and friends whenever they have difficulties in their studies. (c) Study behaviour was a good predictor of academic achievement in Mathematics and English.

On the account of the foregoing, students should be encouraged by the teacher, counsellors and school authorities to develop positive attitude towards their academic activities by creating classroom activities and school programs that challenges the students on the need for a healthy attitude towards their studies. This will enable them have an improved achievement in English and Mathematics. Also teachers should ensure that learning activities are interesting to students, this will enable them put in more effort in achieving their learning task.

References

- Akinboye, J.O. (1977). Adolescent Personal Data Inventory (APDI). Department of Guidance and Counselling, University of Ibadan, Ibadan.
- Bliss, L. B., & Sandiford, J. R. (2004). Linking study behaviours and student culture to academic success among Hispanic students. *Community College Journal of Research and Practice*, 28, 281 -295.
- Chinta, R. (2005). Exams anxiety effect on exams performance: *An empirical replication in the Middle East*. New York, Aryan Hellas Ltd. Retrieved at www.aus.edu January 2012.
- Crede, M. & Kuwlel, N.R. (2008). Study Habits, Skills and attitude. The third pillar supporting Collegiate Academic Performance Association for *psychological science*. vol 3 (12).
- Devi, P.N., & Woldetsadik. L. C, (2011). Gender Difference in Study Behaviour among University Students in Ethiopia. *National monthly refereed Journal of research in Arts & Education*.2, (6): 73 – 84
- Ghulam, M. (2013). Study behaviour, Study Habits, Achievement Motivations of University Students and study Advisory services. *Literacy information and Computer Education Journal (LICEJ)*, Volume 4, Issue 1
- Nworgu, B.G. (2016). *Correlation and Regression Analysis for Education and Social Sciences*. Enugu: Immaculate Publications Limited.
- Salami, S.O & Aremu, A.O. (2006). Relationship between problem-solving and study behaviour among school-going adolescents in Southwestern Nigeria. *Electronic Journal or Research in Educational Psychology*. ISSN. 1696-2095. 4(1): 139 – 154.
- Woolfolk, A. (2009). *Educational Psychology*. Boston: Allyn and Bacon.
- Yang, Y. (2011) AQ Factor Analysis of College Undergraduate Students' Study Behaviour. *FIU Electronic Theses and Dissertations*. <http://digitalcommons.fiu.edu/atd/449>.
- Zimmerman, B.J. (2009). Theories of self-regulated hearing and academic achievement: An overview and analysis. In B. Zimmerman & d. Schunk (Eds.), *self-regulated learning and academic achievement: Theoretical perspectives*. (2nded.). New York: Routledge.

Biographical Notes

Didacus Chima ILO is of the Department of Educational Foundations, Faculty of Education, Nnamdi Azikiwe University, Awka, NIGERIA. Email: chydid@gmail.com,

Christopher A. NWANKWO, PhD, is a Professor of Counselling and Psychology, Department of Guidance and Counselling, Faculty of Education, Nnamdi Azikiwe University, Awka, NIGERIA. Email: ca.nwankwo@unizik.edu.ng

G. C. UNACHUKWU PhD., is a Professor of Educational Psychology, Department of Educational Foundations, Faculty of Education, Nnamdi Azikiwe University, Awka, NIGERIA. Email: gc.unachukwu@unizik.edu.ng