

ONLINE CLASSROOM MANAGEMENT AND STUDENT
SATISFACTION IN REMOTE LEARNING: EVIDENCE FROM A
UNIVERSITY IN KUALA LUMPUR

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Abstract: This study examined the relationship between university students' perceptions of online classroom management and their overall satisfaction with remote learning in Kuala Lumpur, Malaysia. The study used both the Community of Inquiry (CoI) model as a guiding theoretical framework and Expectation Confirmation Theory (ECT) as a supporting theoretical framework. A cross-sectional survey study using a questionnaire-based instrument was utilized to collect data from 100 students at a university in Kuala Lumpur. Descriptive statistics, internal consistency reliability (Cronbach's alpha), bivariate correlations (Pearson), and multiple regression analyses were performed on the collected data utilizing the statistical package SPSS. Findings suggested that respondents had high levels of perception regarding both the quality of their online classroom management and their overall satisfaction. The results of the reliability testing revealed high levels of internal consistency reliability for both the Online Classroom Management Scale and the Student Satisfaction Scale. Additionally, the bivariate correlation coefficient analysis revealed a very strong positive association between Online Classroom Management and Student Satisfaction. Regression analysis revealed that online classroom management had a significant predictive value for student satisfaction. These findings indicate that approximately 92.4% of the variance in Student Satisfaction can be explained by the perceived quality of classroom management. These results suggest that universities should focus on developing structured course organization, interactive communication strategies, and technical and administrative support to provide optimal learning experiences for students participating in remote learning in Kuala Lumpur.

Keywords: *Online classroom management, student satisfaction, remote learning, higher education.*

INTRODUCTION

The emergence of digital technologies has led to a significant transformation in Higher Education due to the global shift to online/distance learning. Thus, online classroom management has become a major concern, since teachers need to maintain the students' motivation, discipline, and satisfaction without having the possibility of interacting with them in person. Universities in Kuala Lumpur are increasingly relying on digital platforms to deliver their courses, and therefore, developing the skills necessary to teach and manage virtual classrooms is becoming more and more important in order to develop high-quality learning experiences and successful student outcomes.

The digital platforms have helped in maintaining the continuity of learning and facilitating communication and collaboration among teachers and students (Shanzezy, 2025). However, the effective implementation of online learning depends on the availability of teaching resources, institutional support, and a stable IT infrastructure (Ali, 2020). The level of students' satisfaction is a key indicator of the success of the remote learning programs since satisfied students are more likely to be motivated and achieve better results academically and persist in their studies in spite of the challenges posed by the remote learning environment. Student satisfaction refers to students' perceived evaluation of the organization and support of online learning, encompassing instructional delivery and institutional services within the e-learning environment (Keržič et al., 2021).

Although remote learning expands access and flexibility, it represents new challenges for virtual classroom management. Remote learning environments may reduce students' sense of community due to physical separation and limited learner-learner interaction, which can foster feelings of isolation, alienation, and disconnection (Phirangee, 2016). The lack of trust, difficulty communicating, and connectivity issues can further exacerbate the students' lack of participation and engagement in virtual classrooms. Since the students' satisfaction is one of the criteria that academic institutions use to assess the quality of their educational provision, maintaining high levels of student satisfaction in remote learning is difficult (Hariharan & Merkel, 2021).

Students have reported diminished enjoyment and loss of interest in flexible learning, which were associated with behavioural disengagement, including poor concentration, low effort, dishonesty, and failure to meet instructor expectations (Española & Ouano, 2024). The student engagement, their ability to focus, to be interested in, and committed to the content of their studies, is crucial for effective learning; their motivation, as well as the quality of online classroom management, significantly influences this engagement. Therefore, beyond providing well-organised digital learning environments, effective classroom management requires the implementation of strategies that promote active participation, student engagement, and shared responsibility in the learning process (Franklin & Harrington, 2019).

In Malaysia, the relatively rapid transformation toward e-learning which has revealed the growth opportunities but also the disparities; although many Malaysian Universities have invested in Learning Management Systems (LMS), digital literacy training, and supportive policies; the effectiveness of these investments will be largely determined by the quality of the virtual classroom administration and the capacity of educators to fulfil the students' academic and psychological needs (Wan et al., 2018). The responsibility for developing structured, interactive, and inclusive virtual learning environments rests with educators. In such environments, they must establish and sustain communication, assessment, and feedback processes, while also addressing the challenges of remote learning, including reduced social interaction and increased student autonomy (Radzi et al., 2025).

Sustaining students' interest and satisfaction in remote learning environments is still challenging. Although the online learning tools enable educational institutions to continue delivering their programs during disruptions, they also pose obstacles to the learning experience. Students may feel isolated due to the lack of a physical presence and the reduced non-verbal cues, and the feeling of isolation may be intensified by the communication and technical challenges (Phirangee, 2016). Since student satisfaction is an important factor to consider when assessing educational success, sustaining the students' satisfaction in remote learning continues to be a pressing matter for higher education institutions (Hariharan & Merkel, 2021). Poor online classroom management, which lacks clear expectations and encourages minimal engagement, can negatively impact students' motivation and increase students' dissatisfaction. Meanwhile, well-organized online learning environments that facilitate the learning process and promote students' active participation are more likely to generate positive experiences for the students (Al-Fraihat et al., 2020).

Although the relationship between online classroom management and student satisfaction has been studied, limitations remain in understanding how online classroom management strategies influence student satisfaction in remote educational settings, particularly among university students in Kuala Lumpur. Prior research conducted in Iran (Shahmoradi et al., 2018) and Western educational settings such as the United States (Sher, 2009) has examined remote learning outside the Malaysian context. Within Malaysia, research has tended to assess general student satisfaction with online learning at national levels or within limited regional samples; for example, postgraduate students in Universiti Malaysia Terengganu (Hadi et al., 2022). There remains a location and sample gap concerning university students in Kuala Lumpur and the specific ways online classroom management strategies relate to their satisfaction.

This study investigates the relationship between online classroom management and student satisfaction among remote learning university students in Kuala Lumpur. It examines how elements of online classroom management, including instructor communication, course structure, interactive tasks, and feedback, relate to student satisfaction, with the intention of informing effective online teaching practices and supporting best practices in educational administration and management. Specifically, the research objectives are:

1. To examine the level of online classroom management among remote learning university students in Kuala Lumpur.
2. To examine the level of student satisfaction among remote learning university students in Kuala Lumpur.
3. To investigate the influence of online classroom management on student satisfaction among remote learning university students in Kuala Lumpur.

This research offers both theoretical and practice-oriented implications. The results will provide universities with empirical evidence to support the development of an effective online course model, assist instructors in developing strategies to enhance student engagement and satisfaction in distance learning contexts, and support university administrators in designing curricula and allocating appropriate resources to strengthen remote learning programmes. In addition, this research provides empirical evidence for the existing literature on online education, as well as identifies best practices for online education in Malaysia, which can inform educational policymakers in developing effective strategies for managing online classrooms.

LITERATURE REVIEW

Theoretical Underpinning

The focus of this research is based on the Community of Inquiry (CoI) model. The CoI model emphasizes three distinct areas of influence within the online learning environment. Teaching Presence emphasizes course design and organization, instructor support and communication, and instructor feedback. Social Presence is concerned with developing an online community of students where they feel comfortable interacting with one another. Cognitive Presence addresses the process by which students develop understanding from what they have learned and how they sustain engagement over time. These presences work together to provide a conceptual framework to help understand how instructors organize and facilitate online learning environments and ultimately affect students' experience and degree of satisfaction in these environments (Hadi et al., 2022).

Additionally, the Community of Inquiry (CoI) model will be complemented by Expectation Confirmation Theory (ECT) to provide a deeper understanding of student satisfaction in online courses. According to ECT, overall satisfaction with a product or service depends on whether it meets users' expectations. In the context of online learning, students form expectations regarding course content, platform usability, and support. When these expectations are met through effective teaching presence and continuous learning support, students are more likely to report satisfaction with their online experience. Conversely, unmet expectations can lead to dissatisfaction (Si, 2022).

Consistent with ECT and the principles of e-learning satisfaction models, the multidimensional nature of satisfaction in online learning environments is influenced by both pedagogical factors, such as instructor support and interaction, and technological factors, which include system usability and service quality (Yu, 2022). The Technology Acceptance Model (TAM) provides additional explanatory power by emphasizing the role of perceived ease of use and perceived usefulness of the learning platform in forming students' attitudes toward the technology and thus affecting their satisfaction with the learning experience. Finally, social constructivism supports the idea that learner interaction, engagement, and social presence contribute significantly to the development of meaningful learning experiences (Elshami et al., 2021). Collectively, these theoretical frameworks support the following assertion: online classroom management strategies that establish clear structure, promote interaction, and provide reliable support for students are theoretically positioned to improve student satisfaction in remote learning environments.

The definition of online classroom management in higher education has been defined as "the strategic thinking, tools and practices employed by educators to create, maintain and optimize the productive, organized and supportive virtual learning environment where students remain engaged, focused and respectful during all aspects of learning" (Amuthenu, 2025). Online classroom management applies to both synchronous and asynchronous modes of instruction, requiring educators to adapt their communication, organizational, and engagement strategies to accommodate the limitations and opportunities inherent in each learning mode (Wahab et al., 2022). Within the study, online classroom management was operationalized as instructional planning and organization, instructor interactions and communications, and technical and administrative support as the primary dimensions of online classroom management influencing student learning experience (Picciano, 2017).

Furthermore, the practical application of online classroom management serves as a key method for establishing teaching presence throughout a course. This involves structuring the course, facilitating student learning, and providing timely feedback; fostering social presence through organized interactions and building a sense of community among students; and supporting cognitive presence through sustained engagement that promotes meaningful learning (Picciano, 2017). Research indicates that the development of an effective online classroom management system comprises several components, including communication, organization, engagement, discipline, and feedback. Communication is enhanced through multi-channel messaging systems, which help to eliminate misunderstandings created due to a lack of nonverbal communication, though the potential for misunderstanding continues to exist even with multi-channel communication (DeBruler & Harrington, 2020).

Organization of online classes includes creating routine and accessible resources to support students as they move through the course, and using interactive resources and check-in methods to prevent the feelings of isolation and distraction common in online courses. Maintaining discipline in an online environment requires immediate and consistent enforcement; delayed enforcement may create difficulties for instructors in regulating behaviour (Jensen et al., 2021). Providing students with various forms of feedback, such as comments and videos on discussion board posts, can enhance the relationship between students and instructors, though ensuring consistency in the quality of this type of feedback is difficult in large-scale online courses. These elements are highly relevant to the Kuala Lumpur remote university context as they will impact how students perceive the effectiveness of the online learning experience based upon their perceptions of course organization, the level of interaction and instructor responsiveness, and their access to dependable support structures that will assist them in preventing disengagement and technological issues.

Student satisfaction is conceptualized as a learner's total assessment of his/her satisfaction with the overall quality of the online learning experience that he or she perceives based upon perceived service quality, the quality of the course content, and the functionality of the online learning platform (Yu, 2022). Student satisfaction in remote learning is not just about the learners' affective responses to the experience; it is about whether the online learning experience met or exceeded the learners' expectations relative to the level of support provided, the manner in which the course was delivered, and the results achieved (Benckendorff et al., 2019; Si, 2022).

Satisfaction in ECT can be improved as long as students experience a form of performance confirmation. However, for CoI and social constructivist theories, satisfaction will also be influenced by the level of student interaction and the students' perception of a supporting community within which they can engage with their peers and create meaning from the learning process (Elshami et al., 2021; Picciano, 2017). Garg et al. (2024) identify that both the design and structural components of courses are key factors in influencing students' overall satisfaction. Well-defined objectives, organized and available materials, and aligned learning activities enable students to feel less ambiguous and, therefore, motivated to learn (Garg et al., 2024). Instructor presence demonstrates an instructor's willingness to communicate clearly and provide students with supportive interaction and is significantly related to increased satisfaction levels, particularly when connectedness needs to be intentionally created (Sharifah Nia et al., 2023). Students perceive peer interaction as contributing to a sense of belonging and motivation, while social presence and peer support increase student satisfaction (Hadi et al., 2022). As a result, technology usability is central to all aspects of online learning; ease of use in navigating the learning platform, accessibility of resources, and reliability of support decrease learner frustration and allow students to focus on learning tasks rather than dealing with technical issues (Cole et al., 2014). Accordingly, student satisfaction represents a critical quality indicator of whether or not the remote university setting in Kuala Lumpur, studied in this research, is meeting students' academic and experiential expectations in a technology-mediated environment.

The theoretical basis for the connection between classroom management in an online classroom and student satisfaction is built upon the Collaborative Information Environment (CoI) model and both the Expectancy Confirmation Theory (ECT) and Technology Acceptance Model (TAM). According to the CoI, when an educator creates a strong teaching presence via planned course design and instruction, fosters social presence through meaningful communication, and promotes cognitive presence by engaging learners in learning tasks, students are most likely to encounter a well-coordinated and supportive learning environment and therefore provide positive evaluation and satisfaction of their educational experience (Picciano, 2017).

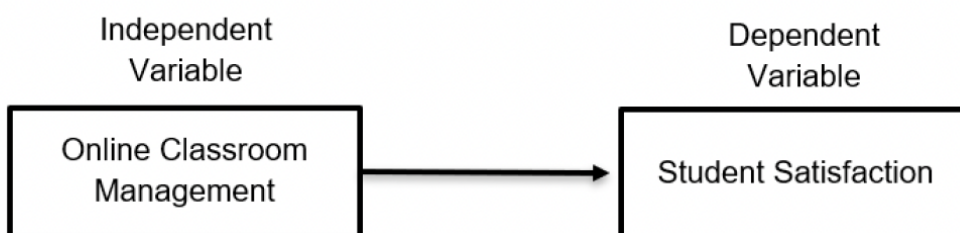
In addition to the CoI, ECT suggests that student satisfaction will increase when students' expectations about the quality of education, the level of support they receive from educators, and the performance of the online platform have been met by consistent online classroom management practices (Si, 2022). Benckendorff et al. (2019) provide empirical support for this theoretical assertion. Finally, TAM provides additional support to this theoretical reasoning by asserting that students' perceptions of the usability and usefulness of the online learning platform will affect their attitudes toward the platform and ultimately their satisfaction and the role that the management practices that promote usability, accessibility, and responsive technical support play (Elshami et al., 2021).

Empirical synthesis in this dissertation provides empirical support for the theoretical rationale described above. Studies have consistently found that classroom management practices in online classes, particularly organization, instructor presence, timeliness of instructor responses, and engagement strategies, are significantly correlated with student satisfaction in online classes (Momen et al., 2023). For example, Gray and Diloreto (2016) demonstrated strong correlations between course structure, instructor presence, and student satisfaction in online graduate learning. These findings suggest that the degree to which students perceive that online courses are effectively managed is positively correlated with their satisfaction. The dissertation also illustrates how classroom management affects student satisfaction through the mechanisms of engagement, motivation, and perceived support. Engagement has been identified as a mechanism through which instructor presence and learner interaction can produce greater perceived learning and student satisfaction (Cambay, 2024). Motivation, on the other hand, is enhanced through the perception of teacher support and, in turn, enhances engagement and student satisfaction. Conversely, teacher support has been identified as a predictor of engagement, while motivation was found to function as a mediator between teacher support and engagement (Zhang & Hu, 2025). Ultimately, both emotional and academic forms of perceived support alleviate feelings of isolation and foster a sense of belonging to a community of learners, thereby enhancing student satisfaction and persistence in remote learning (Nguyen et al., 2022).

Although research is expanding, this dissertation demonstrates the necessity of investigating the effect that classroom management has on student satisfaction in a virtual classroom at a certain institutional and context-specific level of analysis, namely, university students in Kuala Lumpur, who are impacted by the interaction of technological conditions, learner diversity, and institutional support with their classroom management practices. Additionally, the relationship between classroom management and student satisfaction may be affected by moderating factors such as technology availability and student attributes; previous experience using online classes, self-regulatory ability, and motivation, that may enhance or diminish the efficacy of classroom management practices (Held & Mori, 2024; Momen et al., 2023; Pandita & Kiran, 2023). Furthermore, the relevance of studying the interactions among the mentioned contextual elements provides additional rationale to directly study the relationship between classroom management and student satisfaction in the study setting. Thus, the hypothesis is as follows:

Hypothesis: Classroom management in an online class has a statistically significant effect on student satisfaction among remote learning university students in Kuala Lumpur.

Figure 1.
Conceptual Framework



The conceptual framework depicts online classroom management as the independent variable and student satisfaction as the dependent variable for the purpose of assessing online learning environments. For the

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independent variable of online classroom management, this includes instructional planning and organization, instructor interaction and communication, and technical and administrative support, all of which were measured using indicators from student responses to questions regarding course clarity, involvement, feedback, platform ease of use, and support. For the dependent variable of student satisfaction, it is the evaluative measure of the extent to which students report that their needs, motivation, and academic objectives have been met within the context of their engagement with the online learning experience.

The directionality of the conceptual framework posits that there will be a relationship between more effective online classroom management and higher levels of student satisfaction; consistent with the theoretical perspective that teaching presence, social presence, and supporting learning environments influence positive learning assessments (Picciano, 2017). In terms of analysis, the conceptual framework operationalizes this theoretical rationale for establishing the relationship between the dimensions of online classroom management and student satisfaction as a testable model of relationships between online classroom management and student satisfaction as an evaluative measure of the quality of online learning experiences. The conceptual framework was presented in Figure 1 and serves to facilitate the direct empirical assessment of the study's research question on how online classroom management impacts student satisfaction in remote learning among university students in Kuala Lumpur.

METHODOLOGY

This quantitative, cross-sectional study examined the relationship between classroom management (the independent variable) and student satisfaction (the dependent variable) among university students engaged in remote learning in Kuala Lumpur. This design was chosen to enable an objective assessment of perceptions using standardized questionnaires and to determine whether a relationship exists between classroom management and student satisfaction through inferential statistics. The study participants were students enrolled in various programs who had prior experience with online classes, reflecting the typical remote learning experiences of students at higher education institutions in Kuala Lumpur.

For this research, students engaged in remote learning in the Kuala Lumpur region constituted the target population. A sample size of 100 participants was used to represent this population. According to Thomas (2020), a sample of 100 is sufficient to establish meaningful relationships between online classroom management and student satisfaction while still being realistic due to time, resources, and response limitations.

Probability sampling methods were utilized as the methodological technique to select participants for the current study randomly. Specifically, the researcher used simple random sampling to enhance representativeness and minimize selection bias. To collect the data for this research study, the researcher utilized a structured questionnaire, which is an adaptation of earlier validated measures. The questionnaire contained demographic information (gender, age, year of study, program/faculty, and prior experiences with remote learning) and two major scales. The first scale, Online Classroom Management (13-items), was assessed on three dimensions: a) Instructional Planning and Organization (5-items): included assessing the clarity of the course syllabus, the organization of the online class sessions as it relates to time management, delivery of materials promptly, the clarity of assessment communications, and how engaged the lecturers were; b) Interaction and Communication (4-items): assessed whether timely feedback was provided, whether opportunities existed for participant interaction, whether the online classroom environment was inclusive of all participants, and whether participants had access to the platform; c) Technical and Administrative Support (4-items): assessed whether responsive solutions to technical issues existed, whether regular postings were made on the announcement section, and whether support personnel were available.

Secondly, Student Satisfaction (8 items) evaluated students' general satisfaction with online learning, students' perception of whether their academic needs were met through online learning, students' motivation to engage with online learning, students' ability to focus and remain engaged with online learning, students' satisfaction with their interaction with lecturers through online learning, students' preferences for taking additional online classes in the future, students' perception of their progress toward their academic goals, and students' satisfaction with technical support provided during online learning.

Following development of the questionnaire, it underwent a peer review to evaluate the suitability of the content, the clarity and accuracy of the language, and the usability of the interface. Following the peer review, a pilot study was completed to assess the feasibility of the instrument and the functioning of the questionnaire. After completing the pilot study, the university's ethics committee approved the study. Finally, the study survey was administered to students familiar with online learning through Google Forms. Participation in the study was voluntary and required students to agree to participate electronically. Anonymizing techniques were applied to preserve anonymity. The data collected were also encoded and prepared for analysis.

Expert reviews were utilized to support face and content validity. Construct coverage was achieved through aligning the items with established frameworks and prior literature (Ngo et al., 2021). Reliability of the data collected for this study was determined post data collection using Cronbach's alpha for each scale, where .70 served as the benchmark for determining acceptable internal consistency. A minimum of 30 joined the pilot study. Pilot study analysis included both descriptive checks and Cronbach's alpha. Any item or subscale that did not meet the .70 threshold would be revised or deleted.

All analyses were conducted using SPSS. Before conducting the analyses, the data collected were screened for missing values, outliers, and inconsistencies. Cases that had substantial amounts of missing data or responses that indicated carelessness or that the respondent did not understand the questions were removed from further consideration. Descriptive statistics, means, standard deviations, frequency counts, and percentage values were calculated to describe sample demographics and variable distributions. Pearson's correlation coefficient (r) was used to examine the strength and direction of the relationship between online classroom management and student satisfaction. Statistical significance was evaluated at the $p < .05$ level.

RESULT

Data were analysed using SPSS (Version 29). The final sample comprised $N = 100$ respondents. Table 1 presents the reported means and standard deviations for the study variables and the online classroom management sub-constructs.

Table 1
Demographic Profile of Respondents (n = 100)

Demographic Characteristics	Sub-Category	Frequency	Percentage (%)
Gender	Female	49	49
	Male	51	51
Age Group	20–23	74	74
	23–26	20	20
	26–29	6	6
Year of Study	2024	68	68
	2025	32	32
Faculty/Program of Study	Arts and Social Sciences	6	6
	Built Environment	8	8
	Business and Economics	5	5
	Computer Science and Information Technology	10	10
	Creative Arts	6	6
	Dentistry	6	6
	Education	8	8
	Engineering	6	6
	Languages and Linguistics	6	6
	Law	8	8
	Medicine	5	5
	Pharmacy	13	13
	Science	10	10
	Sports & Exercise Sciences	3	3

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Experience with Remote Learning	No	1	1
	Yes	99	99

Table 1 provides an overview of the demographics of the sample (N=100), which included a generally equal split of male/female participants (51/49), age 20-23 (74%), 23-26 (20%), and 26-29 (6%). The majority of the sample were in their first year of study (68%), while the remaining 32% were in their second year of study. There was a diverse mix of faculty representation in this sample. The largest faculty group represented was pharmacy (13%), followed by computer science/information technology & science (10% each). Other faculty groups were represented at levels ranging from 3-8%. All but one respondent (99%) had prior experience using remote learning technologies for educational purposes. Overall, the data indicate that the sample comprises mostly young undergraduates who have experienced remote learning and come from a variety of disciplines.

Table 2

Descriptive Statistics of Online Classroom Management and Student Satisfaction (n = 100)

Construct	Mean	Standard Deviation
Online Classroom Management (IV)	4.0425	0.85
Student Satisfaction (DV)	4.0638	0.83

Table 2 shows that students generally have positive perceptions of both online classroom management and their overall satisfaction with online learning. The mean score for Online Classroom Management (M = 4.04, SD = 0.85) indicates that students view the organization, interaction, and support in their online classes favourably. Similarly, Student Satisfaction recorded a slightly higher mean (M = 4.06, SD = 0.83), suggesting that students are generally satisfied with their remote learning experience.

The relatively high mean values (above 4.00) and moderate standard deviations indicate consistent positive responses among participants. Overall, the results suggest that well-managed online classrooms are associated with a generally satisfying learning experience for students.

Table 3

Descriptive Statistics for Instructional Planning and Organization

Code	Item	Mean	SD
OCM1	Clear course outlines and learning objectives	3.98	0.921
OCM2	Online classes start and end on time	4.11	1.091
OCM3	Learning materials shared in a timely manner	4.07	0.913
OCM4	Assessments and deadlines clearly communicated	4.05	1.019
OCM5	Experience with remote learning	4.11	0.852

Table 3 presents the descriptive statistics for the items under the Instructional Planning and Organization dimension of online classroom management. Overall, all items recorded mean scores above 3.90, indicating that students generally perceive this aspect of online classroom management positively.

The highest mean scores were observed for "Online classes start and end on time" (M = 4.11, SD = 1.091) and "Experience with remote learning" (M = 4.11, SD = 0.852), suggesting that students appreciate punctuality and are generally comfortable with remote learning. The item "Learning materials shared in a timely manner" (M = 4.07, SD = 0.913) also reflects favourable perceptions of course organization.

Although clear course outlines and learning objectives (Mean (M)= 3.98; Standard Deviation (SD)= .921) had the least amount of overall positive rating for the five items, it is still an average rating. Overall, the findings indicate that participants perceive the online learning environment to be comprised of several strengths, including structured planning, timely communications, and well-organized course delivery.

Table 4

Descriptive Statistics for Interaction and Communication

Code	Item	Mean	SD
OCM6	Lecturers actively engage students	3.97	1.096
OCM7	Timely feedback received	4.00	1.015
OCM8	Opportunities for student interaction provided	4.10	1.020
OCM9	Respectful and inclusive environment promoted	4.01	1.168

Table 4 reports on the Descriptive Statistics for the “Interaction and Communication” Dimension of Online Classroom Management. Overall, Students' Perception of this Area was Positive, with Student Mean Scores for all Items ranging from 3.97 to 4.10.

Mean scores for “opportunities for student interaction provided” (SD = 1.020, m = 4.10) were the highest, which suggests that most students believe that interactive elements of discussion and collaborative activity exist in their online classrooms. Students also had positive evaluations of both “respectful and inclusive environment promoted” (SD = 1.168, m = 4.01) and “timely feedback received” (SD = 1.015, m = 4.00).

The item “lecturers actively engage students” (SD = 1.096, m = 3.97) received the lowest mean score; however, the mean score is still suggestive of a generally positive perception. The relatively higher standard deviations for both lecturer engagement and classroom inclusiveness suggest that there is some variation in students' experiences with these dimensions of online classroom management. Overall, the findings indicate that students have a generally positive perception of both interaction and communication practices; however, these practices may vary across different classes.

Table 5

Descriptive Statistics for Technical and Administrative Support

Code	Item	Mean	SD
OCM10	Platform easy to access and navigate	3.95	1.158
OCM11	Technical issues addressed efficiently	4.07	0.913
OCM12	Regular announcements and updates provided	4.04	0.984
OCM13	Support available when encountering problems	4.12	1.028

Table 5 shows the technical and administrative support descriptors for online classroom management. Generally, students are positive in their perceptions in this area, as indicated by means ranging from 3.95 to 4.12.

Students' highest mean score for “There is support available if you encounter a problem” (Mean = 4.12, SD = 1.028) indicates that generally, students feel that they can receive help when they need it. Students also felt very positively toward their assessments of system management and communication, as shown by the mean scores of “Technical issues are resolved quickly” (Mean = 4.07, SD = .913) and “Regular updates and announcements are made” (Mean = 4.04, SD = .984).

Student's assessment of “The platform is easy to use and access” had the lowest mean (Mean = 3.95, SD = 1.158). Although this mean still reflects an overall positive assessment of the usability of the platform, the slightly larger standard deviation for this item may reflect more variability in the ways students experienced the usability of the platform. Overall, these results indicate that both students' and instructors' views on the technical and administrative support were very positive, which would contribute to the success of the online learning process.

Table 6

Descriptive Statistics for Student Satisfaction

Code	Item	Mean	SD
SS1	Overall satisfaction with online learning	4.13	0.971
SS2	Online classes meet academic needs	4.01	0.927
SS3	Feel motivated to participate in online classes	4.26	0.928
SS4	Feel motivated to participate in online classes	4.06	0.962

SS5	Satisfied with interaction with lecturers	3.93	1.121
SS6	Prefer online classes in the future	4.07	1.018
SS7	Online learning helped achieve academic goals	4.02	0.953
SS8	Satisfied with technical support	4.03	1.105

Table 6 provides descriptive statistics for the student satisfaction factor. Students expressed a general sense of satisfaction with the overall means ranging from 3.93 to 4.26.

Students reported high average scores on “Feel motivated to participate in online classes” ($M= 4.26$, $SD= .928$). This indicates that a lot of students report they have the motivation to be engaged in their online learning environment. “Satisfaction with online learning as a whole” ($M= 4.13$, $SD= .971$) and “Would prefer to take online classes in the future” ($M= 4.07$, $SD= 1.018$) also represent favourable views.

The low average score is for “Satisfied with how you interact with your instructor(s)” ($M= 3.93$, $SD= 1.121$), which shows a relatively lower level of satisfaction in the area of how students perceive their instructors. The large standard deviation for this question also indicates a considerable variance among students' experiences with their instructors. Overall, these results indicate that students have a general level of satisfaction with online learning, but it seems as though interaction with instructors could potentially improve.

Reliability Analysis

Internal consistency reliability (Cronbach's alpha) was reported for both the pilot and the main study. Table 7 summarises these coefficients.

Table 7

Reliability coefficients (Cronbach's α)

Variable	Items	Pilot ($n = 30$) α	Main Study ($N = 100$) α
Online Classroom Management	13	.89	.96
Student Satisfaction	8	.81	.93

Table 7 shows that each construct had a high level of reliability in both studies. The Online Classroom Management (13 items) construct was found to have a reliability of .89 at $n=30$ in the pilot and .96 at $N=100$ in the final study, which would be an excellent internal consistency. The student satisfaction (8 items) construct had an acceptable level of reliability at .81 in the pilot and acceptable to excellent levels of reliability at .93 in the final study. Each of the Cronbach's alphas exceeded .70, demonstrating that each measurement scale has the reliability required for use in further statistical analysis.

Correlation Analysis

Pearson correlation analysis indicated a very strong positive association between Online Classroom Management and Student Satisfaction, $r = .961$, $p < .001$. Correlations among the online classroom management sub-constructs and Student Satisfaction were also strong and statistically significant (all $p < .001$). Table 8 presents the reported correlation matrix.

Table 8

Pearson Correlation Matrix ($N = 100$)

Variable	1	2	3	4	5
1. Instructional Planning & Organization	—				
2. Interaction & Communication	.90**	—			
3. Technical & Administrative Support	.92**	.86**	—		
4. Student Satisfaction	.95**	.92**	.90**	—	
5. Online Classroom Management (overall)	.98**	.96**	.95**	.96**	—

Table 8 showed that Pearson correlation analysis revealed strong and statistically significant positive relationships among all study variables. Instructional Planning and Organization was strongly correlated with Student Satisfaction ($r = .953$, $p < .001$), while Interaction and Communication was also significantly associated with

Student Satisfaction ($r = .922$, $p < .001$). Overall, Online Classroom Management demonstrated a very strong positive correlation with Student Satisfaction ($r = .961$, $p < .001$)

Table 9

Model Summary for the Effect of Online Classroom Management on Student Satisfaction (N = 100)

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate
1	.961	.924	.924	.22885

The model summary from the simple linear regression analysis is shown in Table 9. The multiple correlation coefficient ($R = .961$) indicates an extremely strong positive relationship between student satisfaction and online classroom management. The coefficient of determination ($R^2 = .924$) also indicates that Online Classroom Management can explain the 92.4% of the variance in Student Satisfaction. The adjusted R^2 (.924) indicates that the explanatory power of this model is stable, which means that the explanatory power is not due to chance. These statistics indicate that the primary predictor of Student Satisfaction for this sample is Online Classroom Management.

Table 10

ANOVA Results for Regression Model

Source	Sum of Squares	df	Mean Square	F	Sig.
Regression	62.789	1	62.789	1198.948	< .001
Residual	5.132	98	.052		
Total	67.922	99			

The results from the analysis of variance (ANOVA) presented in Table 10 show that the regression model was found to be statistically significant ($F(1, 98) = 1198.948$; $p < .001$). Statistically significant models explain a greater portion of the variance than do models without any predictors. Thus, the null hypothesis of no effect for Online Classroom Management on Student Satisfaction was rejected.

Table 11

Regression Coefficients for Online Classroom Management Predicting Student Satisfaction

Predictor	B	Std. Error	Beta	t	Sig.
Constant	.266	.112	—	2.378	.019
Online Classroom Management	.939	.027	.961	34.626	< .001

The unstandardized regression coefficient ($B = .939$) shows the relationship to be as follows: For every one unit of change in the variable "Online Classroom Management," Student Satisfaction will have a corresponding 0.939-unit change. This shows there to be an extremely large effect size, as shown by the standardized regression coefficient ($Beta = .961$). In addition, the t-value was found to be 34.626 ($p < .001$), which demonstrates that this is a statistically significant predictor and therefore "Online Classroom Management" has a positive impact on Student Satisfaction. Finally, since the constant is statistically significant ($p = .019$), it can be concluded that students are satisfied with online classrooms at a baseline level regardless of the amount of classroom management.

The findings from the regression analysis provide substantial support for the view that Online Classroom Management has a positive impact on Student Satisfaction amongst university students using remote learning in Kuala Lumpur. Furthermore, as indicated by $R^2 = .924$, 92.4 % of the variation in Student Satisfaction can be attributed to the independent variable Online Classroom Management. The regression model was found to be highly statistically significant ($F = 1198.948$, $p < .001$).

In addition, the positive regression coefficient ($p < .001$; $B = .939$) clearly indicates that as Online Classroom Management improves, so too will student satisfaction, indicating a sizeable increase in satisfaction due to improvement in classroom management in an online environment. Hence, the hypothesis that there is a significant positive relationship between Online Classroom Management and Student Satisfaction has been confirmed. Further, the results indicate that the effects of effective instructional planning, interactions, and technical support

have a large and positive influence on students' perceptions of their learning experience when participating remotely.

DISCUSSION

The overall aim of this study was to assess the impact of students' perceptions of the quality of the online classroom environment on their overall satisfaction with remote education. The results from the study clearly show that there is a highly correlated and statistically significant relationship between how students perceive the quality of the classroom and their level of overall satisfaction. All three components of the Online Classroom Management scale, Instructional Planning and Organization, Interaction and Communication, and Technical and Administrative Support, had high average values, suggesting that students generally perceived their remote learning environments as being well planned and effectively managed. Further regression analysis showed that variations in students' satisfaction are related to the variation in students' perceptions of classroom quality. Overall, the findings support the main argument that effective classroom management in an online format will have a direct influence on students' experiences of remote education.

The hypothesis that classroom management has a statistically significant effect on students' perception of satisfaction in university courses in Kuala Lumpur was supported. This supports the idea that enhancing classroom management strategies will result in increased student satisfaction. As such, these results are consistent with previous studies that found that students are satisfied with online learning environments that provide well-organized instruction, clear expectations, and communicate effectively (Turunen & Tulaskar, 2021). Therefore, the current study provides additional empirical support for the argument that classroom management in a virtual environment is more than just organizing routines and is a fundamental component of students' perception of the quality of their learning experience.

The three dimensions examined in this study indicated that Instructional Planning and Organization was the strongest predictor of the students' satisfaction. Elements such as clear course outlines, structured schedules, well-defined assessment criteria, and easy access to learning resources enhanced students' perceptions of their learning experiences. Eder (2020) identified similar outcomes for students taking an online course. Fitter (2020), using the Community of Inquiry framework, emphasized that structured instructional design, operationalized by teaching presence, enables students to have a meaningful learning experience in an online setting. Clarity and organization can help eliminate uncertainty in remote learning environments; therefore, they contribute to increasing students' confidence and their sense of academic control.

Interaction and communication were positive predictors of satisfaction but received low scores relative to other dimensions. While students acknowledged the value of lecturers encouraging respectful dialogue and creating opportunities for engagement, they viewed online interaction as less spontaneous and less emotionally immediate than in-person interactions. Similar outcomes were found in research conducted by Katz et al. (2021), who found that remote learning may hinder socio-emotional connections and delay the immediacy of feedback. A lack of real-time social cues may contribute to decreased social presence, which is critical to sustaining motivation and engagement in an online environment. As such, developing methods to increase synchronous discussions, create real-time feedback mechanisms, and provide personalized communication strategies will be key to creating social presence and reducing feelings of disconnection.

Technical and Administrative Support was also a significant factor influencing students' satisfaction. Stable technology for learning, prompt repair of problems when they arise, and access to institutional help when needed were all important factors to students. As Ferri et al. (2020) previously identified, these factors have been linked to positive e-learning experiences when they relate to how usable and reliable an online platform is. If digital infrastructure works properly, then cognitive effort can be focused on academic work, not troubleshooting, which contributes to improved learning focus and satisfaction.

The findings suggest that effective classroom management in online learning environments is influenced not only by individual lecturers but also by broader institutional conditions. Leadership practices within educational institutions have been shown to affect teachers' digital competencies and their capacity to implement virtual learning platforms successfully. In the Malaysian context, student-centered leadership has been positively

associated with teachers' ability to integrate virtual learning environments into their instruction, indicating that organizational leadership can support and enhance digital instructional readiness (Jusoh et al., 2020). Accordingly, technical and administrative support, opportunities for professional development, and strategic leadership decisions are all critical for fostering effective classroom management in online classrooms. Students' satisfaction with remote learning, therefore, is shaped not only by classroom-level factors but also by wider institutional ecosystems that either enable or constrain high-quality digital pedagogy.

The study found that although many students had an overall good experience of the online classroom, there were some variations within this group, which suggests that students' prior knowledge and/or experience of technology will have an impact on their perception of what is satisfactory about their online classroom experience. It would appear, therefore, that all students will require different approaches to remote learning, and a single approach to remote learning will not meet the needs of all learners. A variety of teaching methods and/or support systems are likely to be required to achieve equitable student satisfaction. In addition, the study found that both students' level of engagement in the online classroom and their sense of being part of a community of peers and teachers contributed positively to students' level of satisfaction. This finding is consistent with Oinas et al.'s (2022) findings that creating a sense of community can counteract the sense of isolation that many students report when they learn remotely.

In summary, the findings indicate that effective management of the online classroom is a critical factor in developing students' satisfaction in remote learning. Successful online classroom management involves the effective organization of the delivery of online classes; students' meaningful interactions with both peers and teachers; reliable access to the technology that is needed to facilitate online learning; and effective alignment of institutional leadership. Therefore, the study adds to existing research in this field by illustrating that online classroom management occurs at two levels, namely at the pedagogic level and the organizational level, and that the most effective way to optimize student satisfaction in digital learning environments is through the effective coordination of these two levels.

Theoretical Implications

This study contributes to an improved theoretical understanding of the relationship between student satisfaction and online classroom management during remote learning. The findings from this study support the hypothesis that instructional planning, communication, and technical support affect how students evaluate their learning experience. These findings are in line with previous studies that have documented a positive relationship between teaching presence and student satisfaction, and they support theoretical models of learning environments, which identify organized instruction and structured facilitation as essential elements of effective online learning settings.

These findings further demonstrate a strong predictive ability related to online classroom management. When an instructor effectively coordinates the use of technology (communication), their instructional method (teaching presence), and technical support to students, the result is increased student satisfaction. This finding is in alignment with prior studies that have indicated that successful online learning cannot be attributed to a single variable but is rather the product of how the variables of teaching presence, communication, and technical support are integrated into a cohesive online learning environment.

Practical Implications

Universities should begin to focus on developing long-range strategic planning and instructional designs that will guide all aspects of an online course. By providing clear definitions of the course outline, timely delivery of all course material, and scheduled assessments, universities can provide their students with a greater degree of comfort and reduce uncertainty (Brown et al., 2020).

To further enhance the sense of community and student engagement in online classes, universities should encourage their faculty to use proactive feedback mechanisms and interactive tools and techniques (such as synchronous discussions) to create a more "socially present" environment (Gillis & Krull, 2020). Finally, effective online learning requires strong technical and administrative support systems. Universities must invest in high-quality Learning Management Systems (LMS); provide quick response to technical issues; and provide students and employees with basic knowledge about how to effectively use digital tools to reduce disruptions and facilitate a seamless continuation of education (Shin & Hickey, 2020).

Universities must also provide students with ways to take control of their own motivation and engagement in an online class through workshops or other resources that help them learn time management skills, self-regulation skills, and digital literacy skills (Shin & Hickey, 2020). By implementing motivational strategies into the course design process, universities can increase the likelihood of sustained participation from students. Fifth, universities must establish inclusive policies to address inequalities in access in technology and internet connectivity. Through the implementation of institutional support mechanisms, universities can promote fairness in the online learning experiences of students (Eltahir et al., 2023). Lastly, universities should establish regular monitoring and evaluation processes to continually monitor the effectiveness of classroom management and student satisfaction, so that data-driven changes can occur.

Limitations

There are several limitations associated with this study. First, the findings are specific to a university setting in Kuala Lumpur, which limits their generalizability to other institutions or regions due to differences in institutional culture, infrastructure, and student demographics. Second, the use of self-report questionnaires may have introduced response bias, as participants could have provided socially desirable answers rather than fully reflective responses. Finally, the cross-sectional design of this study captures students' perceptions of course satisfaction at a single point in time, thereby limiting insights into how satisfaction may evolve over the duration of the course.

Future Studies

One way future studies can build upon the current study is by conducting research at multiple institutions throughout Malaysia to increase the generalizability of the results and identify potential differences based on the specific institution. Future studies could include a comparison of satisfaction among students attending universities in rural areas or universities with fewer resources relative to those with greater resources. Another approach is to conduct longitudinal studies to determine how satisfaction varies over time and whether there are sustained impacts from using classroom management practices on students' academic success and retention.

Finally, researchers could incorporate mixed-methods approaches that combine both quantitative and qualitative methods, for example, surveys and interviews or focus groups, to gain a better understanding of the contextual aspects of students' motivation, engagement, and development of communities. In addition, further research might investigate new technologies such as artificial intelligence and adaptive learning systems, the integration of which in online classroom management frameworks, in the context of the Malaysian education system. Researchers might also investigate the role of various cultural and student characteristics, for instance, socio-economic status, digital literacy, and self-regulated learning as predictors of the level of satisfaction experienced by students in relation to their courses.

CONCLUSION

Effective management of an online classroom is important because it influences how satisfied students are when they take remote classes at a University in Kuala Lumpur. When students experience positive learning experiences via online classrooms, they have been provided with a quality virtual learning experience due to effective instructional planning, consistent student/staff communication/interaction, and reliable administrative/technical support. Although the data collected showed high overall satisfaction scores, there is still much to be done in terms of increasing engagement and building community in the online classroom. These results demonstrate the need for online classroom managers to develop and utilize classroom management strategies that support both the organizational aspects of teaching, as well as the ability to communicate effectively, and provide access to reliable technology. Ongoing focus on these issues will help to improve the inclusion and effectiveness of online education for students within the changing environment of Higher Education.

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