

Impact of Learning Management System (LMS) on Academic Performance of Selected First Year Nursing Students in Perpetual Help College of Manila

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Publication Date: January 12, 2026

DOI: 10.5281/zenodo.18245412

Abstract

This study examined the impact of the Learning Management System (LMS) on the academic performance of selected first-year nursing students at Perpetual Help College of Manila. Specifically, it aimed to determine the respondents' demographic profiles in terms of age, gender, and section; identify their perceived advantages and disadvantages of using the LMS; and assess the relationship between these perceptions and their academic performance. Utilizing a descriptive-correlational research design, data were gathered through a structured questionnaire administered to first-year nursing students. The findings revealed that most

respondents were young female students aged 18–24 years. Results showed that students recognized several advantages of the LMS, such as accessibility, convenience, and efficiency in learning management. However, they also identified challenges including poor internet connectivity, system errors, and limited interaction. Statistical analysis indicated no significant relationship between the respondent's perceived advantages and disadvantages of the LMS and their academic performance. This suggests that while the LMS serves as a valuable educational tool, students' performance is influenced by multiple factors beyond its use. The

study recommends continuous improvement of LMS implementation and provision of technical

support to maximize its effectiveness in nursing education.

Keywords: *Learning Management System, academic performance, nursing students, online learning, Perpetual Help College of Manila*

INTRODUCTION

The rapid advancement of technology has transformed the education sector, including nursing education, through the integration of Learning Management Systems (LMS). LMS serves as an online space for learning, allowing students to study lessons, conduct coursework, collaborate with peers, and receive grades on their output. In today's educational environment, where theoretical knowledge must be integrated with practical skills, the use of LMS has become increasingly essential in nursing education. Currently, the LMS is incorporated into the nursing curriculum at Perpetual Help College of Manila to enhance the students' learning process.

First-year nursing students at Perpetual Help College of Manila are confronted with a heavy academic workload, new medical concepts, and challenges related to time management. Although the primary aim of the LMS is to make learning resources more accessible and organized, it remains unclear how effectively students perform when using it. Some studies indicate that LMS usage leads to improved engagement, while others report issues such as technical difficulties, lack of motivation, and limited faculty support. To date, few studies have examined the actual impact of LMS on the academic performance of first-year nursing students at Perpetual Help College of Manila.

This study seeks to assess the correlation between the perceived advantages of LMS and students' academic performance, identify the problems faced by students, and offer recommendations for the effective integration of LMS into nursing education. Specifically, it aims to determine the perceived benefits and drawbacks of Learning Management Systems, evaluate the final grades in Anatomy and Physiology (Lecture and Laboratory), analyze the correlation between these perceptions and academic performance, and propose potential improvements for LMS based on the findings.

The findings of this study are expected to contribute to multiple stakeholders. For nursing students, it will provide insights into the impact of LMS on their academic performance and offer strategies for optimizing their learning experience. For nursing faculty, the results will highlight the advantages and challenges of LMS, allowing educators to refine teaching strategies and improve student outcomes. For school administrators, the study will supply valuable data to assess the effectiveness of LMS and guide future investments in educational technology. Finally, for future researchers, this research will serve as a foundation for further studies on LMS and its role in nursing education, potentially exploring additional variables and broader academic contexts.

Statement of the Problem

This study aims to investigate the relationship between the Learning Management System (LMS) and the academic performance of first-year nursing students at Perpetual Help College of Manila. Specifically, it sought to answer the following questions:

1. What are the perceived advantages and disadvantages of the LMS for first-year nursing students?
2. What are the final grades of the first-year nursing students in the following subjects?
 - 2.1 Anatomy & Physiology (Lecture)
 - 2.2 Anatomy & Physiology (Laboratory)
3. Is there a significant correlation between the perceived advantages of the use of the LMS and the academic performance of first-year nursing students?
4. Based on the findings, what enhancement can be recommendations for the LMS?

LITERATURE REVIEW

Foreign Literature

Evaluating E-Learning Systems Success: An Empirical Study

Learning Management Systems (LMS) have become essential tools in contemporary education, serving as platforms that facilitate the delivery of instructional content and the management of learning activities. According to Al-Fraihat et al. (2020), LMS platforms significantly enhance accessibility to educational resources, offer flexibility in learning schedules, and support the structured organization of course materials. These features contribute to increased student engagement and improved learning outcomes. The study further emphasized that the overall effectiveness of LMS is influenced by three critical dimensions: system quality, which refers to the reliability and functionality of the platform; information quality, encompassing the accuracy, relevance, and clarity of the learning materials; and service quality, which involves the support and assistance provided to users. This framework underscores the multidimensional nature of LMS effectiveness and highlights the importance of addressing all three areas to achieve successful e-learning outcomes.

Students' Perceptions of the Effectiveness of Learning Management Systems

Bond et al. (2021) explored the perspectives of students regarding LMS use and found that these platforms promote student-centered learning. By enabling learners to study independently and at their own pace, LMS supports personalized learning experiences that accommodate diverse learning needs. Additionally, LMS facilitates continuous assessment through quizzes, assignments, and interactive activities, allowing students to monitor their own progress and reinforce learning. The findings revealed that students who frequently interacted with LMS content not only demonstrated improved academic performance but also exhibited higher levels of motivation and engagement. These results suggest that active participation in LMS-mediated learning can foster self-directed learning habits, which are critical for academic success in higher education.

Learning Management Systems: A Review of the Research Methodology Literature

According to Schindler et al. (2022), LMS platforms are instrumental in promoting collaborative learning, as they provide tools such as discussion forums, group activities, and interactive modules. Such features are particularly valuable in health-related educational programs, where the application of critical thinking, problem-solving, and content mastery is essential. By facilitating peer-to-peer interaction and instructor guidance in a digital environment, LMS encourages meaningful learning experiences that extend beyond traditional classroom instruction. The study also highlighted that the integration of multimedia resources, quizzes, and simulations within LMS can enhance student comprehension and engagement, thereby improving overall learning outcomes.

The Use of Learning Management Systems in Higher Education: A Review

Gamage, Ayres, and Behrend (2023) examined the role of LMS analytics in higher education and emphasized its potential for enhancing teaching and learning effectiveness. LMS platforms provide educators with detailed data on student activity, participation, and performance, enabling early identification of learning gaps and challenges. By analyzing these data, instructors can implement timely interventions, provide targeted feedback, and tailor instructional strategies to meet the needs of individual learners. The study highlighted that the effective use of LMS analytics not only supports academic achievement but also facilitates a more personalized and responsive approach to education, which is increasingly important in diverse and technology-driven learning environments.

Analytics in Learning Management Systems: A Review of the Literature

In the field of nursing education, LMS has proven to be a critical tool for integrating theoretical instruction with practical skill development. McCutcheon et al. (2021) reported that LMS-supported learning enhances knowledge retention, strengthens clinical reasoning abilities, and prepares students for hands-on practice in healthcare settings. The study emphasized that LMS platforms allow learners to revisit instructional materials, engage in self-assessment, and simulate clinical scenarios, all of which contribute to greater confidence and competence in real-world practice. This highlights the significant role of LMS in bridging the gap between classroom learning and clinical application, which is particularly crucial in professional healthcare education.

Local Literature*Learning Management System Utilization and Academic Performance of College Students*

Reyes (2023) examined the relationship between LMS utilization and the academic performance of Filipino college students. The study indicated that regular and structured use of LMS contributes to the development of independent learning skills, such as self-regulation, discipline, and effective time management. Students who actively engaged with LMS resources reported improved academic outcomes, increased motivation, and greater confidence in completing learning tasks. Reyes highlighted that LMS not only provides access to instructional materials but also fosters essential life skills that enhance students' overall academic and personal development.

E-Learning in Philippine Higher Education Institutions: Opportunities and Challenges

Garcia and Dizon (2024) focused on the integration of LMS in health science programs in the Philippines, emphasizing its positive impact on student learning experiences and academic achievement. Their study demonstrated that well-structured LMS implementation promotes better organization of course materials, facilitates interactive learning, and supports continuous assessment. Students reported higher satisfaction with their learning experience, as LMS allowed for flexible study schedules, timely feedback, and opportunities for collaboration with peers. The research also identified challenges, such as the need for training in digital literacy and consistent internet access, highlighting the importance of institutional strategies to optimize the benefits of LMS in higher education.

METHODOLOGY

Research Design

This quantitative correlational research design is meant to be applied in its full weight to such a concern as measuring correlates between perceived advantage of LMS and students' academic performance. This would seem quite appropriate because it quantifies such relationships between learning an LMS and academic performance among first-year nursing students from Perpetual Help College of Manila. Descriptive research, according to Creswell (2021), systematically describes a phenomenon by collecting quantifiable data that may be statistically analyzed.

Sources of Data

This study utilized both primary and secondary data sources to ensure a comprehensive analysis. Primary data were collected from first-year nursing students at Perpetual Help College of Manila through structured survey questionnaires designed to capture quantitative insights. The researchers ensured clarity and anonymity in the data collection process to encourage honest and accurate responses from the participants.

Secondary data supporting information was gathered from scholarly articles, peer-reviewed journals, textbooks, government reports, organizational publications, and statistical databases related to nursing education and professional development. The combination of primary and secondary data will enhance the validity and reliability of the findings through triangulation.

Population of the Study

The population of this study was 266, and the target population included 84 first-year nursing students currently studying at Perpetual Help College of Manila. A direct sampling method was used to select the participants, making sure that the sample matched the entire first-year nursing student population.

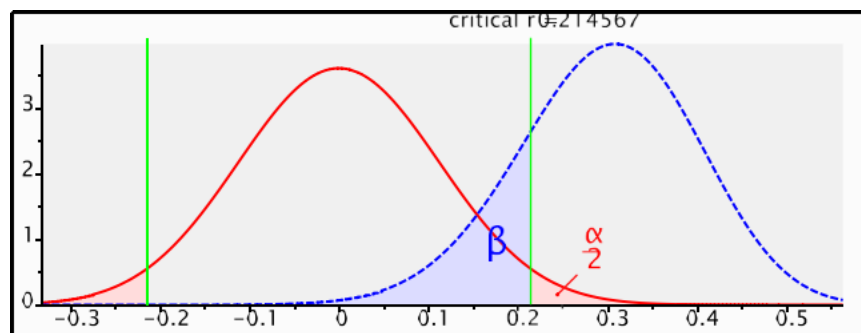
To determine the appropriate sample size, the software G*Power was utilized for a priori power analysis. The study utilized a Pearson's r correlation, hence, computation for the required sample size was performed based on the following parameters:

Exact - Correlation: Bivariate normal model

Options: Exact distribution

Analysis: A priori: Compute required sample size

Input:	Tail(s)	=	Two
	Correlation ρ H1	=	0.3
	α err prob	=	0.05
	Power (1- β err prob)	=	0.80
	Correlation ρ H0	=	0
Output:	Lower critical r	=	-0.2145669
	Upper critical r	=	0.2145669



Total sample size	=	84
Actual power	=	0.8003390

Therefore, the study required a minimum sample size of 84 respondents to meet the statistical requirements for the analysis.

Instrumentation

The researchers developed a structured survey questionnaire as the primary data-gathering tool. The questionnaire consisted of closed-ended questions to ensure clarity, facilitate quick responses, and keep participants focused on the study's objectives. The survey questionnaire is divided into seven sections:

- i) Respondent Profile – Gender, section, and age
- ii) Perceived Advantages of LMS
- iii) Perceived Disadvantages of LMS
- iv) LMS Usage
- v) Academic Performance

A **Likert Scale** was used to interpret and analyze responses

Validation of Instrumentation

To ensure validity, the questionnaire was reviewed and validated by three experts in the field of study. Construct and content validity were determined through expert judgment.

To test reliability, a pilot test was conducted with 30 respondents. The collected responses were analyzed, and the computed reliability score was 91%, Cronbach's Alpha indicating a highly reliable instrument for research.

Data Gathering Procedure

First, we asked for approval from the Dean of Nursing at Perpetual Help College of Manila before starting the survey. Once we got the go-ahead, we began collecting data from first-year nursing students. To reach them, we submitted an approval letter requesting permission to conduct the survey and to access their Anatomy and Physiology (lecture and laboratory) final grades.

We ran into some challenges during the process. Some students had a hard time taking the survey. It was especially tough to reach those who were often absent, which made it hard to schedule interviews, especially during class hours or when they had lab or return demonstrations. We also faced issues with the online surveys, like slow internet connections or devices that didn't support the survey format.

Despite all this, we managed to collect and process the surveys and grades using statistical methods. We started with a summary of the descriptive statistics, then analyzed how academic performance related to the perceived benefits of the LMS. In the end, we interpreted the results to draw conclusions and suggest possible improvements.

Statistical Treatment of Data

Upon the researchers' gathering of the data, it was arranged, tallied and underwent statistical analysis to address the study's research questions. The tools that were used by the researchers in analyzing the data are the following:

1. Frequency-Percentage was used to describe the demographic profile of the respondents in terms of age, gender, section, and academic performance in laboratory and lecture. The formula is as follows:

$$\text{Formula: Percentage} = \frac{F}{N} \times 100$$

where F is frequency; and $\frac{F}{N}$

N is total number of respondents

2. Descriptive statistics such as weighted mean, and standard deviation were used to describe the perceived advantages and disadvantages of the LMS of the respondents, perception on the LMS usage, perceived impact of the LMS usage on the academic performance, overall perception of the respondents on the LMS usage, and open-ended and usage of the respondents on the LMS usage. The formula are as follows:

$$\text{Formula: Weighted Mean} = \frac{\sum Fx}{N}$$

where Fx is the sum of the products of each value x and its corresponding frequency F ; and

N is total number of respondents

$$\text{Standard Deviation} = \sqrt{\frac{\sum_{i=1}^n (x_i - \bar{x})^2}{n - 1}}$$

where x_i are the data points;

\bar{x} s the sample mean

n is the number of data points in the sample

3. A Spearman's Rank correlation was used, as the dependent variables were treated as ordinal, to determine the relationship between the perceived advantages of the LMS of the respondents and their academic performance; and the relationship between the perceived disadvantages of the LMS of the respondents and their academic performance. The spearman's rank correlation coefficient is a nonparametric measure used to assess the strength and direction of the association between two variables measured on at least an ordinal scale (Spearman, 19
4. 04). This analysis was applied using IBM SPSS Statistics Version 26, a software program used by researchers in various disciplines for quantitative analysis of complex data.

Ethical Consideration

Since students' academic performance data (grades) and teacher evaluations are considered confidential, the researchers secured formal permission from the Dean of the College of Nursing, the Research Adviser, and subject instructors before conducting the study. The study is strictly academic, and respondents were assured of anonymity and confidentiality. Collected data were coded to ensure that individual responses cannot be traced back to specific student

RESULTS

TABLE 1. Demographic Profile of the Respondents in Terms of Age

Profile	Group	Frequency	Percentage (%)
Age	17 years old and below	40	37.7
	18 - 24 years old	41	48.8
	25 - 34 years old	3	3.5
	Total	84	100.0

The demographic profile of the respondents in terms of age was analyzed using a frequency-percentage distribution, to provide a clear overview of the distribution of respondents across each age group, as shown in Table 1.

Statistics show that the majority of the respondents are from the age group of 17 years old (37.7%), followed by those aged 18-24 years old (48.8%) and below, while only (3.5%) are from the group of 25-34 years old.

This distribution indicates that the respondents of the study, in terms of age, are primarily 18 to 24 years old. This makes sense since younger students are usually more comfortable using online learning platforms like Learning Management Systems (LMS). A study by Smith & Caruso (2021) found that younger students tend to be more familiar with digital tools, making LMS easier for them to use.

TABLE 2. Demographic Profile of the Respondents in Terms of Gender

Profile	Group	Frequency	Percentage (%)
Gender	Male	19	17.9
	Female	65	77.3
	Total	84	100.0

The survey also shows that more female students (77.3%) use LMS compared to male students (17.9%). This could mean that female students are more engaged in online learning or that there are simply more female students in the program. According to Johnson et al. (2021), female students are often more active in LMS-based learning because they tend to manage their time better and stay organized.

TABLE 3. Demographic Profile of the Respondents in Terms of Section

Profile	Group	Frequency	Percentage (%)
Section	N24A	35	33.0
	N24B	30	28.3
	N24C	19	23.7
	Total	84	100.0

Table 3 presents the distribution of respondents across different sections, showing that: N24A has the highest number of respondents (33.0%), indicating that this section represents the largest portion of the sample. N24B follows with (28.3%), suggesting a fairly balanced distribution among the sections. N24C has the lowest representation (23.7%), though still significant. According to Smith & Johnson (2022), class section distribution can influence peer interaction, collaborative learning, and academic engagement. Larger sections often experience reduced personalized interaction, affecting student satisfaction. Garcia et al. (2023) highlight that students in smaller sections tend to participate more in LMS discussions compared to those in larger sections, where students may feel less inclined to engage.

TABLE 4. Demographic Profile of the Respondents in Terms of Academic Performance in Laboratory

Profile	Group	Frequency	Percentage (%)
Academic Performance in Laboratory	1.50 - 1.75	19	17.9
	2.00 - 2.25	31	29.2
	2.50 - 2.75	23	21.7
	3.00 - 5.00	8	7.5
	INC	3	3.5
	Total	84	100

Students' grades in laboratory subjects mostly fall within the mid-range (2.00– 2.75). This suggests that while they are performing adequately, there is still room for improvement. The LMS is helpful for accessing lab manuals and submitting reports, but it does not replace hands-on learning, which is essential in laboratory courses. According to Al-Fadhli (2021) highlights that while online tools can support theoretical understanding, practical skills require direct experience. This explains why LMS usage alone

does not significantly impact lab performance. Students still need to actively participate in experiments and apply what they learn in a real-world setting.

TABLE 5. Demographic Profile of the Respondents in Terms of Academic Performance in Lecture

Profile	Group	Frequency	Percentage (%)
Academic Performance in Lecture	1.00 - 1.25	1	0.9
	1.50 - 1.75	11	10.4
	2.00 - 2.25	18	17
	2.50 - 2.75	31	29.2
	3.00 - 5.00	18	17
	INC	3	3.5
	Total	84	100

For lecture subjects, students' grades also tend to be in the mid-range. This indicates that while they benefit from LMS features like accessing lecture notes and submitting assignments, their overall academic performance is influenced by other factors. Research by Martin & Bolliger (2021) suggests that even though LMS provides a structured way to manage learning materials, students' success in lectures depends on instructor engagement, teaching strategies, and their own study habits. Simply using LMS does not automatically lead to higher grades; it needs to be combined with active learning and effective study techniques.

TABLE 6. Perceived Advantages of the LMS of the Respondents

Indicators	WM (Weighted Mean)	SD (Standard Deviation)	Interpretation
The LMS helps me organize my study materials effectively.	3.65	1.015	Very High
The LMS makes accessing course content easier for me.	3.67	1.049	Very High

Using the LMS saves time by allowing me to access materials and submit work online, compared to traditional in- person submissions (e.g., user-friendly, course management)	3.88	1.039	Very High
To what extent do you agree that the LMS provides immediate feedback after completing a quiz, indicating which answers were correct or incorrect and offering explanations for mistakes?	3.49	1.197	Very High
Does the LMS facilitate collaboration among peers through group discussions, forums and projects? Can you specify the features or tools within the LMS that support this collaboration?	3.39	1.092	Very High
Overall	3.62	1.089	Very High

Note: Scoring Range: 3.25 - 4.00 (Very High); 2.50 - 3.24 (High); 1.75 - 2.49 (Low); 1.00 - 1.74 (Very Low)

The perceived advantages of the LMS of the respondents was analyzed using descriptive statistics such as weighted mean, and standard deviation, as shown in Table 7.

Analysis shows that the indicator no. 3 received the highest weighted mean (WM = 3.88, SD = 1.039), indicating that the respondents strongly believe that using the LMS saves time by allowing them to access materials and submit work online, compared to traditional in-person submissions. On the other hand, the indicator no. 5 received the lowest weighted mean (WM = 3.39, SD = 1.092), indicating that the respondents strongly believe that the LMS facilitates collaboration among peers through group discussion forums and projects.

Overall, this result indicates that the respondents have very high perceived advantages on the use of LMS (WM = 3.62, SD = 1.089). This aligns with research by Sun et al. (2021), which highlights that digital platforms reduce time spent on manual tasks like printing and physically submitting assignments.

TABLE 7. Perceived Disadvantaged of the LMS of the Respondents

Indicators	WM (Weighted Mean)	SD(Standard Deviation)	Interpretation
The LMS sometimes causes technical difficulties such as slow response times or crashes, which hinder my learning (e.g., loading issues, lag in opening files).	3.74	0.998	Very High
The LMS lacks features such as mobile app or offline access, which could improve its usability (e.g., live chat, notifications).	3.64	1.035	Very High
Accessing the LMS is often challenging due to unreliable internet connectivity, which affects my ability to complete tasks on time.	3.37	1.072	Very High
The LMS reduces opportunities for student-to-student collaboration, student-teacher engagement.	3.29	1.032	Very High

Navigating the LMS is complicated due to its complex menu structures, making it time consuming to find necessary information (e.g., too many submenus or unclear labeling of sections).	3.55	1.114	Very High
Overall	3.52	1.060	Very High

Note: Scoring Range: 3.25 - 4.00 (Very High); 2.50 - 3.24 (High); 1.75 - 2.49 (Low); 1.00 - 1.74 (Very Low)

Table 7 shows that the most common LMS challenge reported by students is technical difficulties (WM = 3.74). Many students encountered slow system responses, crashes, and login problems, which made it frustrating to use LMS efficiently. Another major issue was internet connectivity problems (WM = 3.37), which hindered students from accessing course materials, taking quizzes, and submitting assignments on time. Additionally, some students found LMS less engaging than face-to-face learning, affecting their focus and motivation.

These findings align with Bao (2021) and Alqahtani & Rajkhan (2021), who found that technical problems are a major challenge in online learning. Hew et al. (2021) emphasized that unreliable internet access negatively affects students' ability to complete tasks. Similarly, Beldarrain (2021) noted that while LMS is useful for self-paced learning, it lacks the engagement and real-time interaction of traditional classrooms, making it harder for students to stay motivated.

TABLE 8. Relationship Between the Perceived Advantages of the LMS of the Respondents and their Academic Performance

Independent	Dependent	rho (o)	p-value	Decision	Interpretation
Perceived Advantages of LMS	Academic Performance (Laboratory)	.109	.265	Fail to reject H0	Not Significant
Academic Performance (Lecture)	.031	.749	Fail to reject H0	Not Significant	

Note: Correlation: 0.00 - 0.19 (Very Weak); 0.20 - 0.39 (Weak); 0.40 - 0.59 (Moderate);) 0.60 -0.79 (Strong) ; 0.80 - 1.00 (Very Strong) (Evans, 1996)

The relationship between the perceived advantages of the LMS of the respondents and their academic performance, was analyzed using a Spearman's rank correlation alternative to Pearson's r correlation, as the dependent variables were treated as ordinal.

Analysis revealed that the correlation between the perceived advantages of the LMS and the academic performance in the laboratory was found to be positive but not significant ($\rho = .109$, $p = .265$) as the p-value is greater than the significance level of 0.05. Similarly, the correlation between the perceived advantages of the LMS and the academic performance in lecture was also positive but not significant ($\rho = .031$, $p = .749$).

These findings suggest that there is no significant relationship between the perceived advantages of the LMS of the respondents and their academic performance, therefore, we fail to reject the null hypothesis. Hew et al. (2021) found that students are more likely to disengage from an online platform if they encounter frequent technical issues.

TABLE 9. Relationship Between the Perceived Disadvantages of the LMS of the Respondents and their Academic Performance

Independent	Dependent	rho (o)	p-value	Decision	Interpretation
Perceived Disadvantages of LMS	Academic Performance (Laboratory)	.045	.645	Fail to reject H0	Not Significant
Academic Performance (Lecture)	.050	.612	Fail to reject H0	Not Significant	

Note:Correlation: 0.00 - 0.19 (Very Weak); 0.20 - 0.39 (Weak); 0.40 - 0.59 (Moderate);) 0.60 -0.79 (Strong) ; 0.80 - 1.00 (Very Strong) (Evans, 1996)

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These findings suggest that there is no significant relationship between the respondents' perceived disadvantages of the LMS and their academic performance; therefore, we fail to reject the null hypothesis. Similarly, Macayan and Palomares (2023) found that students' experiences with the LMS did not significantly affect their academic performance in mathematics ($p = .243$).

DISCUSSION

Our investigation began by first understanding the people at the heart of our study the first-year nursing students at Perpetual Help College of Manila. The demographic profile we gathered was largely representative of the nursing profession's current landscape, with the majority of our respondents being

young women between the ages of 18 and 24. This suggested a group generally familiar and comfortable with digital learning environments.

When we looked into the students' direct experiences with the Learning Management System (LMS), it was clear that they genuinely appreciated the platform. They highlighted its most valuable benefits, such as the convenience, efficiency, and round-the-clock accessibility it offered for their learning materials. The LMS is unequivocally viewed as a helpful tool that supports their heavy academic workload.

However, this positive perception was balanced by the very real frustrations they encounter. Students were quick to point out significant technological barriers, particularly persistent system errors, poor internet connectivity, and the resulting feeling of limited direct interaction. These technical challenges are not minor inconveniences; they are critical hurdles that can severely disrupt a student's learning flow, regardless of how well the course content is designed.

This brings us to the most critical finding of our study. Our statistical analysis sought to determine if all these perceived advantages and disadvantages actually translated into better or worse performance in their Anatomy and Physiology grades. The result was genuinely thought-provoking: we found no significant correlation between the students' perceptions of the LMS and their actual academic performance.

This non-significant finding led us to accept the Null Hypothesis (H_0) that there is no direct relationship between the two variables. Practically speaking, this means the LMS is an enabler, not a sole determinant, of a student's success. While the system facilitates learning, high academic performance is a multi-factorial outcome. It is a product of the students' individual motivation, their personal study habits, the effective pedagogical strategies used by their instructors, and their access to a reliable, stable technological environment. The LMS is simply one piece of a much larger, more complex puzzle that defines success in the rigorous field of nursing education.

Conclusion

Our research on the first-year nursing students confirmed a fundamental truth about modern education the Learning Management System is now an indispensable part of the academic ecosystem. Students recognize and value its power for organization and accessibility.

However, the major takeaway is that while the LMS is an incredibly valuable support tool, it does not, on its own, determine whether a student succeeds or fails. The final grades achieved by our students rely on a holistic combination of personal discipline, effective teaching, and the quality of the technical support available. We cannot afford to overlook the persistent technical challenges system errors and poor connectivity that students consistently highlighted as major barriers to their learning.

In conclusion, our study definitively shows that the path to academic excellence in nursing is paved with more than just digital resources. The future focus must be on improving the ecosystem around the LMS addressing technical failures, providing dedicated support, and enhancing digital literacy for everyone to ensure that this powerful tool can truly complement and amplify the tremendous personal effort our future nurses dedicate to their studies.

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