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THE RELATIONSHIP BETWEEN LECTURE HALL FACILITIES AND STUDENT SATISFACTION: A STUDY AT UNIVERSITI MALAYSIA PERLIS

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ABSTRACT

The physical learning environment has a significant impact on students' academic experiences and overall satisfaction, particularly in higher education settings. This study examines the influence of lecture hall facilities on student satisfaction at public universities in Malaysia. Using a quantitative research approach, standardized questionnaires were distributed to gather data from 300 undergraduate students across three different institutions. Key factors evaluated included seat comfort, lighting, ventilation, cleanliness, and technology resources. Descriptive and correlational analyses revealed a strong positive correlation between the quality of lecture hall facilities and students' overall satisfaction. These findings underscore the need for ongoing improvement of physical infrastructure to create supportive learning environments. This study offers facilities managers and university policymakers valuable insights to enhance student-focused campus development.

Keyword: Lecture hall, facilities, student, satisfaction

1. INTRODUCTION

In higher education, student satisfaction has become a key indicator for evaluating institutional effectiveness. It encompasses various factors, including the learning environment, teaching quality, and academic assistance. Notably, the condition of lecture hall facilities, including lighting, technological support, seating arrangements, and acoustics, has a significant impact on student learning outcomes. In Malaysian public universities, lecture halls are often heavily utilized, which can lead to deterioration and reduced effectiveness. Despite the focus on digital transformation and educational innovations, a gap remains in research regarding the physical aspects of educational environments, particularly lecture halls. This study addresses this gap by examining how the physical features of lecture halls affect student satisfaction. By employing a systematic quantitative approach, the research aims to generate data-driven insights that encourage evidence-based improvements in the management of educational facilities.

2. LITERITURE REVIEW

Student satisfaction has become increasingly crucial in higher education due to heightened competition and the need to enhance student experiences for improved institutional performance (Chandra et al., 2019). Various factors contribute to student satisfaction, such as academic quality, administrative support, campus facilities, lecture hall characteristics, and extracurricular activities (Kaldenberg & Brown, 1998; Kuzehgar & Sorourkhah, 2024). These aspects impact enrolment, retention rates, and the institution's reputation, shaping students' views of their educational experiences (Pheunpha, 2019). Among these, academic excellence is a key factor in

student satisfaction. For example, Chandra et al. (2019) studied 500 students from various Indonesian universities and discovered that students highly appreciate faculty expertise, effective teaching methods, and high-quality education. Likewise, Elliott and Shin (2002) as well as Si (2022) analysed data from South Korean students, finding that perceived educational quality—including curriculum design and teaching strategies—significantly affects student satisfaction. A stimulating academic atmosphere fosters learning and professional growth, thereby enhancing the overall student experience.

Improving student satisfaction also necessitates responsive administrative services. Munteanu et al. (2010) studied 400 Romanian students and found that prompt responses from administrative personnel, easy access to academic resources, and efficient registration processes favourably affect student perceptions. Strong institutional support systems can reduce student stress and create a positive learning environment. Additionally, campus facilities and amenities play a significant role in student satisfaction. Douglas et al. (2006) surveyed 350 students at a UK university, reporting that well-kept lecture halls, libraries, laboratories, and recreational spaces improve learning experiences. A friendly, well-equipped campus atmosphere enhances student motivation and engagement.

Lecture hall facilities are essential for academic success and student satisfaction. Smith et al. (2020) conducted research with 200 students at a U.S. institution and discovered that well-designed ergonomic seating boosts students' comfort and concentration during lectures. Similarly, Johnson and Brown (2019) studied 150 Canadian students and found that ergonomic seating increased focus and overall satisfaction by reducing physical discomfort. Furthermore, lecture halls with proper acoustics, ventilation, and lighting create a more conducive learning atmosphere, enhancing students' academic performance and participation. The integration of modern technology is increasingly vital in education. Chen et al. (2021) found a significant positive relationship between student satisfaction and access to technological tools such as smart boards and high-speed internet in a study of 250 Australian university students. Nguyen et al. (2023) further validated that interactive digital tools and multimedia projectors enhance student engagement and perceived learning efficacy.

Student satisfaction is shaped by the interplay of academic quality, administrative support, and campus facilities, with lecture hall environments playing a critical role. Recent research by Lee et al. (2023) examined the impact of ergonomic seating and indoor air quality on student satisfaction in South Korean universities, revealing that enhancements in these areas significantly decreased fatigue and improved students' ability to concentrate during lectures. Patel and Kumar (2024) explored the effects of adaptive lighting and noise control in Indian higher education institutions, demonstrating that optimal lighting and regulated acoustics directly benefit cognitive performance and overall satisfaction. Sustainability is another emerging focus. Garcia and Smith (2024) showed that lecture halls crafted with sustainable materials and energy-efficient systems reduced environmental impact while enhancing psychological comfort and satisfaction, contributing to a more holistic educational experience.

Large-scale surveys also shed light on trends in student satisfaction. The 2024 National Student Satisfaction and Priorities Report, which analysed data from nearly 400,000 students across 693 institutions, revealed that overall satisfaction varies by type of institution and student demographics but remains a significant predictor of re-enrolment intentions. Freshman students typically report higher satisfaction and likelihood of re-enrolment, experiencing some decline in sophomore years before rebounding in their final year. Online learners and adult students display similar trends, with satisfaction levels stabilizing in later years (National Student Survey, 2024). In the UK, the 2024 Student Academic Experience Survey by Advance HE and HEPI, based on responses from over 10,300 full-time undergraduates, indicated an increasingly positive student experience, characterized by improved perceptions of value for money and higher satisfaction with contact hours and teaching quality. However, the ongoing cost-of-living crisis adversely

impacts students' mental health and perceptions of value, underscoring financial pressures as a significant hurdle (Advance HE & HEPI, 2024). The Postgraduate Taught Experience Survey (PTES) 2024 reported the highest satisfaction levels since its initiation, with an overall satisfaction rate of 84% among postgraduate taught students in the UK. International students exhibited higher satisfaction (87%) compared to domestic students (80%), while students with disabilities reported lower satisfaction (77%) and were more likely to consider leaving their courses. Financial challenges and balancing studies with other commitments were common factors influencing these considerations, highlighting the need for focused support (PTES, 2024).

In summary, these studies highlight that an intertwining of ergonomic design, technological infrastructure, environmental sustainability, and socio-economic factors increasingly influences student satisfaction. For higher education institutions, implementing best practices in these areas can enhance student experiences, bolster academic outcomes, and strengthen institutional reputation. This growing body of evidence reinforces the importance of prioritizing physical learning environments in higher education policy and campus planning.

In conclusion, numerous factors—including academic quality, administrative support, campus facilities, lecture hall design, and technological innovations—shape student satisfaction in higher education. By focusing on these elements, institutions can foster a supportive learning environment that promotes student success and institutional growth. For instance, a university can enhance student experiences, boost enrolment, and enhance its reputation by comprehensively addressing these factors. As academic and infrastructural elements are continually refined, higher education institutions will maintain their competitive advantage over time.

2.1 Conceptual Framework

This study's conceptual framework is based on the idea that the lecture hall facilities significantly influence the satisfaction of university students. It posits a direct correlation between the dependent variable (DV), student satisfaction, and the independent variables (IV), which include the support and amenities available in the lecture hall. Enhancing these facility features can improve students' educational experiences and increase their academic satisfaction. This framework allows for a systematic exploration of how the physical learning environment at University Malaysia Perlis affects students' perceptions and performance.

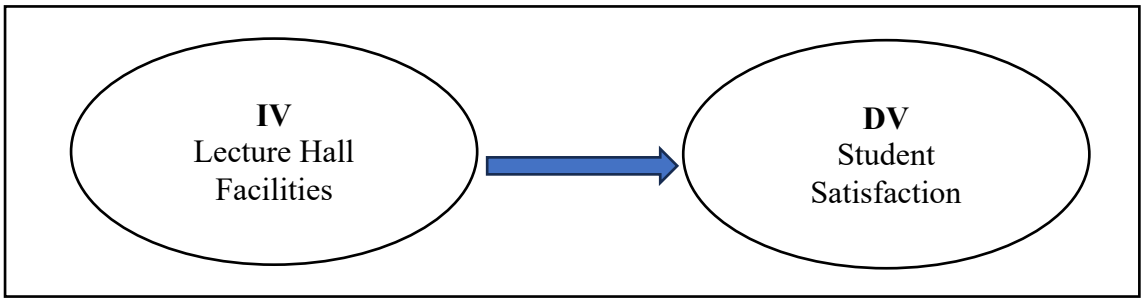

Figure 1. Conceptual framework

2.2 Hypothesis Development

Student satisfaction is a vital indicator of the quality of higher education institutions, as it reflects students' views on their learning environments. Among the various factors that contribute to student satisfaction, the amenities in lecture halls play a significant role in shaping the overall educational experience. Well-maintained and properly equipped lecture halls can enhance

student satisfaction by boosting comfort, engagement, and learning effectiveness. Previous studies indicate that the quality of infrastructure and amenities greatly impacts student satisfaction, as it creates a conducive learning environment that promotes academic success and overall well-being. When lecture hall amenities—such as seating arrangements, lighting, ventilation, and technological support—are positively perceived, student experiences and satisfaction are likely to improve. To explore the connection between lecture hall facilities and student satisfaction, the following hypotheses are proposed:

a) H_0 (Null Hypothesis): There is no significant relationship between lecture hall facilities and student satisfaction.
b) H_1 (Alternative Hypothesis): There is a significant relationship between lecture hall facilities and student satisfaction.

This study seeks to analyze whether enhancements in lecture hall facilities significantly influence student satisfaction or if other factors are more crucial in shaping students' overall educational experiences.

3. METHODOLOGY

Procedure

The study started by defining the issue and goals in order to investigate how lecture hall facilities affect Universiti Malaysia Perlis (UniMAP) students' satisfaction. In order to gather information about students' opinions about lecture hall circumstances and their degree of satisfaction, a quantitative design was used, and a structured questionnaire drawn from pertinent literature was used. Stratified random sampling was used to ensure representation from several faculties in the study, which focused on UniMAP undergraduates. According to Krejcie and Morgan's (1970) table, the population of 505 third-year students in the Faculty of Business and Communication needed at least 217 responders. Convenience sampling was used to disseminate 260 questionnaires via Google Forms in order to guarantee adequate participation; 235 valid responses were received, surpassing the suggested sample size. Although the results' generalizability was constrained by the use of non-probability sampling, this approach met recognized sample norms, produced a robust response rate of almost 90%, and offered sufficient representation for statistical analysis. The instrument was revised after a pilot study was conducted with a small student group to assess validity, reliability, and clarity. Following an offline and online distribution of the completed questionnaire, answers were gathered within a predetermined window of time. Cronbach's alpha was used to assess dependability after the data were methodically coded and analysed using statistical tools. While correlation and regression studies investigated the relationship between lecture hall facilities and student satisfaction, descriptive statistics described critical characteristics and demographic profiles. Results confirmed that the quality of lecture hall facilities has a significant influence on students' overall satisfaction at UniMAP.

3.2 Research Design

This study implemented a quantitative research design to examine the impact of lecture hall conditions on student satisfaction at Universiti Malaysia Perlis. A cross-sectional survey method was used to gather data from students through a standardized questionnaire. The questionnaire was derived from previous studies that measured the constructs of lecture hall facilities and student satisfaction, with changes made to fit the study's setting and objectives. The questionnaire included Likert-scale questions to assess students' perceptions of different lecture hall conditions, such as seating comfort, lighting, ventilation, cleanliness, and technological

support. The target population comprised students from the Faculty of Business and Communication, employing a random sampling technique to ensure diversity. Descriptive statistics, correlation analysis, and regression analysis were performed to analyze the relationship between lecture hall facilities and student satisfaction. The results offered insights that may assist university administrators in enhancing learning environments according to student needs.

3.3 Data Collection

Data for this research were gathered through a structured questionnaire given to 235 participants from the Faculty of Business and Communication at Universiti Malaysia Perlis (UniMAP). A random sampling approach was utilized to ensure a diverse representation of students. The survey was segmented into sections that evaluated students' perceptions of lecture hall facilities, including seating comfort, lighting, ventilation, cleanliness, and technological support. The data collection tool was a structured questionnaire featuring closed-ended items rated on a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree).

The questionnaire comprised two sections:

i. Section A; collected demographic data such as gender, age, race, and educational background.
ii. Section B; evaluated students' perceptions of various components of lecture hall facilities, including seating comfort, lighting, ventilation, cleanliness, technological support (e.g., projectors, sound systems), and overall satisfaction.

The questionnaire underwent pre-testing with a small pilot group (n=30) to ensure clarity, reliability, and internal consistency. Cronbach's alpha values exceeded 0.70 for all constructs, demonstrating acceptable reliability. Data collection was performed within a designated timeframe, ensuring privacy and voluntary participation. After gathering the data, responses were organized, cleaned, and analyzed using descriptive statistics, correlation analysis, and regression analysis to assess the impact of lecture hall facilities on student satisfaction.

3.4 Data Analysis

The data collected from 235 participants in the Faculty of Business and Communication at Universiti Malaysia Perlis (UniMAP) was analyzed using IBM SPSS Statistics software to ensure both accuracy and reliability. Initially, descriptive statistics (mean, standard deviation, frequency, and percentage) were computed to summarize respondents' perceptions of the lecture hall facilities. Following this, correlation analysis was conducted in SPSS to investigate the relationships between key variables—such as seating comfort, lighting, ventilation, cleanliness, and technological support —and their impact on student satisfaction. Finally, regression analysis was carried out to assess the strength and significance of how lecture hall facilities influence student satisfaction. The results derived from SPSS offered empirical insights, highlighting the vital factors affecting student satisfaction and guiding recommendations for facility enhancements.

4. RESULTS AND DISCUSSION

4.1 Sample Characteristics

Table 1 depicts the demographic characteristics of 235 participants from the Faculty of Business and Communication at Universiti Malaysia Perlis (UniMAP). The majority of respondents were female (73.2%), while males made up 26.8%. Regarding age, most students were between 23 to

25 years old (85.5%), followed by those aged 20 to 22 years (9.8%) and 26 to 28 years (4.7%). Ethnically, Malay students comprised the largest segment (43.8%), with Indian students accounting for 29.4%, Chinese students at 22.1%, and others at 4.7%. The participants presented a variety of educational backgrounds: 42.1% held STPM qualifications, 28.5% had diplomas, 16.2% completed matriculation, and 13.2% were pursuing degrees. These demographic details present critical context for evaluating student satisfaction with the lecture hall facilities.

Table 1 Demographic Profile of Respondents

Characteristic	Frequency	Percentage (%)
Gender		
Male	63	26.8
Female	172	73.2
Age		
20–22-year-old	23	9.8
23–25-year-old	201	85.5
26–28-year-old	11	4.7
Race		
Malay	103	43.8
Chinese	52	22.1
Indian	69	29.4
Others	11	4.7
Education background		
STPM	99	42.1
Diploma	67	28.5
Matriculation	38	16.2
Degree	31	13.2

4.2 Correlations Between Variables

The table below displays the link between lecture hall facilities and student satisfaction, revealing a Pearson correlation coefficient of 0.308, which indicates a moderate positive correlation. This implies that enhancements in the quality or appearance of lecture hall facilities typically result in greater student satisfaction, underlining the importance of these facilities in improving the overall educational experience for students. With a significance level of 0.000, far below the standard threshold of 0.05, this correlation is statistically significant, suggesting that the observed relationship between lecture hall facilities and student satisfaction is unlikely attributable to chance. The findings stem from a robust sample size of 235 observations. In summary, the results reinforce the notion that upgrading lecture hall facilities can positively affect student satisfaction, though it is only one among several factors influencing overall contentment.

Table 2 Correlation between Lecture Hall Facilities and Student Satisfaction

		Lecture Hall Facilities	Student Satisfaction
Lecture Hall Facilities	Pearson Correlation	1	.308**
	Sig. (2-tailed)		.000
	N	235	235
Student Satisfaction	Pearson Correlation	.308**	1
	Sig. (2-tailed)	.000	.000
	N	235	235

**. Correlation is significant at the 0.01 level (2-tailed)

4.3 Regression Analysis – Coefficients

The regression analysis presented in Table 3 offers further insight into the relationship between lecture hall facilities and student satisfaction, with student satisfaction as the dependent variable. The unstandardized coefficient (B) for lecture hall facilities is 0.116, indicating that for every unit increase in the quality or perception of these facilities, student satisfaction is expected to increase by 0.116, assuming all other factors remain constant. The standardized coefficient (Beta) is 0.100, suggesting that lecture hall facilities have a relatively small but positive effect on student satisfaction in comparison to other predictors within the model. The standard error of the coefficient is 0.089, and the t-statistic is 1.313, which evaluates the significance of the coefficient. However, the p-value (Sig.) is 0.191, exceeding the standard significance threshold of 0.05, indicating that the impact of lecture hall facilities on student satisfaction is not statistically significant in this analysis. This suggests that while lecture hall facilities may influence student satisfaction, as shown by correlation analysis, their effect is not strong enough to achieve statistical significance when considering other variables in the regression model.

Table 3 Regression Analysis of Lecture Hall Facilities on Student Satisfaction

Model	Standardized Coefficients			T	Sig.
	B	Std. Error	Beta		
Lecture Hall Facilities	.116	.089	.100	1.313	.191

Sig. ($p<0.05$).

a. Dependent Variable: Student Satisfaction

5. DISCUSSION

The hypothesis test results show a significant association between lecture hall facilities and student satisfaction, with a moderately favourable correlation ($r = 0.308$, $p = 0.000$). Even though lecture hall facilities have a marginally favourable impact ($B = 0.116$, Beta = 0.100, $t = 1.313$), regression analysis reveals that the p-value (0.191) is higher than the 0.05 significance level. This suggests that lecture hall facilities by themselves do not statistically significantly affect student satisfaction after other factors are taken into account. In other words, while the regression model shows that this effect decreases when competing predictors are taken into account, the correlation analysis captures the overall association between the two variables. This suggests that factors like curriculum design, teaching quality, or student support services may have a greater influence on satisfaction. Consequently, regression analysis does not offer enough proof to reject the null hypothesis (H_0), even though correlation analysis supports the alternative hypothesis (H_1). The results are consistent with earlier research that highlights the impact of physical learning spaces on student happiness and experiences (Douglas et al., 2006; Smith et al., 2020). The influence of key facility elements, such comfortable seating, adequate lighting, and reliable tech assistance, was especially highlighted. When compared to pedagogical and institutional elements, facilities may not be the most powerful predictors of satisfaction, according to some research, even though they do add to the overall learning experience (Wong & Chapman, 2023). It is evident from contrasting these findings with a larger body of earlier research that facilities serve as auxiliary factors rather than the main source of enjoyment. These results emphasize the need for routine upkeep and improvements to lecture hall infrastructure, but they also show how

crucial it is to address supplementary elements as part of a comprehensive plan to raise student satisfaction and academic achievement, such as engaging curricula, effective teaching methods, and student services.

6. CONCLUSION AND RECOMMENDATIONS

In conclusion, the analysis of the relationship between lecture hall facilities and student satisfaction reveals several key insights. The correlation analysis indicates a moderate positive relationship, suggesting that improvements in lecture hall facilities could enhance student satisfaction. However, the regression analysis shows that the influence of these facilities on satisfaction is not statistically significant after controlling for additional factors. This implies that while facilities are crucial, they are merely one aspect among many that affect student satisfaction. Overall, the findings suggest that educational institutions should consider upgrading lecture hall facilities as part of a broader strategy to improve student experiences, while also recognizing the importance of addressing other factors influencing student satisfaction. This study highlights that the quality of lecture hall facilities significantly impacts student satisfaction in Malaysian public universities. University administrators should prioritize regular maintenance, modernization, and student-centered lecture hall design to foster a better learning environment. Future research could broaden the sample to include other faculties and institutions and investigate additional aspects that influence student satisfaction.

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