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The Influence of Study Habits on Students' Performance in Learning Activities: A Quantitative Analysis

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Abstract: *In the process, the investigation aimed to find the relationship of the study habits in academic performance of the first and second year BS Computer Science (BSCS) on different learning activities. From the different perspectives on motivation, cognition, and affect, four aspects were identified that can define the dimensions of the study habits: memory and prior knowledge, attention and concentration, motivation and interest and the self-confidence and anxiety. A descriptive-correlational method design was used for 51 subjects involved in the study. It was also reported that Motivation and Interest (4.05) and Attention and Concentration (4.04) are the widely used attributes in forming the study habits. Based on that, we can determine that study habits is greatly related with the academic performance in BSCS students.*

Keywords: study habits, academic performance, BSCS students, motivational factors, cognitive factors, affective factors, learning activities

I. INTRODUCTION

One of the major factors that affect students' performance in different learning activities is study habits. Study habits are regular habits and methods that students use in the process of their learning, such as managing study time, reviewing lessons, doing homework and preparing for tests. Good study habits help students to understand their lessons better, to concentrate better and to get better academic results. On the other hand, bad study habits can cause poor academic performance and difficulty in understanding lesson content.

There are several internal factors that influence students' study habits, including motivational factors, cognitive factors and affective factors. Motivation factors are interest, desire, and level of determination of student in learning activities. Cognitive factors are related to the thinking process of the students and their ability to understand, remember and solve problems during the study. Affective factors are students' emotional attitudes and feelings that may influence the degree of interaction and participation in class.

It is important to understand how students study and learn in relation to these internal factors, as it can significantly impact student learning outcomes. Hence, proponents suggest to conduct a study entitled "The Influence of Study Habits on Students' Performance in Learning Activities: A Quantitative Analysis" to find out the study habits of the students in first and second year BSCS and how it affects their academic performance.

Statement of the Problem

This study aimed to determine the effects of study habits on BSCS 1st and 2nd year students' performance on their learning task. The study identified the factors that affected this through an attempt to answer the questions that are in:

1. What study habits do the first-year and second year BSCS student engage in to meet their learning tasks?

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2. To what degree are first year and second year BSCS student motivated towards their learning and academic tasks?
3. What are the cognitive factors which enable the first and second year BSCS student to comprehend and execute learning tasks?
4. How does the affect factors (like their attitudes, feelings and emotions towards learning) effect the academic performance of first year and second year BSCS student?
5. Do study habits have a significant relation to first and second year BSCS student's learning tasks performances?

General Objective

A study will be conducted to explore how study habits affect the academic performance of BSCS first and second year students. Institutions of higher education often face challenges in developing appropriate curricula for such a diverse group as college students, especially with respect to the cognitive, motivational and affective domains in learning.

Specific objectives include:

1. Analyze study habit levels of 1st and 2nd year BSCS students with respect to Memory and prior knowledge, Attention and concentration, Motivation and Interest, and Self-confidence and Anxiety.
2. Determine the academic performance of 1st and 2nd year BSCS students in terms of the different learning activities (Quizzes, Exams, Projects, Total Test scores).
3. Explore the effects of the cognitive variables on the academic performance of the 1st and 2nd year BSCS students.
4. Explore the effects of motivational variables on the academic performance of the 1st and 2nd year BSCS students in terms of different learning activities.
5. Examine the effect of affective factors on the academic performance of 1st and 2nd year BSCS students.
6. Determine the overall combined effects of the cognitive, motivational and affective component of study habits on the academic performance of the 1st and 2nd year BSCS students.

II. REVIEW OF RELATED LITERATURE

Study habits is one of the most important factors that leads to student academic achievement (Aljaffer et al., 2024). An efficient student habit is a study strategy such as effective time management and organization, that leads to student academic performance in higher education. It is of paramount importance for first and second year BSCS students to learn a better study habit due to their increased exposure in a more complicated curriculum that requires discipline.

Having a good and sustained learning habit benefits a student's academic achievement (Muhammad et al., 2023). A student who is studying or reviewing course materials more often and applying effective time-management principles is going to be a better performing student compared to students who do not adopt effective study habits. As BSCS students are learning technical and analytical materials, an adoption of effective study habits is indispensable.

Motivation is one of the core determinants of student academic performance as it not only helps to keep students' interest and involvement in the class but it also ensures that they are more motivated in meeting academic goals. According to Acosta-Gonzaga (2023), student motivation is strongly correlated to self-confidence and both can lead to greater student academic success. Consequently, it is imperative that first and second year BSCS students should not lose their motivation in encountering subjects of higher technical nature, such as programming and theoretical subjects.

Cognitive elements like study skills and reading habits also contribute to student academic achievement. A research by Abid et al. (2023) confirmed that students' study skills and reading patterns are positively associated with their academic performance. Similarly, the same can be inferred among BSCS students, considering the core subjects required for the BSCS curriculum which are Data Structures, Algorithms, and Logic, all of which demands high cognitive ability and higher reading comprehension skills.

Further contributing to study habits as a measure of degree completion is the study by Akinlabi (2023) which indicated that assessment practices do influence students' study habits and academic performance. In this regard, well-planned

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and structured assessment practices can help students in developing more disciplined study habits which are beneficial to their academic achievements.

The affective attributes in terms of a student's feelings and attitudes also have a direct impact on academic performance. Emotional intelligence and study habits, for example, showed a high influence on a student's motivation and the resultant learning outcomes for online learning (Balano & Napil, 2024). Clearly, it is essential that first and second year BSCS students should manage their anxiety and confidence levels since these two affective variables will influence the student's learning of technical skills-related course outcomes.

According to Putwain et al. (2023), the ability of a student to endure test anxiety and other academic challenges through the construction of academic buoyancy are essential to a student's resilience and academic performance. Coping mechanisms for test anxiety can lead to an improved academic outcome. Classroom anxiety can have an adverse impact on a student's motivation to learn and academic performance Shang and Ma (2024), whereas self-efficacy acts as mediator between anxiety and academic performance.

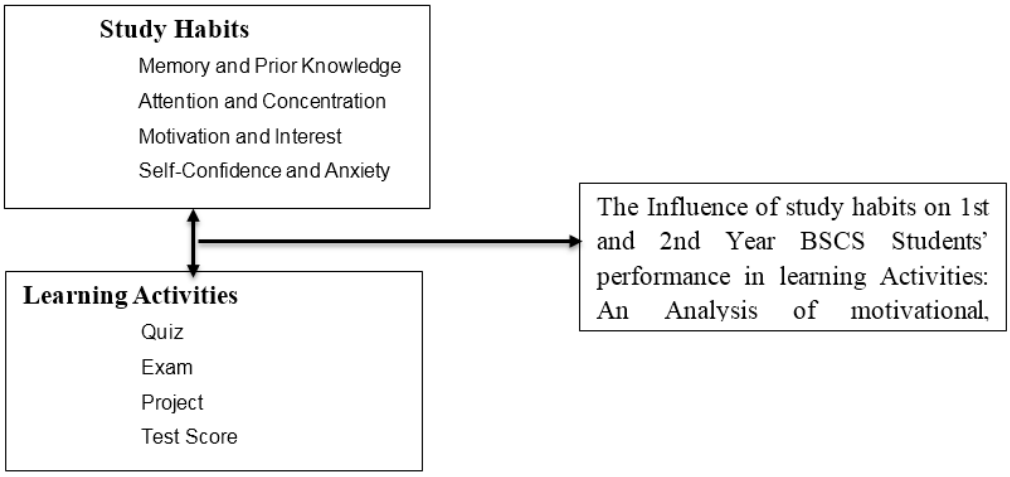
Essential study habits such as time management, note-taking, and self-testing are significant to a student's academic success Ganguly (2024). Students with consistent performance of these study habits can retain information at an optimal level compared to students who rely on last-minute learning.

Synthesis

According to the literature reviewed by the researchers, there are significant findings on the impact of study habits on academic performance, where study habits are composed of cognitive, motivational, and emotional elements. Research studies conducted by Aljaffer et al. (2024) and Muhammad et al. (2023) have shown that study habits that are well-organized and consistent will result in academic success. Acosta-Gonzaga (2023) supports the importance of motivation as well, while Abid et al. (2023) and Ganguly (2024) have provided evidence showing the value of reading habits and basic study skills. Further confirming this were by Balano and Napil (2024), Putwain et al. (2023), and Shang and Ma (2024), whose findings illustrate how various emotional factors (including anxiety and self-confidence) can impact students' engagement in academics. These studies provided a basis for the researchers in exploring study habits among first-year and second-year students in BS Computer Science.

III. CONCEPTUAL FRAMEWORK

This study is interested in the relationship between study habits and the academic performance of first two years BSCS students. Four dimensions form the construct "study habits"; which are Memory and Prior Knowledge, Attention and Concentration, Motivation and Interest, and Self-Confidence and Anxiety. There are four measures of academic performance namely quizzes, examinations and projects, and test scores.



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IV. RESEARCH METHODOLOGY

A. Research Design

This study implemented a descriptive-correlational research design to assess the impact study habits have on the academic performance of first and second-year BSCS students. The descriptive component captures the level of study habits and learning activity performance. The correlational component describes relationships among variables without any alterations.

B. Participants/Respondents

For this study, 51 first year and second year BSCS students of Surigao del Norte State University were surveyed, 26 from the first year and 25 from the second year. They were selected using a purposive sampling method as it targeted only the first year and second year BSCS students. The demographic profile can be shown in table I.

Table I. Respondents' Demographic Profile (N=51)

Age	N	%	
18 years old	9	17.6%	
19 years old	14	27.5%	
20 years old	14	27.5%	
21 years old	7	13.7%	
22 years old	4	7.8%	
23 years old	2	3.9%	
24 years old	0	0%	
25 years old	1	2.0%	
Year Level	**N**	**%**	
1st Year	26	51.0%	
2nd Year	25	49.0%	
Gender	**N**	**%**	
Male	25	49.0%	
Female	23	45.1%	
Prefer not to say	3	5.9%	

C. Instrument and Procedure

To come up with this study 51 first year and second year BSCS student were surveyed which includes 26 first year student and 25 second year student. These student were chosen using a purposive sampling due to it was only specific to the first year and second year BSCS student. The demographic profile are presented in table I.

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Table II. Likert Scale Interpretation

Scale	Range	Interpretation
5	5.00	Always
4	4.00 – 4.99	Often
3	3.00 – 3.99	Sometimes
2	2.00 – 2.99	Rarely
1	1.00 – 1.99	Never

D. Data Analysis

Frequency counts and percentages were used to describe the demographic profile of the participants. Weighted means were used to determine the level of study habits and performance in each learning activity. The computed mean values were analyzed with the five point likert scale used in the study.

V. RESULTS AND DISCUSSION

A. Study Habits of First and Second Year BSCS Students

Table III. Level of Study Habits of First and Second Year BSCS Students (N=51)

Variable	Mean	Interpretation
Memory and Prior Knowledge	3.95	Sometimes
Attention and Concentration	4.04	Often
Motivation and Interest	4.05	Often
Self-Confidence and Anxiety	3.91	Sometimes
Overall Mean	3.99	Sometimes

The mean scores of the four dimensions of study behavior for the assessors of year 1 and 2 students of BSCS are presented in Table III. These year 1 and 2 BSCS students showed the highest mean of 4.05 in the dimensions of Motivation and Interest, and hence were found to exhibit both Motivation and Interest in a manner that could be described as 'Often'. They were reported to exhibit the same behavior in the dimensions of Attention and Concentration with a mean of 4.04. The respondents fell in the category of 'Sometimes' in the dimensions of Memory and Prior Knowledge and Self Confidence and Anxiety. The overall means of the dimensions were reported to be 3.99 and were thus categorized as 'Sometimes'. The results imply that BSCS students are generally motivated and attentive in their studies. This supports the findings of Aljaffer et al. (2024), in which motivation and accompanied organization in learning activities were found to affect students' performance in their studies. The lower means of the dimensions of Memory and Prior Knowledge and Self Confidence and Anxiety imply that BSCS students find it difficult, to an extent, to regulate anxiety and retain learned materials. This observation was supported by the findings of Balano and Napil (2024) and Shang and Ma (2024). Ganguly (2024) also agreed that learning strategies like repetition and self-testing help students to remember the new lessons. From the foregoing statements, it can be deduced that review strategies will be a benefit for BSCS students.

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B. Relationship Between Study Habits and Academic Performance

Table IV. Relationship of Study Habit Dimensions to Academic Performance

Variable	Quiz	Exam	Project	Test Score
Memory & Prior Knowledge	3.86 (Sometimes)	3.85 (Sometimes)	4.02 (Often)	4.07 (Often)
Attention & Concentration	4.08 (Sometimes)	4.10 (Sometimes)	4.06 (Sometimes)	3.91 (Often)
Motivation & Interest	4.04 (Often)	4.06 (Often)	4.01 (Often)	4.08 (Often)
Self-Confidence & Anxiety	3.82 (Sometimes)	3.88 (Sometimes)	3.96 (Sometimes)	3.97 (Sometimes)

Table IV provides the average responses concerning the extent to which the study habits' dimensions influence student performance in terms of tests, exams, projects, and scores. Memory and Prior Knowledge had a greater influence on projects and test scores with the response category being Often in comparison to tests and exams, for which the response category was Sometimes. This is in line with Abid et al. (2023). They pointed out that study skills influence performances in assessments that require the application of higher order thinking the most. They are also most important when performing projects and/or tests that require the application of higher order skills. Attention and Concentration had equal influence in all dimensions (response category falls in the range 3.91–4.10) with the highest influence in tests and exams. This is also in line with Putwain et al. (2023). Motivation and Interest were ranked as the 'Often' category in all the performance measures (scores of 4.01–4.08). This shows the influence of Motivation and Interest in all performance measures. This is in line with Muhammad et al. (2023) and Acosta-Gonzaga (2023). Of the dimensions, self-confidence and anxiety ranked lowest (3.82–3.97), all considered as Sometimes. As stated by Shang and Ma (2024), building self-efficacy in students may reduce the anxiety performance gap. Overall, study habits positively influence academic performance, with the most influence being from Motivation and Interest dimensions and the least influence from Self-Confidence and Anxiety.

VI. CONCLUSION

The effect of study habits on the academic performance of the participants during their freshman and sophomore years of BSCS was determined in this study. Findings of this study indicate that Motivation and Interest and Attention and Concentration had the highest frequency performed, both dimensions were considered as "Often". Memory and Prior Knowledge, and Self-Confidence and Anxiety had been considered as "Sometimes".

Regarding the connection between study habits and academic performance, Motivation and Interest proved to have highly consistent effect among all the learning activities such as quiz, exam, project, and test score. Similarly, Attention and Concentration also had consistent effect, but Memory and Prior Knowledge have higher consistency particularly on project and test score while the least effect is from Self-Confidence and Anxiety among all.

In conclusion, it can be observed that study habits, specifically motivational and cognitive aspects, play highly influential roles in the academic performance of students enrolled in first- and second-year of BSCS during their different learning activities.

VII. RECOMMENDATIONS

Students are recommended to try their best to keep their motivation for their subject (especially technical one) and interest for it, since two variables turned out to be positively related to learning while engaged in any learning task. Additionally, students are recommended to acquire memory retention and enhancement strategies which would later prove helpful to improve the result in tests and examinations.

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It is suggested that the teacher and the administration of the school should design academic tutoring systems that aims to improve affective characteristics of study habits, that is confidence and anxiety levels, so that by creating an enjoyable and rewarding learning environment, it would be much easier to increase academic achievement on behalf of learning processes for the students.

Further research is advised to study the relation mentioned in a larger context than the one presented herein and in a larger, more heterogeneous sample, and it is also recommended to make use of inferential statistics like Pearson correlation and regression analysis to evaluate the nature and extent of the relation under consideration.

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