

# Study Habit as a Predictor of College of Education Students' Achievement in Computer Science in South-East, Nigeria

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## ABSTRACT

The study investigated study habit as a predictor of College of education students' achievement in Computer science in South-East, Nigeria. Two research questions and two null hypotheses guided the study. Correlation research design was adopted for the study. The population of the study was 1,028 Computer science students out of which 510 students drawn using purposive and random sampling techniques were involved in the study. Study-Habit Questionnaire (SHQ) validated by three experts was used as instrument for data collection. The reliability of the instrument SHQ was established using Cronbach Alpha to be 0.80. The data obtained was analyzed using simple and multiple linear regressions. The findings of the study revealed among others that 0.8% of the variance in achievement in Computer science was predicted by students' study habit. Also, achievement scores in Computer science were significantly predicted by students' study habit. It was recommended that Colleges of education should organise for students, seminars on how to study effectively study in the postmodern world of today, using most recent advancements in educational technologies.

**KEYWORDS:** Study-habit, College, Computer, Regressions, South-East

## INTRODUCTION

A college (Latin: collegium) is an educational institution or a constituent part of one. A college may be a degree-awarding tertiary educational institution, a part of a collegiate or federal university, an institution offering vocational education, or a secondary school. A college of education is an institution where teachers are trained or a professional training college for teachers. Colleges of Education are more or less the third tiers of higher educational institutions in Nigeria.

Today college of education in Nigeria was established primarily to train students to become teachers in primary and secondary schools. In the light of the new advancement in Computer science and technologies, colleges of education offer computer science disciplines, necessary for competence in the digital world. The applications of computer science have permeated all fields of human endeavour. The need for undergraduate students of Computer science and students of other discipline in the South East to master the course has therefore become an indispensable part of the curriculum. However, the

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study of Computer science requires sufficient knowledge of mathematics and good skills in abstract thought suggesting that the students may need to good study habits to excel in the course. To study computer science effectively requires some level of patterned way of study.

Study habits are strategies, which a learner applies for acquiring knowledge, skills and ideas. According to Siah and Maiyo (2015), study habit is the predispositions which students have developed towards private readings through a period of time. It is therefore, a study pattern of behaviour that has been systematically developed over time in relation to study. Study habit encompasses such habits as time management, regulation of study environment, test taking preparation habit, note taking, reading and writing habits. Studies show that good study-habits predict achievement (Ita, Attah and Nchor, 2017).

Time management habit involves the process of planning and exercising conscious control of time spent on specific academic activities, especially to increase effectiveness, efficiency, and productivity

(Gordon, 2000). According to Gordon, regulation of study environment involves maximizing the benefits of the study environment and changes done when the environment is not suitable for study. Test taking and preparation habits are the clues and tip a student take to ensure better academic achievement. Gordon further asserted that note taking and reading habits are habits relating to note taking like highlighting important points, writing note in one's words and taking note in class. Reading and writing habits involves such habits as the act of concentration, page read per hour, adjustment of reading style, clarity in presenting written ideas and ability to communicate (Gordon, 2000).

The understanding of what constitutes a good study habit is not widely known. Studies (Evans and Julius, 2015; Oparaji, Igbokwe, Eziuzo and Itoya, 2021; Ita *et al.*, 2017) that examined various dimensions of study habits as predictors of achievement have remained inconclusive. Thus, the choice of what study habits to develop more has become an important area of study that need further investigation. The present study seeks to establish the prediction of Computer Science achievement of College of Education students by the time management, regulation of study environment, test taking preparation habit, note taking, and reading and writing habits dimensions of study-habit.

### Purpose of the Study

The purpose of the study was to investigate study habit as a predictor of Computer Science students' academic achievement in Colleges of Education in South-East, Nigeria. Specifically, the study sought to determine the:

1. Extent of prediction of College of Education students' achievement scores in computer sciences by study habit.
2. Extent of prediction of Computer Science students' achievement scores by the dimensions (Time management, study environment, test taking/preparation habit, note taking, reading and writing habit) of study habit.

### Research Questions

The following research questions guided the study:

1. To what extent does study habit predict Computer Science students' achievement scores in Colleges of Education in South-East, Nigeria?
2. What is the relative contribution of the various dimensions of study habit in the prediction Computer Science students' achievement scores in Colleges of Education in South-East, Nigeria?

### Hypotheses

The following null hypotheses were tested at 0.05 level of significance:

1. Study habit scores do not significantly predict Computer Science students' achievement scores in Colleges of Education in South-East, Nigeria.
2. The relative contribution of the various dimensions of study habit in the prediction of Computer Science students' achievement scores in Colleges of Education in South-East, Nigeria is not significant.

### Method

The study adopted correlation research design. The study was carried out in South East, Nigeria. South East of Nigeria is one of the six geopolitical zones in the country. The population of the study is 1028 year three (300level) Computer Science students in eight Colleges of Education in South East, Nigeria. The sample for the study is 510 year three Computer science students in the six Colleges of Education in south east, Nigeria drawn using purposive and random sampling techniques.

The instrument for data collection was Study Habit Questionnaire (SHQ). SHQ is a 39 item questionnaire adapted from Gordon (2000). It is designed with six sub-dimensions of: time management, study environment, test taking/preparation habit, note taking habit, reading habit and writing habit. The original scale was designed on a five point scale ranging from 1 to 5. The adaptation involved reducing the scale to four and assigning response weight to each scale namely: seldom (1), often (2), much often (3) and very much often (4). Also, the word history was changed to computer science to suit the present study. The instrument was validated by three experts. The reliability of SHQ was established using Cronbach Alpha owing to the fact that the items of the two instruments are polytomously scored, in other words, each items has multiple ratings. The instruments were administered to 300L computer science students in Federal College of Education (Technical), Asaba, Delta state in South South, Nigeria which was not part of the population. The scores generated were subjected to Cronbach's Alpha computations which yielded a reliability coefficient of 0.80.

The instruments were administered with the aid of three research assistants. Data generated from the study was analyzed using simple linear and multiple regressions. The null hypotheses were tested at 0.05 level of significance with the decision rule that: whenever Pvalue is less than or equals 0.05 ( $P \leq 0.05$ ) the null hypothesis was rejected and was accepted whenever Pvalue is greater than 0.05 ( $P > 0.05$ ). The regression equation for each prediction was established using the beta coefficients.

## Results

**Research Question 1:** To what extent does study-habit predict Computer Science students' achievement scores in Colleges of Education in South-East, Nigeria?

**Table 1: Prediction of Students' Achievement in Computer Studies by Self-Study-habit**

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Unstandardized coefficients (b)	Std. Error	Decision
Constant	.092 <sup>a</sup>	.008	.006	85.144	12.599	Low positive relationship
Study habit				.092		
a. Predictors: (Constant), Study-habit						

Table 1 shows a low positive relationship ( $R = 0.092$ ) exists between students' study-habit and their achievement in computer studies. The R-Square value of 0.008 indicates that 0.8% of the variance in computer studies scores is predicted by study habit.

**Research Question 2:** What is the relative contribution of the various dimensions of study-habit in the prediction of Computer Science students' achievement scores in Colleges of Education in South-East, Nigeria?

**Table 2: Contributions of the Individual Dimensions of Study-habit in the Prediction of Achievement Scores in Computer Studies**

Model	Unstandardized Coefficients		Standardized Coefficients	R	R-Square	t	Sig.	
	B	Std. Error	Beta					
1	(Constant)	73.939	8.181			9.037	.000	
	Time management	.011	.125	.004		.091	.927	
	Study Env.	.186	.104	.086		1.783	.075	
	Test Tak./Prep. Hab.	.278	.121	.107	.237	.056	2.294	.022
	Note taking habit	.534	.203	.125		2.626	.009	
	Reading habit	.214	.204	.050		1.049	.295	
	Writing habit	.632	.331	.083		1.907	.057	
a. Dependent Variable: Computer studies Achievement								

Table 2 shows a low positive relationship ( $R = 0.237$ ) exists among all the dimensions study-habit and achievement in computer studies. The R-Square value of 0.056 indicates that 5.6% of the variance in computer studies scores is jointly predicted by the dimensions of study-habit. Table 2 shows the standardized beta coefficient which indicates correlation between variables. The unstandardized beta coefficient which shows the prediction powers of each dimension of study habit which indicates their relative contribution to achievement in computer studies. The table shows that time management has a low positive relationship ( $R = 0.004$ ) with students' their achievement in computer studies, study environment has a low positive relationship ( $R = 0.086$ ) with achievement in computer studies, test taking/preparation habit has a low positive relationship ( $R = 0.107$ ) with achievement in computer studies, note taking habit has a low positive relationship ( $R = 0.125$ ) with achievement in computer studies, reading habit has a low positive relationship ( $R = 0.050$ ) with achievement in computer studies while writing habit has a low positive relationship ( $R = 0.083$ ) with achievement in computer studies. Table 2 also reveals that time management contribute 0.011 to achievement in computer studies whenever a students' time management habit increase by one unit. With a unit increase, study environment increases achievement in computer studies by 0.186, test taking/preparation habit by 0.278, note taking habit by 0.534, reading habit by 0.214 and writing habit increases achievement by 0.632. The order of relative contribution to achievement in computer studies from the highest to lowest by each dimension of study-habit is; writing habit (0.632), followed by note taking habit (0.534), test taking/preparation habit (0.278), reading habit (0.214), study environment (0.186) and then time management (0.011).

**Hypothesis 1:** Study-habit scores is not a significantly predict Computer Science students' achievement scores in Colleges of Education in South-East, Nigeria.

**Table 3: ANOVA on Significance of Prediction of Achievement in Computer studies by Students' Study-Habit**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	682.143	1	682.143	4.297	.039 <sup>b</sup>
	Residual	80642.061	508	158.744		
	Total	81324.204	509			
a. Dependent Variable: Computer Studies Achievement						
b. Predictors: (Constant), Study-habit						

Table 3 shows that study habit is a significant predictor of achievement scores in computer studies  $F(1, 509) = 4.297$ ,  $P(0.039) < 0.05$ . The null hypothesis was therefore rejected implying that study-habit scores is not a significantly predict Computer Science students' achievement scores in Colleges of Education in South-East, Nigeria.

Since study habit is a significant predictor of achievement scores in computer studies, the regression model ( $Y = a + bX$ ) for the prediction of achievement score in computer studies as derived from Table 1, where constant = 85.144 and b value = 0.092 is:

$$CSP = 85.144 + 0.092(SH)$$

Where, CSP = Computer studies Achievement and SH = Study Habit

**Hypothesis 2:** The relative contribution of the various dimensions of study-habit in the prediction of Computer Science students' achievement scores in Colleges of Education in South-East, Nigeria is not significant.

**Table 4: ANOVA on Significance of Prediction of Achievement in Computer studies by the Individual Dimensions of Study Habit**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4584.322	6	764.054	5.008	.000 <sup>b</sup>
	Residual	76739.882	503	152.564		
	Total	81324.204	509			
a. Dependent Variable: Computer Studies Achievement						
b. Predictors: (Constant), Writing habit, test taking/preparation habit, Note taking habit, Time management, Reading habit, Study environment						

Table 4 shows that all the individual dimension of study habit jointly predicted the students' achievement scores in computer studies significantly  $F(6, 509) = 5.008$ ,  $P(0.000) < 0.05$ . However, data contained in Table 2 shows the significance of the contributions of the individual dimensions of study habit to the prediction of achievement scores in computer studies.

Table 2 shows that time management is not a significant predictor of achievement scores in computer studies,  $t = 0.091$ ,  $P(0.927) > 0.05$ , study environment is not a significant predictor of achievement scores in computer studies,  $t = 1.783$ ,  $P(0.075) < 0.05$ , test taking/preparation habit is a significant predictor of achievement scores in computer studies,  $t = 2.294$ ,  $P(0.022) < 0.05$ , note taking habit is a significant predictor of achievement scores in computer studies,  $t = 2.626$ ,  $P(0.009) < 0.05$ , reading habit is not a significant predictor of achievement scores in computer studies,  $t = 1.049$ ,  $P(0.295) > 0.05$  while writing habit is not a significant predictor of achievement scores in computer studies,  $t = 1.907$ ,  $P(0.057) > 0.05$ . Thus, the significant contributors to the achievement of students in computer studies in order of significance are test taking/preparation habit and note taking habit. However, since the joint prediction of all the dimensions of study habit in the prediction of achievement score in computer studies is not significant, the regression model ( $Y = a + bX_1 + cX_2 + dX_3 + eX_4 + fX_5 + gX_6$ ) for the prediction of achievement score in computer studies as can be derived from Table 2, where constant = 73.939 and b value = 0.011, c value = 0.186, d value = 0.278, e value = 0.534, f value = 0.214, g value = 0.632 is:

$$CSP = 73.939 + 0.011(TM) + 0.186(SE) + 0.278(TTPH) + 0.534(NTH) + 0.214(RH) + 0.632(WH)$$

Where, CSP = Computer studies Achievement and TM = time management, SE = study environment, TTPH = test taking/preparation habit, NTH = note taking habit, RH = reading habit, WH= writing habit

## Discussion

The findings of the study showed that there is a low positive relationship between students' study habit and their achievement in Computer science with study habit significantly predicting 0.8% of the variance in Computer science scores. Only the dimensions of note taking and test preparation habits significantly predicted academic achievement in Computer science. Good study skills increase students' confidence, competence, and self-esteem. They can also reduce anxiety about tests and deadlines. By developing effective study skills, students are able to cut down on the numbers of hours spent studying, leaving more time for other things like self-evaluation. When they adopt good study habit, students become mentally and emotionally more prepared for each study session and each study session will become more productive leading to higher academic achievement. Developing good study habits help spell success and students as they find studying more efficiently and experiencing lesser stress in the process. Effective study habits create a more efficient academic environment.

Note-taking positively and significantly academic achievement because it leads to higher performance in class, as it positively impacts memory and one is able to recall more, which is useful for future examinations and test. Students who take notes may likely score higher on both immediate and delayed tests of recall and synthesis than students who do not take notes. Moreover, the more students record, the more they remember and the better they perform on examinations and test. Note taking forces the students to pay attention and helps them focus in class (or while reading a textbook). It helps students learn and become actively engage with the topic by listening and then summarizing what they hear helping them further to understand and remember the information later. Good note-taking improves students' active listening, comprehension of material, and retention.

Test preparation habits also significantly predicted academic achievement because it gives students an opportunity to reflect on what they have studied. It is a way to learn about the craft of writing and is closely tied to critical reading; in order to revise a piece conceptually, students must be able to reflect on whether their learning matches their writing goal. It test taking preparations, students demonstrate learning; what they think, assume, claim, and say should change as you learn more from course materials, and outside from other sources.

The findings of the study support the findings of Evans and Julius (2015) that a significant positive relationship exists between study habits and academic

achievement. The findings of the study is also in line with the findings of Ita, Attah and Nchor (2017) that study habit has significant influence on students' achievement in English language. The findings of Ebele and Olofu (2017) that there is significant relationship between study habits and students' academic achievement supports the findings of the present study. The findings of the study does not contradict the findings of Aransi (2020) that the students' study habit vis-à-vis management, concentration, note-taking, test strategies and motivation working together predicted around twenty four per cent (24%) variation in students' Economics academic achievement at high schools. The findings of Oparaji, Igbokwe, Eziuzo and Itoya (2021) that study habit is significantly related to achievement are also in line with the findings of this study.

## Conclusion

The study concludes that study habit is significant predictor of students' achievement in Computer science. The study also establishes all the dimensions of study habit examined bear significant influence on students' achievement in Computer science.

## Recommendations

The following recommendations are made based on the findings of the study:

1. Computer science lecturers should model of the students best study approach to the course and offer study habits and systematic questions that will keep study busy with studying. This will be aimed at ensuring that the students' study skills are enhanced.
2. Colleges of education should organise for students, seminars on how to study effectively in the postmodern world of today, using most recent advancements in educational technologies.
3. Teachers should ensure that students take down notes and given them Computer science subject contents to prepare notes on, so as to help them develop their note taking habit.

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