

A Quantitative Analysis on the Impact of Time Management to Academic Performance of Computer Science Students

Veronica B. Agapay¹, Jenelyn M. Arnado², Jessica Rose E. Fernandez³

BSCS Students, College of Computing and Information Sciences

Surigao Del Norte State University, Surigao City, Philippines ^{1,2}

Faculty, College of Computing and Information Sciences

Surigao Del Norte State University, Surigao City, Philippines³

veronicaagapay938@gmail.com jenelynamado189@gmail.com jfernandez@ssct.edu.ph

Abstract: *This study proposed to investigate the impact of time management on the academic performance of BSCS 1A students at Surigao Del Norte State University. Data were collected via a Google Form link questionnaire to assess students' time management practices and their corresponding academic outcomes. Statistical tools were used to analyze the data and determine the strength and significance of the relationship between time management and academic performance. The research aimed to determine the relationship between time management skills and the academic performance of students, to assess time management practices among students, and to determine patterns of time management among those students.*

Keywords: time management, academic performance, deadline management, BSCS 1A students

I. INTRODUCTION

This research basically intended to find out about impacts of time management on academic performance of students in secondary schools. Time management is managing the time ourselves in relation to 24 hours that we have. Moreover, it is setting priorities and proper utilization of time to achieve maximum quality output or outcome. Time management allowed learners to be in control of their time, to distribute it among their academic responsibilities, to set realistic goals and to increase their productivity. Moreover, it teaches students how to meet deadlines, to overcome procrastination, and to enhance their attention and concentration throughout study sessions. Despite the growing recognition of time management as a significant factor in academic success, there remains a lack of studies focusing especially on its impact among those students. Previous researchers have examined time management, with limited attention given to the unique academic demands faced by the students, just like programming task, heavy course work. So that, many students start to challenge to balance their time effectively, which may affect a negative impact to students to their academic performance. If this still unresolved, students may continue to experience weak academic performance, it may increase stress and decreased motivation. Time management can be defined as clusters of behavioural skills that are beneficial in the organization of study and course load, and that help learners to facilitate their productivity to achieve their learning goals. These skills include assessment behaviours aiming at awareness of time use, planning behaviours aiming at selecting and setting up realistic goals, and monitoring behaviours aiming at the observation of time use while performing activities and reflecting on previous organizing behaviour. The processes that are subject to time management refer to these forethought, performance, and self-reflection phases, as outlined in the self-regulated learning framework for a detailed review. In the forethought phase, learners need to activate knowledge regarding time management strategies to analyze the task at hand by gathering information regarding the estimated time needed for task completion, as well as any relevant deadlines, and then plan their learning activities by setting goals and priorities



within the given timeframe to establish time-related standards for progress or success. This study intends to address this gap by investigating the impact of time management on academic performance of the students, as a result providing findings that may improve their study habits and academic success.

A. Objectives of the Study

This study aimed to examine the time management of BSCS 1A students, identify its challenges, analyze its impact on academic performance, and propose strategies for improvement.

- Examined the time management of BSCS 1A students.
- Identified the key challenges of time management on academic performance.
- Analyzed the impact of time management on academic performance of BSCS 1A students. Propose many strategies that may improve the time management and academic performance among BSCS 1A students.
- Determined the academic performance of BSCS 1A students in terms of their academic performance

II. REVIEW RELATED LITERATURE

Concentration During Study

The ability to concentrate on your studies is a critical determinant of academic performance. Students who can focus during study sessions are more likely to absorb information effectively, retain what they've learned, and perform well on exams. Focus allows students to fully engage with the material, think critically and make connections between concepts. Without consistent concentration, even long hours of study can yield poor results. Therefore, knowing how to concentrate when studying is essential for every college student aiming to achieve academic success. The ability to concentrate on your studies is a critical determinant of academic performance. Students who can focus during study sessions are more likely to absorb information effectively, retain what they've learned and perform well on exams. On the other hand, distractions and a wandering mind can lead to inefficient study sessions, resulting in lower grades and increased stress. Focus allows students to fully engage with the material, think critically and make connections between concepts. Without consistent concentration, even long hours of study can yield poor results. Therefore, knowing how to concentrate when studying is essential for every college student aiming to achieve academic success.

Deadline Management

Recent research has emphasized that achievement motivation is context-sensitive and varies within individual students. Ubiquitous temporal landmarks such as exams or deadlines are evident contextual factors that could systematically explain variation in motivation. Indeed, research has consistently found that university students increase their study efforts as exams come closer in time, indicating increasing study motivation (Jan Dirk Capelle , Kerstin Senker , Stefan Fries , Axel Grund , 2023). Exercises come with deadlines that are considered to help students plan their schedules and consequently help get the exercises done. Without deadlines, exercises that need to be done may easily slide away to make room for other tasks that are seemingly more important. Even with deadlines, however, some students procrastinate and leave their tasks without attention until the very last moment. Identifying deadlines that work for all students can be challenging. Deadlines given in courses may not always be favoured by course participants, even if the deadlines would have justifications behind them. While deadlines can be helpful, they may also create anxiety and stress [44] among students

Learning Strategies

Students experiment with various learning strategies, including microstrategies, metacognition, emotional-social support, among others, to improve their academic performance. Research supports the positive impact of specific learning strategies on academic performance; self-testing, scheduling, and concept mapping all show positive correlations with improved results (Xu, Ong, Trần, Kollar, Wu, Vujičić, & Hsiao, 2021). Preparatory learning tasks are considered critical for student success in flipped classroom courses. However, less is known regarding which learning



strategies students use and when they use those strategies in a flipped classroom course. In this study, we aimed to address this research gap. In particular, we investigated mutual connections between learning strategies and time management, and their combined effects on students' performance in flipped classrooms. The students in the low-performing group enacted less diverse learning strategies and typically focused on video watching. We discuss several implications for research and instructional practice.

Note-taking Skills

Note-taking is a significant part of students' academics because it improves their learning and helps them with their memory. Writing effective notes that are concise helps students to understand the information easier and allows them to retrieve information efficiently. Note-taking allows students to organize information and to enhance their cognitive processing. There are many ways to structure notes such as intentional free notes, outline notes, and matrix notes. Therefore, it is important that students find their own structured way to write effective notes during lecture. Note-taking as a post-listening activity is a very crucial step for remembering what has been captured through listening since information retention lasts shortly. Irrespective of the glaring importance of listening skills and note-taking strategies to language learning, university students from very common observations have continued to neglect these skills, hence the poor performance in other language skills and other learning activities.

Study Schedule

College students face a multitude of academic responsibilities over the course of their undergraduate studies. It is important for them to manage their time accordingly to accomplish their necessary academic tasks and preserve their personal growth (IEEE 2022).

Task Prioritization

Task prioritization is one of the most researched areas in software development. Given the huge number of papers written on the topic, it might be challenging for IT practitioners—software developers, and IT project managers—to find the most appropriate tools or methods developed to date to deal with this important issue. We study how auditors prioritize tasks and how variations in task order influence auditors' performance. Drawing on conservation of resources theory, we develop and test our hypotheses through three experiments involving over 350 professional auditors. The first two experiments assess the impact of task order on performance. Across two settings, we manipulate task order and find that prioritizing an easier task generally results in lower performance compared with prioritizing a difficult task. In the third experiment, auditors are given autonomy over task ordering. We observe a tendency to prioritize easier tasks, particularly under heightened time pressure. We do not find any evidence that psychological ownership weakens the effect of time pressure on easy task prioritization. The main goal of this work is therefore to review the current state of research and practice on task prioritization in the Software Engineering domain and to individuate the most effective ranking tools and techniques used in the industry. For this purpose, we conducted a systematic literature review guided and inspired by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses, otherwise known as the PRISMA statement. Based on our analysis, we can make several important observations for the field. Firstly, we found that most of the task prioritization approaches developed to date involve a specific type of prioritization strategy—bug prioritization. Secondly, the most recent works we review investigate task prioritization in terms of “pull request prioritization” and “issue prioritization,” (and we speculate that the number of such works will significantly increase due to the explosion of version control and issue management software systems). Thirdly, we remark that the most frequently used metrics for measuring the quality of a prioritization model are f-score, precision, recall, and accuracy.

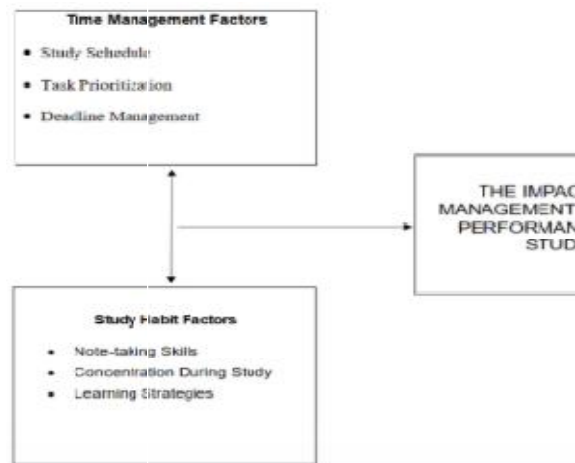


III. RESEARCH METHODOLOGY

This chapter presents the research design, data collection, and methods of data analysis used in the study. Each part is described clearly to ensure that the process can be understood and replicated by future researchers.

Conceptual Framework

This study investigates the impact of time management on academic performance of BSCS 1A students. Productive time management practices are expected to positively control academic outcomes. It aims to determine which specific time management strategies support most to improve students' performance, offering observations that can help students optimize their study habits and achieve better result.



3.1 Research Design

This study will use a descriptive-correlational research design to better understand how time management affects the academic performance of BSCS 1A students. This approach is appropriate because the study does not aim to change or control any variables, but rather to observe and identify if there is a relationship between how students manage their time and how well they perform in school. The descriptive part of the study will focus on identifying the common time management practices of the students, such as how they organize their schedules, handle deadlines, and balance their academic responsibilities. On the other hand, the correlational aspect will be used to determine whether these time management habits are connected to their academic performance. Overall, this research design is suitable because it allows the researcher to examine real-life student behaviours and understand how time management may influence their academic success without interfering with their normal routines.

3.2 Participants and Sampling Method

The participants of this study are students from the BSCS 1A section who are currently enrolled during the academic year. They were chosen because they are the main focus of the study, which looks at how time management affects academic performance among first-year Computer Science students. For this research, the researcher used convenience sampling. This means that the participants were selected based on their availability and willingness to take part in the study. This method was used because it is easier to gather data from students who are accessible within the class. A total of 45 students participated in the study. Before collecting the data, the researcher explained the purpose of the study to the participants. They were assured that their answers would be kept confidential and would only be used for academic purposes. Participation was completely voluntary, and they were free to choose whether to join or not. This method was considered suitable since it allowed the researcher to collect information quickly and efficiently from a group of students with similar academic experiences.



3.3 Data Collection Methods

In this study, data were collected using a survey questionnaire. The questionnaire was designed to gather information about the students' time management habits, such as how they organize their tasks, manage their study time, and handle academic responsibilities. The researcher distributed the questionnaires to the selected BSCS 1A students, through an online platform via Google Form, depending on what was more convenient for the participants. Before answering, the purpose of the study was clearly explained to them, and they were given simple instructions on how to complete the questionnaire. The questionnaire was divided into two parts. The first part included basic information about the students which is the age and gender, while the second part focused on their time management practices. The students were given enough time to answer all the questions honestly. After all responses were collected, the researcher reviewed and organized the data for analysis. This method was chosen because it is an efficient way to gather information from a group of students in a short amount of time.

3.4 Data Analysis Techniques

After collecting the data, the responses were organized and analysed using simple statistical methods. The researcher used frequency and percentage to summarize the participants' answers and mean to determine the overall level of time management. These techniques helped the researcher clearly understand and interpret the results of the study.

TABLE I. Scale of Interpretation for Likert Responses

Scale	Range	Verbal Description	Interpretation
4	3.50 – 4.00	Strongly Agree	Very High
3	2.50 – 3.49	Agree	High / Moderate
2	1.50 – 2.49	Disagree	Low
1	1.00 – 1.49	Strongly Disagree	Very Low

To address the study objectives—analyzing the relationship between time management and the academic performance of BSCS 1A students and identifying which aspects of time management most significantly affect academic performance. The researchers used frequency, percentage, and mean to analyze the data gathered from the respondents. Frequency and percentage were utilized to present the respondents' profile in terms of age and sex. Meanwhile, the mean was used to determine the respondents' level of agreement on how time management factors, such as study schedule and task prioritization, affect their academic performance. All data were organized and computed using Microsoft Excel, which facilitated both descriptive statistics and correlation analysis.

IV. RESULTS AND DISCUSSION

This chapter presents the results of the data gathered from the survey on the time management and academic performance of BSCS 1A students. The analysis includes the demographic profile of the respondents, the level of time management skills, the level of academic performance, and the relationship between these variables.

4.1 Profile of the Respondents

The following tables describe the demographic characteristics of the 45 respondents involved in the study.



4.1.1 Age Distribution

TABLE 1 SHOWED THE DISTRIBUTION OF THE RESPONDENTS BASED ON THEIR AGE GROUP.

Age Group	Frequency (f)	Percentage (%)
18	16	35.6%
19	17	37.8%
20	11	24.4%
21	1	2.2%

The data indicated that most of the respondents are 19 years old, comprising 37.8% of the total participants, followed by 18 years old with 35.6%, 20 years old with 24.4%, and 21 years old with 2.2%. This shows that most of the BSCS 1A students are within the typical college-age range, reflecting a young group of learners adapting to academic responsibilities and college life.

4.1.2 Sex Distribution

Table 2 presents the classification of the respondents according to their sex.

TABLE 2. FREQUENCY AND PERCENTAGE DISTRIBUTION OF RESPONDENTS BY SEX

Sex	Frequency(f)	Percentage(%)
Male	18	40%
Female	27	60%

In terms of sex, the data showed that 60% of the participants are female, while 40% are male. This indicates that female students comprise most of the respondents, showing a strong representation of women in the BSCS 1A program and providing a balanced perspective on the study.

4.2 Analysis of Learning Factors and Outcomes

4.2.1 Study Schedule

TABLE 3. MEAN SCORES FOR STUDY SCHEDULE

Dependent Variable	Indicator: Having a study schedule...	Mean	Verbal Description
Note-Taking Skills	1. I maintain well-organized notes.	3.27	Agree
	2. I write clearer and more detailed notes.	3.24	Agree
	3. I consistently follow my study plan as stated in the notes.	3.24	Agree
Subscale Mean		3.25	Agree
Concentration During Study	4. I maintain my study plan since it enhances my ability to focus.	3.31	Agree
	5. I am able to concentrate better on my lessons.	3.33	Agree
	6. I have enough time to study my lessons and it helps me to concentrate.	3.29	Agree
Subscale Mean		3.31	Agree
Learning Strategies	7. I can arrange my things and prepare my study sessions to support better learning.	3.22	Agree



	8. I can use my learning strategies more effectively.	3.13	Agree
	9. I achieve better results from my learning strategies	3.29	Agree
Subscale Mean		3.21	Agree

The data in Table 3 indicated that students generally agree that having a study schedule positively affects their academic habits and learning performance. Under Note-Taking Skills, the highest mean score was obtained by maintaining well-organized notes (M=3.27), while the subscale mean of 3.25 shows that students agree that study schedules improve their note-taking practices. In terms of Concentration During Study, students agreed that following a study plan helps them focus better during lessons (Subscale Mean = 3.31), while Learning Strategies also received an agreeable rating (Subscale Mean = 3.21), indicating that study schedules help students prepare and apply effective learning strategies.

4.2.2 Task Prioritization

TABLE 4. MEAN SCORES FOR TASK PRIORITIZATION

Dependent Variable	Indicator: Prioritizing my tasks....	Mean	Verbal Description
Note-Taking Skills	1. helps me maintain organized notes during class.	3.20	Agree
	2. helps me manage my note-taking more effectively.	3.29	Agree
	3. helps me stay organized and manage my notes more effectively.	3.24	Agree
Subscale Mean		3.24	Agree
Concentration During Study	4. helps me stay focused on my studies by identifying the most important tasks.	3.27	Agree
	5. helps me complete my school work on time.	3.29	Agree
	6. allows me to organize my time and stay concentrated on my study.	3.24	Agree
Subscale Mean		3.26	Agree
Learning Strategies	7. helps me choose the most effective learning strategies.	3.22	Agree
	8. guides me in using the right learning approaches for each task.	3.33	Agree
	9. helps me to apply the right learning strategies for each task.	3.27	Agree
Subscale Mean		3.27	Agree

The data in Table 4 indicated that most students agree that task prioritization positively influences their study habits and academic performance. Under Note-Taking Skills, students agreed that prioritizing tasks helps them manage and organize their notes effectively, with a subscale mean of 3.24. In terms of Concentration During Study, the subscale mean of 3.26 shows that prioritizing important tasks helps students stay focused and complete schoolwork on time, while Learning Strategies obtained the highest subscale mean of 3.27, indicating that task prioritization helps students apply effective learning approaches for each task.



4.2.3 Managing Deadlines

TABLE 5. MEAN SCORES FOR MANAGING DEADLINES

Dependent Variable	Indicator: Managing my deadlines....	Mean	Verbal Description
Note-Taking Skills	1. helps me stay focused while taking notes	3.33	Agree
	2. allows me to check and update my notes on time.	3.27	Agree
	3. helps me complete my notes on time.	3.36	Agree
Subscale Mean		3.32	Agree
Concentration During Study	4. helps me concentrate better during study sessions..	3.33	Agree
	5. allows me to follow my schedule and concentrate on my lessons.	3.38	Agree
	6. allows me to complete tasks on time and maintain my concentration.	3.27	Agree
Subscale Mean		3.32	Agree
Learning Strategies	7. allows me to use my learning strategies more effectively.	3.27	Agree
	8. helps me apply my learning strategies effectively.	3.24	Agree
	9. helps me use my learning strategies more effectively.	3.33	Agree
Subscale Mean		3.28	Agree

Table 5 showed that managing deadlines positively supports students' academic performance, particularly in maintaining concentration during study sessions (M=3.32) and improving note-taking skills (M=3.32). Learning strategies also received a positive rating (M=3.28), indicating that managing deadlines helps students apply and use their learning strategies more effectively. Overall, the findings suggest that effective deadline management enables students to stay focused, complete tasks on time, and maintain organized study habits

V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Summary of Findings

The study examined the impact of time management on the academic performance of BSCS 1A students. Based on the respondents' profile, most of the participants were 19 years old, and the majority were female students. In terms of time management practices, deadline management got the highest mean; study schedule and task prioritization have the same mean. Regarding academic performance, students showed higher levels of agreement in maintaining class participation, completing assignments on time, and preparing for examinations effectively. The statistical analysis revealed a significant positive relationship between time management and academic performance. Among the indicators, deadline management showed the strongest correlation, followed by task prioritization and study schedule. The results of the study indicated that BSCS 1A students commonly practiced time management in their academic activities. Based on the gathered data, the respondents agreed that creating study schedules, prioritizing important tasks, and managing deadlines helped them stay focused and organized in completing their schoolwork. The findings also suggested that proper time management contributed to better study habits and improved academic responsibilities among the students.



CONCLUSIONS

Based on the findings of the study, it can be concluded that time management plays an important role in the academic performance of BSCS 1A students. The results showed that most of the respondents were 19 years old, and the majority were female students. Among the different time management practices, deadline management obtained the highest mean, while study schedule and task prioritization shared the same mean, showing that students practice these strategies in handling their academic tasks and responsibilities. Moreover, the respondents demonstrated positive academic performance through active class participation, timely completion of assignments, and effective preparation for examinations. The statistical analysis further revealed a significant positive relationship between time management and academic performance. Deadline management had the strongest relationship, followed by task prioritization and study schedule. Based on the results presented in the study, the respondents generally agreed that proper time management played an important role in handling their academic responsibilities. The findings showed that having a study schedule, prioritizing important tasks, and managing deadlines helped BSCS 1A students become more organized and focused in completing their schoolwork. Overall, the results suggested that good time management practices supported students in managing their academic activities more effectively.

RECOMMENDATIONS

Based on the findings and conclusions of the study, the researchers would like to recommend the following:

1. Students continue developing good time management habits in their daily academic activities. Creating study schedules, prioritizing important tasks, and managing deadlines properly may help them become more organized and responsible in completing their schoolwork.
2. Teachers are encouraged to continue reminding and guiding students about the importance of balancing their academic responsibilities and personal activities through proper time management.
3. School Administrators may also provide seminars, programs, or activities that can help students improve their study habits and strengthen their time management skills.
4. Parents are encouraged to support and encourage their children in managing their time wisely, especially in maintaining good study habits and completing academic tasks at home.
5. Future Researchers may conduct similar studies with a larger group of respondents or include students from different courses and year levels to gain a wider understanding of how time management affects academic performance.

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REFERENCES

1. Husson University. (2024) How to Focus on Studying: Tips to Improve Focus and Concentration in College.
2. Capelle JD, Senker K, Fries S and Grund A (2023) Deadlines make you productive, but what do they do to your motivation? Trajectories in quantity and quality of motivation and study activities among university students as exams approach. *Front. Psychol.* 14:1224533. doi: 10.3389/fpsyg.2023.1224533.
3. Xu, J., Ong, J., Trần, T., Kollar, Y., Wu, A., Vujičić, M., & Hsiao, H. (2021). The Impact of Study and Learning Strategies on PostSecondary Student Academic Achievement: A Mixed-Methods Systematic Review. <https://doi.org/10.31234/osf.io/7ng5y>.



4. Salame , I. I., Tuba, M., & Nujhat , M. (2024). Note-taking and Its Impact on Learning, Academic Performance, and Memory. *International Journal of Instruction*, 17(3), 599–616. Retrieved from <https://e-iji.net/ats/index.php/pub/article/view/630>
5. L. X. J. Abla, N. T. Bugtai and R. K. C. Billones, "Optimization and Time Management of Weekly Class Schedule with Activity Constraints for College Students using Linear Programming," 2022 IEEE 14th International Conference on Humanoid,
6. Nanotechnology, Information Technology, Communication and Control, Environment, and Management (HNICEM), Boracay Island, Philippines, 2022, pp. 1-6
7. Bugayenko Y, Bakare A, Cheverda A, Farina M, Kruglov A, Plaksin Y, et al. (2023) Prioritizing tasks in software development: A systematic literature review. *PLoS ONE* 18(4): e0283838
8. Lin, R., Chen, G. Optimizing student performance: the impact of time management strategies. *Sādhanā* 50, 169 (2025). <https://doi.org/10.1007/s12046-025-02786-y>
9. Trentepohl, S., Waldeyer, J., Fleischer, J., Roelle, J., Leutner, D., & Wirth, J. (2022). How Did It Get So Late So Soon? The Effects of Time Management Knowledge and Practice on Students' Time Management Skills and Academic Performance. *Sustainability*, 14(9), 5097. <https://doi.org/10.3390/su14095097>
10. Francisco Enrique Vicente Castro, Juho Leinonen, & Arto Hellas (2022). Experiences with and lessons learned on deadlines and submission behavior. In *Koli Calling '22: 22nd Koli Calling International Conference on Computing Education Research* (pp. 1–13). [Association for Computing Machinery](https://www.acm.org?utm_source=chatgpt.com). <https://doi.org/10.1145/3564721.3564728>
11. Ngwoke, F. U., Ugwuagbo, W., & Nwokolo, B. O. (2022). Refocusing on listening skills and note-taking: Imperative skills for university students' learning in an L2 environment. *Theory and Practice in Language Studies*, 12(7), 1241–1251. <https://doi.org/10.17507/tpls.1207.04>
12. Raković, M., Matcha, W., Eagan, B., Jovanović, J., Shaffer, D. W., & Gašević, D. (2023). Network analytics to unveil links of learning strategies, time management, and academic performance in a flipped classroom. *Journal of Learning Analytics*, 10(3), 64–86. <https://doi.org/10.18608/jla.2023.7915>
13. Dierynck, B., & Peters, C. P. H. (2026). Auditor task prioritization. *Contemporary Accounting Research*.

