Comparing traditional and online learning environments: a study on student performance and satisfaction in higher education

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Abstract

Higher education plays a pivotal role in shaping the future of societies and economies. As educational models evolve, it is crucial to understand how different learning environments affect student performance and satisfaction. This study compares traditional and online learning environments in higher education, focusing on student motivation, academic performance, and satisfaction. The study utilizes survey data collected from 270 students across universities offering both traditional and online courses. The findings highlight significant differences in student engagement, performance, and satisfaction between the two learning environments, with online learning environments presenting both opportunities and challenges for academic success.

Keywords:

Traditional Learning, Online Learning, Student Motivation, Academic Performance, Student Satisfaction, Higher Education

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Introduction

Class management in higher learning institutions should aim at creating a setting that can foster student's optimal learning potential. Classroom management must be understood as a collection of methods, practical measures, and practices used by educators to create effective and appropriate learning environment. The instructors in higher education learners are complex and, they teach classes of diverse learners; not all the students come to a class with the same level of learning competency, attitude to learning and expectations of the course. This is because classroom management in this context goes beyond simple control of student behavior in the classroom to include other set-up that makes learning possible and student learning environment effective. This seems to be particularly appropriate in colleges and universities where student population heterogeneity is compounded with differences in students' learning needs and goals.

The teaching profession includes multiple dimensions since it reaches beyond the simple transmission of information. Students require the development of both essential ethical values and conduct codes during their education. As the cornerstone of formal learning, teachers bear the weight of responsibility for balancing these dual roles. Consequently, they face increasing pressure to develop effective strategies for simultaneously imparting academic knowledge and shaping the moral character of their students (Thi & Nguyen, 2021).

Accurate classroom management practices improve educational results through fostering respectful teacher-student relationships while developing appropriate learning environments coupled with multiple instructional approaches that result in better student involvement along with critical thinking development and educational success in higher educational institutions (Amalia, Na'imah, Azizah, Hidayatussa'adah, & Sadad, 2024). Promotive relationships between online

classroom management quality and student engagement drive improved learning outcomes through better student motivation and academic achievement for higher education environments (Li, 2024).

Experience-driven approach along with supportive instructional environment within classrooms leads to heightened student interest in school attendance and enhanced academic outcomes according to study results which demonstrate medium-strength functional correlation between these elements. Educators who show control along with care create positive effects on students both their learning motivation and educational results. Academic performance in higher education depends heavily on classroom management quality since motivation to learn operates as a partial connecting element between these two variables (Nguyen & Nguyen, 2023).

As higher education facilities carry on improving their educational approaches, it becomes important to understand the basic and various forms of motivation that can help define and influence students' academic grades. The quest for human and sustainable development is an international necessity, and this forms the focus of this paper; education with regard to Goal 4 of the UN. The United Nations' Sustainable Development Goals (SDGs), also have a major role in ensuring the course of other development objectives including a sustainable future (Lerch & Buckner, 2018).

Motivation improves a student's effort toward fulfilling his or her tasks in school, as evidenced in all aspects. of learning include workload, class work, homework, continuous assessment tests, and examination. Motivation in school learning involves mobilizing, continuing, sustaining, focusing, and facilitating people's learning (Mavezera, Gwirayi, & Kufakunesu, 2019).

Research groups have developed multiple theories to explore how motivation links to achievement and management practice within educational settings. There is for example Self-Determination Theory that proclaims that people get best engaged and motivated when they get the feeling of autonomy, competence, and last but not least relatedness. In as much as students' autonomy can be regarded in promoting effective classroom management when done in promoting positive learner attitude such as when a teacher allows the students to choose their assignment or foster self-learning, can lead to improvements in intrinsic motivation. Also, the Expectancy-Value Theory claims that students are motivated toward tasks if they perceive the value of outcomes associated with the anticipated tasks. Class management practices that boost and affirm students and at the same time relate the materials taught in class to real-life situations can thus go a long way in creating motivation.

Class involvement has always been vital if students are to develop the competencies necessary to be true consumers of information. material that was conducted to be taught and enhance their lessons. Students who the target audience that its members/participants can extend their learning, as well as prove to this physique, that influence know how to understand the content, build self-esteem, and act theory (Susak, 2016).

Education is the process of change and it can be. enhanced based on several approaches and. procedures which can help to make interesting classes. It stands for the latter is the ultimate ideal and personalized by the teachers. The social context that impinges on students' Multiple learning domains affects students. academic progress can also be captured as another way of dealing with the problem. range of instruction activities, particularly in the new regular classrooms. At full learning process, discuss the knowledge and activity engagement. It helps and allows to

delivery of certain lessons in the most comprehensible manner to the learners. that caters to the academic needs of their clientele, the learners. In terms of their learning behavior and approaches, the numerous learning domains show how effectively children sustain themselves (Saro, Manliguez, Buar, Buao, & Almonicar, 2022).

Classroom management and teaching practices have traditionally focused on in-person interactions within physical classroom settings. However, the rise of online education has shifted many higher education institutions toward digital platforms. In online learning environments, classroom management must adapt to a virtual space, which poses unique challenges for instructors and students. With the increasing use of online education, understanding how these different teaching environments affect student motivation and academic performance has become essential.

In traditional classrooms, direct teacher-student interactions, structured schedules, and face-to-face communication create an environment conducive to learning. In contrast, online learning environments rely on technological tools and require students to be self-motivated and independent. Both approaches impact students' motivation and academic performance differently, depending on the students' individual learning preferences and the design of the courses.

This paper explores how the distinct characteristics of traditional and online learning environments influence student motivation, academic performance, and satisfaction, with a particular focus on the role of classroom management techniques in fostering a productive learning experience in each setting.

Objectives of the study

The following were the objectives of the study:

1. To compare the effectiveness of traditional and online learning environments in enhancing student motivation and academic performance.
2. To examine the relationship between learning environment type (traditional vs. online) and student satisfaction in higher education.

Literature Review

The management concept includes organizing various elements for systematic coordination of organizational activities to reach common objectives through planning and staffing and directing with control functions (Babailov & Levchenko, 2022). Management includes directing factors that affect industrial processes, resource consumption, and market dynamics while accounting for both human and non-human characteristics. It requires the coordinated actions of several organizational stakeholders to accomplish certain goals(Babailov & Levchenko, 2022).

Management plays a crucial role in various sectors, as highlighted in the provided research contexts. Effective management is essential for the success and development of organizations, with a focus on utilizing limited resources efficiently to achieve set goals (Nićin196, Bulatović197, & Grbić198, 2018). In education, management is vital for enhancing the quality of services, increasing satisfaction, and ensuring competitiveness, emphasizing the importance of human capital management (Hernández Parra, 2015). Among the core responsibilities of management are organizing, planning, coordinating, and overseeing organizational operations. These exercises are meant to increase productivity and success by concentrating teamwork on certain goals(YILMAZ & EKİNCİ) .

Self-management is crucial for individuals with long-term conditions, encompassing symptom management, treatment adherence, and lifestyle adjustments, fostering a new dynamic between patients and healthcare providers amidst increasing LTC prevalence (Carrier).

Classroom management encompasses the strategies and actions teachers employ to organize the physical environment, guide student behavior, and enhance learning outcomes. Rooted in various theories like Behavior Modification, Group Dynamics, and Choice theory, classroom management models include behavioral, ecological, process outcomes, and self-regulating approaches (Poole, Sen, & Fallon, 2021). Effective classroom management involves competencies identification, development, and assessment, focusing on creating a constructive and productive classroom environment while managing student behavior and academic discipline (Goodman & Pendergrass, 1977).

Several research projects documented that the behavior of lecturers toward their college students impacts student developmental outcomes. Most studies relating teacher behaviors to student development emerge from developed or developing countries. Studies addressing the behavioral effects of lecturers on student growth remained scarce specifically within developing nations including countries enduring extensive war time disturbances. The research addressed this knowledge gap through its quantitative approach by investigating lecturer opinions on how their actions affect student motivation levels. The research utilized a 5-point Likert-scale questionnaire system for gathering data. The entire lecturer population at Takhar University received the questionnaire which serves as a very small academic institution in Afghanistan. The returned valid questionnaires numbered 151 out of 180 distributed questionnaires suitable for analysis. The SPSS software conducted the analysis of gathered data. The analysis showed lecturers perceive that their

actions greatly shape their conduct combined with student motivation regardless of diversified education levels and domestic economic stability. Different age groups of lecturers exhibit varying behaviors which impact student motivation at the tertiary education level differently. Higher education administrators need to focus on hiring lecturers with outstanding behavior from various age categories to improve student motivation at their institutions. (Noori, Said, Nor, & Abd Ghani, 2020).

Recent studies on classroom management in online environments highlight the importance of virtual engagement strategies, technology integration, and communication practices in fostering a positive learning experience (Li, 2024). Online classroom management requires instructors to leverage digital tools to engage students, provide timely feedback, and encourage participation. In contrast, traditional classrooms offer more immediate, face-to-face interactions, allowing teachers to directly observe and manage student behavior.

Research has shown that both traditional and online learning environments have unique strengths and challenges. Traditional classrooms tend to offer more immediate interaction and feedback, which may lead to higher student motivation and engagement. However, online learning environments allow for greater flexibility, enabling students to learn at their own pace, which can enhance satisfaction for self-motivated learners (Nguyen & Nguyen, 2023).

Online learning environments often face issues related to student isolation, time management, and the need for high self-discipline. Effective online classroom management practices, such as structured timelines, regular check-ins, and clear expectations, can help mitigate these challenges and improve student motivation (Li, 2024).

Research Design

This study employs quantitative research design, to compare student performance and satisfaction in traditional and online learning environments utilizing surveys to gather data from 270 public and privative university students in Lahore. These pupils were chosen from the university of social science, science, and arts & humanities departments. 5-point Likert scale was used for measuring the 37 questions throughout the questionnaire. The study employs random sampling and ensures reliability through Cronbach's Alpha (0.959). Data analysis is conducted using SPSS, incorporating descriptive and inferential statistical methods.

Findings

Correlation Analysis

The correlation analysis revealed significant relationships between student motivation, academic performance, and the type of learning environment. Traditional learning environments (TL) showed stronger correlations between classroom management and student motivation ($r = .825$) and academic performance ($r = .724$) than online environments. However, online learning environments (OL) showed moderate but significant correlations, indicating that online strategies such as digital engagement and timely feedback still positively impacted motivation and performance ($r = .715$).

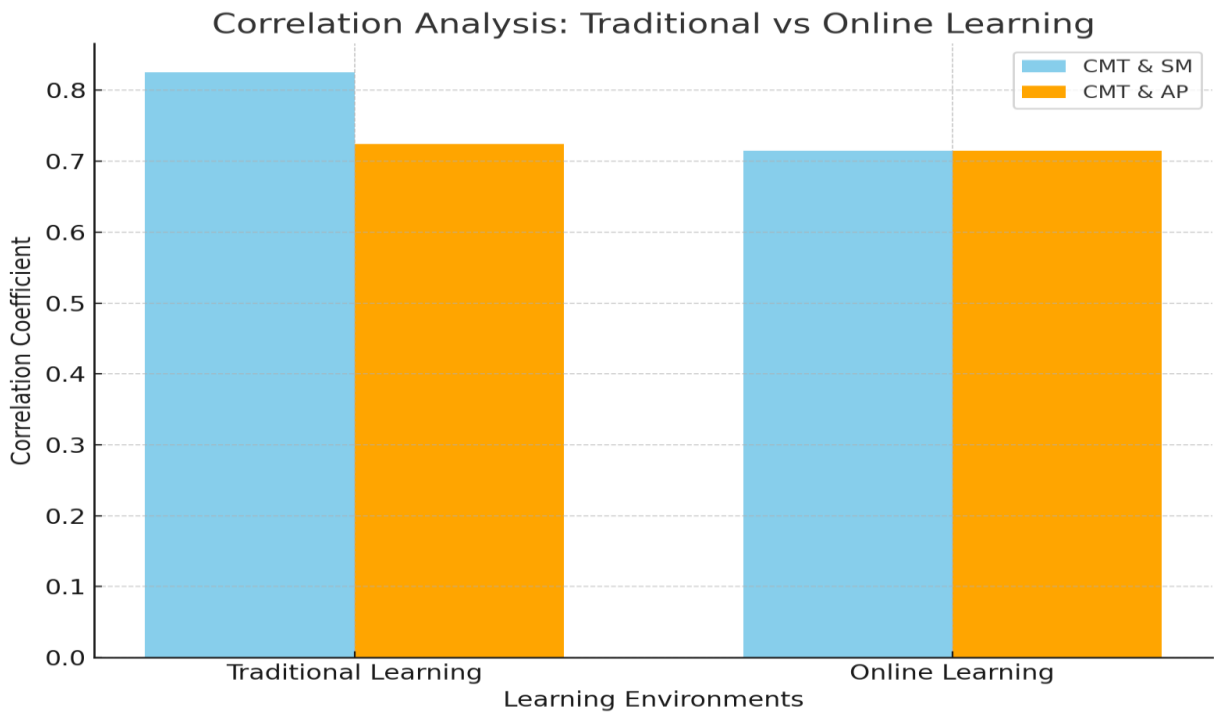


Figure 1: The correlation analysis between Classroom Management Techniques (CMT) and Student Motivation (SM), as well as CMT and Academic Performance (AP), in traditional and online learning environments. The chart displays the differences in correlations between the two learning environments.

Learning Environment Comparisons

The independent t-test compared the perceptions of students in traditional and online learning environments regarding classroom management and student satisfaction. The results revealed that students in traditional learning environments reported higher satisfaction (M = 65.4) compared to students in online learning environments (M = 61.8), with a significance value of 0.023, indicating a statistically significant difference in perceptions between the two groups.

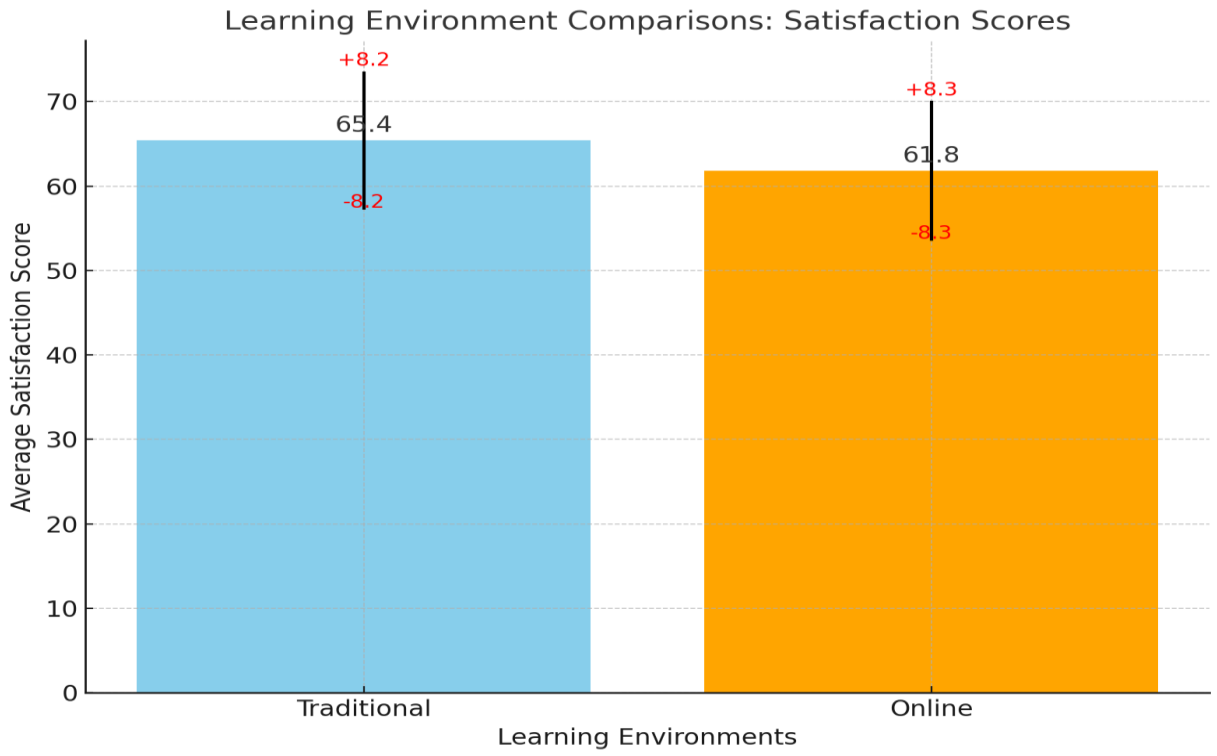


Figure 2: The comparison of student satisfaction scores between traditional and online learning environments. The bars represent the average satisfaction, with error bars indicating standard deviations.

Student Motivation

An independent t-test was used to compare the motivation levels between students in traditional and online learning environments. Students in traditional classrooms reported higher motivation (M = 62.3, SD = 7.9) than those in online settings (M = 58.5, SD = 8.1). The p-value (0.032) indicated a statistically significant difference, suggesting that the immediate interaction and feedback in traditional environments might foster higher motivation.

Table 1: Student Motivation - Independent T-test

Gender	**Mean (M)**	**Standard Deviation (Std)**	**Sig**	**t-value**	**df**
Male	60.47	6.22	0.205	2.55	268

Female	57.96	7.63	0.205	2.79	163.63

Academic Performance

In terms of academic performance, students in traditional classrooms achieved slightly higher scores on assessments (M = 85.6) compared to their online counterparts (M = 82.7). However, the difference was not statistically significant (p = 0.067), indicating that while traditional environments may have some advantages, online learners can perform equally well if given the right resources and support.

Table 2: Academic Performance - Independent t-test

Gender	Mean (M)	Standard Deviation (Std)	Sig	t-value	Df
Male	29.39	4.46	0.541	1.78	268
Female	28.36	4.19	0.541	1.73	127.33

Discussion and Recommendations

The results suggest that both traditional and online learning environments offer distinct advantages and challenges. Traditional classrooms benefit from direct teacher-student interactions, which help maintain high levels of student engagement and motivation. These environments allow for more structured support, which can lead to better academic performance.

However, online learning environments provide flexibility, which can lead to higher student satisfaction, particularly for those who value autonomy in their learning process. Effective online classroom management, including clear expectations and digital tools, can significantly impact student motivation and performance in virtual settings. For instance, studies have shown that teachers who adopt a more collaborative and supportive approach foster greater student

engagement and motivation, leading to improved academic performance (Javed, Choudhary, Ahmad, & Sciences, 2019)

Students' intrinsic and extrinsic motivation: Classroom management will greatly impact this. Student motivation is an important factor in determining whether students will interact with course materials and work through difficulties. Classrooms where teachers used positive reinforcement, set clear standards, and maintained an environment of support had higher levels of intrinsic motivation, for example. When students know their efforts will be acknowledged and rewarded, they tend to feel more accountable regarding the learning process. This study supports the notion that a well-structured classroom environment can foster both intrinsic and extrinsic motivation, leading to improved student engagement and achievement. Moreover, the balance between these motivational types is crucial for creating a sustainable learning atmosphere that encourages lifelong learning (Valerio, 2012). This study is in contradiction with previous research that suggests extrinsic rewards may undermine intrinsic motivation. However, it is essential to recognize that when used appropriately, extrinsic motivators can complement intrinsic motivation, enhancing overall student engagement and fostering a more dynamic classroom experience (Serin & Studies, 2018).

Conversely, controlling classroom management styles — such as punitive strategies — can reduce motivation. Over-control and punishment in the classroom can also establish dependency, diminish a sense of personal freedom and self-regulation, and create resistance to learning. This leads to higher-level learners who are gaining independence and responding poorly to overly stern environments. The key to building intrinsic motivation in higher education is walking the fine line between structure and autonomy. This study supports the importance of fostering a balanced

approach that encourages student autonomy while maintaining necessary structure, as this balance can enhance both motivation and academic achievement (Tulbure & Law, 2011).

Facial interaction also contributes to determining student achievement in class. Classroom management is the process of avoiding interruptions in class, managing time and making sure that lessons remain important. This results in improved academic performance because students have more time to go through the course content material in detail, and to finish various assignments without being impulsively interrupted. Measures like time management schedules, routine, and the learning environment all enable students to remain on task as well as meet all the academic requirements. Moreover, classroom management that focuses on learning behaviors increases learner performance can enhance performance. Promoters of diverse classrooms through learning styles of addressing students' and teachers' needs can boost academic achievement. In higher education the learners are able to undertake more enhanced and challenging tasks in the classroom and good management can offer the structure that facilitates learning and at the same time create room for independence and innovation.

The analysis highlights the strong interconnections between classroom management, student motivation, and academic performance, and satisfaction between traditional and online learning environments. While traditional classrooms tend to have stronger relationships with student motivation and academic performance, online learning environments can still offer valuable learning experiences if managed effectively. A significant positive correlation exists between Classroom Management Techniques (CMT) and Student Motivation (SM) ($r = .825$), as well as between CMT and Academic Performance (AP) ($r = .724$), suggesting that effective classroom management enhances both student motivation and academic achievement. Similarly,

SM and AP show a strong correlation (r = .715), indicating that higher motivation leads to better academic performance. The independent sample t-test reveals no significant gender differences in perceptions of classroom management, as both male and female students share similar attitudes. Additionally, the bar chart analysis suggests that students generally exhibit high motivation levels, with agreement responses (SA and A) being more prominent than neutral or negative responses. The research results demonstrate how proper classroom management creates productive student motivation which yields academic success.

- Educational institutions should establish priority programs for employee training about research-based classroom management systems which include ordered protocols together with optimistic feedback systems and detailed guidelines.
- Teachers should deploy motivation strategies built on goal setting together with autonomy-supportive instruction and purposeful assessment feedback to improve academic performance.
- Schools should create gender-sensitive motivation interventions which offer equal encouragement to female students.
- Staff members from both administration and teaching teams need to frequently examine teaching environments along with their impact on student interaction and school success using collected data.
- Every data visualization should receive detailed labeling which will help decision-makers interpret the information correctly
- Higher education institutions should adopt blended learning approaches that combine the strengths of both traditional and online environments to enhance student engagement and satisfaction.

- Teachers should be trained in online classroom management strategies that promote student motivation and academic achievement in virtual settings.
- Institutions should provide more resources and support for online learners, including access to digital tools, virtual study groups, and peer support networks.

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