

Assessing The Effectiveness Of Microsoft Teams As A Platform For Online Learning: How To Enhance Students' Participation In Blended And Virtual Learning

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Abstract:

This study is conducted to evaluate the students' perspectives of on e-learning at the Public Authority for Applied Education and Training (PAAET) in Kuwait. This study highlights the effectiveness of Ms-Teams. The study's findings will be utilised to build protocols for enhancing the efficacy of educators in virtual and hybrid learning settings. Effective utilisation of information technology has the capacity to transform education. The rapid incorporation and substantial investment in technology have revolutionised education. In order to adapt to the future, it is imperative for the upcoming workforce to possess a high level of technological proficiency, as AI, sophisticated technology, and automation will play a dominant role. The objective of this study is to evaluate the digital proficiency of students and provide suggestions and a plan to enhance the incorporation of advanced technological tools and creative teaching methods. The study utilised a quantitative methodology. A survey questionnaire was disseminated to 514 students enrolled in the College of Business Studies at PAAET. The study seeks to determine the perceptions and attitudes towards MS-Teams as a digital learning instrument. Students have a positive view of online learning and consider Ms Teams to be an effective learning management system. Administrators and academics should assess the data in order to establish a learning system that improves academic achievement and fosters an immersive teaching and learning environment. The authors stress the significance of involving students in virtual and blended learning. They proposed a framework and suggested strategies such as employing immersive virtual classroom models that combine technological and pedagogical elements, fostering active and collaborative learning, encouraging interaction between learners and instructors, utilising strategies that engage learners with the content, incorporating active learning techniques, and leveraging social media platforms and discussion boards to enhance interaction and engagement among students.

Key Word: Software Engineering, Ms Teams, User Interface, Human Computer Interaction, System Evaluation, Online Learning, Learning Management System

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I. Introduction

Online learning has become increasingly popular in both regular and non-traditional educational environments due to technological improvements. The advancements have made it easier to create learning management systems that enhance meaningful learning experiences and promote collaborative student growth [1, 2]. Prioritising usability throughout the creation of information systems is crucial to maximise the use of educational materials and enhance student-instructor interactions. Usability analysis is frequently neglected in the development process. Due to the pandemic, educational institutions at all levels have had to switch to e-learning, commonly known as "distance" or "virtual" learning. The transition to e-learning is a significant challenge for developing countries such as Kuwait [3, 4]. A novel technique for obtaining technical expertise has been implemented, although not all individuals are prepared for the transition. In Kuwait, students did not have sufficient time to prepare for the transition, and their technical skills may not be on pace with their previous in-person instruction. As stated by [5], e-learning provides tailored learning experiences that are advantageous for both the education sector and several sectors globally. Universities and colleges are integrating these technologies to improve the quality of education and cater to various user groups participating in education. Blended learning methods, as cited by [6], can integrate various technologies in the classroom.

Blended and virtual learning have become increasingly prevalent in education, especially during the COVID-19 pandemic. However, student participation in these modes of learning can sometimes be a challenge. According to [7], to enhance students' participation in blended and virtual learning, educators can implement

the following strategies: Create a supportive and engaging virtual learning environment by using interactive tools and technologies; Encourage active participation through discussions, group projects, and collaborative activities; Provide regular feedback and communication to keep students motivated and on track; Offer flexible learning options and personalized learning paths to cater to individual student needs; Implement strategies to promote student autonomy and ownership of their learning. Furthermore, offering flexible learning options and personalized learning paths can cater to individual student needs and interests. Implementing strategies to promote student autonomy and ownership of their learning can also enhance students' participation in blended and virtual learning. To overcome the lack of student-student and student-instructor connections and interactions, educators must develop effective ways to build networks that allow learners to interact with each other and the instructor [8]. One way to achieve this is by using technologies like learning analytics, massive open online classes, and augmented or virtual reality in the classroom. These technologies can facilitate communication and collaboration among students, fostering a sense of community and promoting active engagement in the learning process [9].

This research aims to comprehend MS-Teams in terms of their procedures, functionalities, and usefulness. Despite several studies examining usability and user interfaces in different information systems, MS Teams is usually not considered, particularly in the context of higher education in Kuwait. This study attempts to address the existing gap by offering insights on how to improve the usability of MS Teams as an educational tool. Effective system design is important but has been neglected in universities in Arab Gulf nations, with few research conducted on this topic [10]. Moreover, numerous usability studies have inadequately incorporated students' comments in the assessment and enhancement of these systems [11]. This research intends to investigate students' opinions towards online learning in general and MS Teams as a learning management platform. It is crucial to maintain an up-to-date system that meets the requirements of students and academic staff to ensure efficient academic procedures and operations [12]. This study aims to explore students' perceptions of MS Teams at PAAET. It highlights the significance of involving students in virtual and blended learning by suggesting strategies in the learning environment.

The article is segmented into sections for clarity and comprehension. Section 2 reviews the literature, section 3 outlines the methodology, section 4 gives the results and comments, and section 5 concludes the article.

II. Literature Review

At the onset of the Covid-19 outbreak, governments globally imposed limitations on public gatherings, leading the education sector to seek alternative methods for providing and receiving academic instruction. In Kuwait, a compulsory online learning approach was implemented to ensure that classes may continue despite the restrictions mentioned by. The abrupt transition to remote learning greatly affected students. Many people lacked trust in utilising the required technologies [13, 14]. A debate ensued over the impact of online delivery on students' learning, with participation from instructors, learners, and other professionals in the field [15, 16].

Institutions encountered difficulties in adapting face-to-face curriculum for e-learning, which resulted in some hesitation to adopt the new technological demands [17]. Prior to the epidemic, Kuwait relied slightly on technology for education, predominantly conducting courses in conventional classroom environments [18]. Online learning has been unsuccessfully integrated into public education institutions due to a lack of enthusiasm among users. Kuwait's limited capability and absence of innovation have led to its underperformance compared to other states in this field, despite its wealth [19]. The primary challenges hindering the implementation of e-learning in the Kuwaiti public education sector were insufficient training, infrastructure, and a shortage of digital educational resources [20, 21]. Students' and instructors' technical expertise presented a major obstacle to effectively implementing online learning in the Arab area.

Pal and Vanijja assessed Microsoft Teams with the Technology Acceptance Model and the System Usability Scale. The extensive study of college students revealed that the Perceived Ease of Use component of the Technology Acceptance Model closely resembled the System Usability Scale compared to other approaches. The results showed no association between consumption and usability aspect [22]. Academic institutions need to evaluate the usability of their systems in terms of human-computer interaction. Developers should prioritise designing systems that are more functional and advanced, considering the social and cultural environment of their intended users (Alhajri, Al-Sharhan, Al-Hunaiyyan, & Alothman, 2011; Al-Hunaiyyan & Al-Sharhan, 2009), their individual distinctions (Al-Huwail, Al-Sharhan, & Al-Hunaiyyan, 2007), and gender variations (Al-Hunaiyyan, Al-Sharhan, & Alhajri, 2017).

Anisha Nath [23] performed an analysis on Ms-Teams to evaluate its user-friendliness in comparison to other technologies like SLACK, CISCO WEBEX, and ZOOM. The author discovered that most rivals provide similar features and uses. Slack is more user-friendly and easier to manage than Microsoft Teams, although Teams offers a more organised user experience (UX) in general. Initially, users may find Teams challenging to navigate, but it becomes more intuitive with familiarity. Additionally, a SWOT analysis was undertaken to

evaluate the strengths, weaknesses, opportunities, and threats of MS-Teams (Nath, 2020). Enhancing the end user experience of Microsoft Teams is essential for increasing productivity and promoting seamless collaboration, as stated by [24]. He explored various strategies to enhance the end user experience using Microsoft Teams in order to maximise the platform's potential. He presented a list of sixteen UX design recommendations to enhance collaboration and productivity.

III. Methodology

System Selection

For this study, Microsoft Teams was chosen as the standard online learning tool for a number of reasons. First, through the "Office 365 Education" plan, PAAET colleges gave all instructors, staff, and students an enterprise edition of Microsoft Teams. This made IT support available right away. Second, Microsoft Teams is a powerful tool for teaching and learning that has features that are the same as or better than those in Moodle-based platforms. Because every college has its own learning management system, Microsoft Teams is the best way to meet all the needs of the pandemic.

Questionnaire Design

A quantitative method, which includes making and handing out a questionnaire, was used to find out what instructors thought about MS Teams at PAAET and to look at its problems and potential. The 12-item assessment was made and sent out to 514 students in the College of Business Studies at PAAET to get information. A five-point Likert scale was used to answer the questions. A 1 meant "Strongly Disagree," a 2 meant "Disagree," a 3 meant "Neutral," a 4 meant "Agree," and a 5 meant "Strongly Agree."

Data Analysis

A pilot study was done to see if the poll was adequate and possible and to confirm the first results. Statistical methods were used in SPSS to look at the data from the surveys. Some of these ways were frequency, percentage, mean, and standard deviation. Strong correlations were found between each dimension and the total score, ranging from 0.810 to 0.904. This means that the construction was reliable and solid. Finding Cronbach's alpha in SPSS was also used to check the trustworthiness of the questionnaire. Coefficient degrees for the questionnaire measures ranged from 0.81 to 0.90, which means they were very reliable. Cronbach's Alpha gave the test a total score of 0.97. The questionnaire can be used with the whole study sample, so the data can be trusted.

IV. Results And Discussions

Study Sample

514 students from the College of Business Studies at PAAET in Kuwait took part in this study. There were 233 male students and 281 female students. Table 1 shows the basic information and how the samples were split up by gender.

Table 1: Distribution of Students Samples Based on Gender

Characteristic	Variable	Frequency (N)	Percentage (%)
Gender	Male	233	45.3%
	Female	281	54.7%
Total		514	100%

Students' Responses

Statistical tools like frequency, mean, and standard deviation (SD) were used to look at the students' answers. In Table 2, there are twelve items. The mean value of each item is above 3.89, which means that students like Ms-Teams as an online and virtual learning tool at PAAET.

Table 2: Students' Perceptions of MS-Teams

No	Item	Strong Agree	Agree	Neutral	Dis-Agree	Strongly Disagrees	Mean	SD	Rank
1	MS Team interface is attractive	168	192	94	49	11	3.89	1.036	12
2	All system commands in MS- Team are executed quickly	239	200	55	17	3	4.27	0.826	4
3	MS Teams is practical and effective	246	213	42	9	4	4.34	0.766	1
4	MS- Team can be used without the help of others.	9	34	96	184	191	4.00	0.991	11
5	MS- Team commands and links are clear and understandable.	8	12	75	209	210	4.17	0.872	5

6	MS- Team is an easy-to-use program.	4	10	49	204	247	4.32	0.788	2
7	MS-Teams is reliable	231	180	74	18	11	4.17	0.948	6
8	MS- Team meets my expectations	213	201	75	18	7	4.16	0.894	7
9	MS- Teams is stimulating	194	211	79	24	6	4.10	0.903	10
10	MS-Teams motivated me to perform better in my courses	223	189	75	15	12	4.16	0.940	8
11	Ms Teams is an innovative system	194	223	73	15	9	4.12	0.883	9
12	Ms Teams is technically advanced	240	210	47	9	8	4.29	0.827	3

Item 3 received the highest rank with a mean value of 4.34, confirming that students agree with this statement “MS Teams is practical and effective”. Also, item 6, “MS- Team is an easy-to-use program” got the second rank with mean value 4.32. Item 12 “Ms Teams is technically advanced” comes third with a mean value of 4.29. Item 2 “All system commands in MS-Team are executed quickly” comes in fourth with a mean value of 4.27. Question number 5, “MS- Team commands and links are clear and understandable”, ranked 5 with a mean value of 4.17. In addition, Question number 7, “MS-Teams is reliable”, ranked 6 with a mean value of 4.17. Item number 8 “MS- Team meets my expectations” ranked 7 with a mean value of 4.16. Item 10 “MS-Teams motivated me to perform better in my courses”, ranked 8 with a mean value of 4.16, while item 11 “Ms Teams is an innovative system” comes nine with a mean value of 4.12. In addition, Item 9 “MS- Teams is stimulating” ranked 10 with a mean value of 4.10, and Item 4 “MS- Team can be used without the help of others” ranked 11 with a mean value of 4.00. Finally item 1 “MS Team interface is attractive” comes in last ranking 12 with a mean value of 3.89.

Maximizing Students’ Engagement in Virtual and Blended Learning

In today's digital era, the role of technology in education has become increasingly important. One technology that has been widely adopted in the education sector is Microsoft Teams, which serves as a versatile platform for online teaching and learning. Microsoft Teams offers a wide range of features and capabilities that enhance the teaching and learning experience [25]. These include the ability to host virtual classrooms, conduct live video meetings, and share educational resources seamlessly. With the use of Microsoft Teams, instructors can create an interactive and collaborative learning environment where students can actively participate in discussions, engage with course materials, and collaborate with their peers. Instructors can also provide timely feedback and assessments through Teams, fostering a continuous learning process. Additionally, Microsoft Teams provides a secure and user-friendly interface that is accessible on various devices, allowing for flexible and convenient remote learning. In addition, Microsoft Teams offers integration with other Office 365 applications, such as OneDrive and SharePoint, making it easier for instructors to manage and distribute assignments and materials to students. Overall, Microsoft Teams serves as a comprehensive platform for online teaching and learning, offering various features and capabilities to enhance the educational experience.

Current students have greater options and easier access to information than any previous generation. The computers and internet have turned students into a generation of 'hunters and gatherers'. This signifies the conclusion of conventional instructional teaching approaches and underscores the significance of student involvement for effective teaching and learning [26]. Recently, the growth of different educational technologies has led to a notable rise in the availability of courses delivered in flexible learning formats, especially virtual and mixed forms [27]. To prevent didactic teaching in online learning, instructors must engage actively with students to pass on knowledge, and students must engage actively with learning materials to learn. Millennial and Net-generation students will soon become the majority in our student population. These kids are unlikely to find success with the typical sage-on-the-stage strategy [28]. In a virtual setting where students are separated from their instructor and peers, motivation may decrease, and feelings of isolation could discourage students from engaging in the course. Online students are required to transition from passive listeners to active participants by taking on functional roles. Individuals may need to share past life and educational experiences that could cause discomfort, therefore, establishing a supportive environment is crucial [29].

Educators can utilise a variety of ways to enhance students' participation in virtual and mixed learning. One strategy is to emphasise several forms of engagement, such as cognitive, social/emotional, and behavioural engagement [30]. Another approach is to guarantee that the learning setting is both social and authentic, and that technology enhances the learning experience [31]. Integrating immersive virtual classroom models with technological and pedagogical features like live streaming and interaction protocols might boost student interest and engagement [18, 32]. Utilising virtual learning environments (VLE) and blended learning methods, along with knowledge management, can enhance student engagement. Instructors should create tasks and activities that encourage cognitive engagement and find new ways to involve students in virtual and hybrid learning settings [29].

It is essential to involve students in virtual and hybrid learning [33]. It is crucial to prioritise and concentrate on various strategies of interaction based on the class objectives and content. Effective strategies to

enhance students' involvement in virtual and blended learning, as outlined in [34, 35, 33], involve using various communication channels between students and instructors to promote engagement and cater to individual student requirements. Delivering customised course material that is pertinent and engaging to students' preferences and requirements; Encouraging interactive and cooperative learning through dialogues, team assignments, and engaging activities; Facilitating learner-instructor interaction with constructive feedback to aid students in monitoring their advancement and enhancing their performance; Offering students autonomy and choices in their learning process; Employing strategies to engage learners with the content, like viewing instructional videos, interacting with multimedia, and conducting research; Leveraging social media platforms and discussion boards to promote student-student interaction and engagement. To enhance students' involvement in virtual and blended learning, instructors can employ diverse instructional methods like individual work, small group activities, and large group discussions, as suggested by to [35, 30, 36]. Instructors can incorporate gamified features or interactive games to enhance the immersive and pleasurable aspects of learning. Implementing active learning tactics like guided questions, interactive elements, and quizzes in films or online information can increase student engagement [33].

V. Enhancing Students' Participation In Online Learning: Proposed Framework

This section proposes a framework explaining instructor strategies for enhancing student participation in blended and virtual learning on Microsoft Teams. The framework involves identifying key components and interactions. Below is Figure 1 depicting the suggested framework that outlines six crucial elements and their relationships.

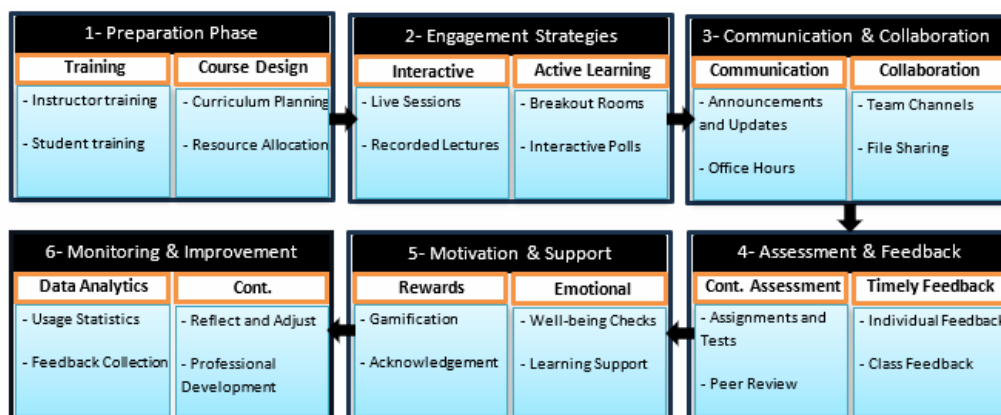


Figure 1: Proposed Framework for enhancing students' participation in online learning.

1. Preparation Phase

- Training and Familiarization
 - Instructor Training: Ensure instructors are proficient in using Microsoft Teams and its features.
 - Student Orientation: Provide students with guidance on using the platform effectively.
- Course Design
 - Curriculum Planning: Integrate online and offline activities seamlessly.
 - Resource Allocation: Ensure all necessary materials are accessible on Teams.

2. Engagement Strategies

- Interactive Content Delivery
 - Live Sessions: Use video calls for real-time lectures and discussions.
 - Recorded Lectures: Provide recorded sessions for flexible learning.
- Active Learning Techniques
 - Breakout Rooms: Facilitate small group discussions during live sessions.
 - Interactive Polls and Quizzes: Use Forms and other Teams-integrated tools for instant feedback.

3. Communication and Collaboration

- Regular Communication
 - Announcements and Updates: Use the Teams channel for timely information.
 - Office Hours: Schedule regular virtual office hours for additional support.
- Collaboration Tools
 - Team Channels: Create dedicated channels for group projects and discussions.
 - File Sharing: Utilize Teams' file-sharing capabilities for easy access to documents.

4. Assessment and Feedback

- Continuous Assessment
 - Assignments and Tests: Use Teams to distribute and collect assignments and conduct quizzes.
 - Peer Review: Encourage peer feedback on assignments using Teams' collaboration features.
- Timely Feedback
 - Individual Feedback: Provide personalized feedback through private messages or comments on assignments.
 - Class Feedback: Share common insights and suggestions during live sessions or posts.
- 5. Motivation and Support
 - Recognition and Rewards
 - Gamification: Implement badges, leaderboards, and other gamified elements to motivate students.
 - Acknowledgement: Recognize students' contributions publicly in the Teams environment.
 - Emotional and Academic Support
 - Well-being Checks: Conduct regular check-ins to support students' mental health.
 - Learning Support: Provide additional resources and support for students struggling with content.
- 6. Monitoring and Improvement
 - Data Analytics
 - Usage Statistics: Monitor Teams usage data to identify participation levels and engagement patterns.
 - Feedback Collection: Regularly gather student feedback on the learning experience.
 - Continuous Improvement
 - Reflect and Adjust: Based on analytics and feedback, continuously improve instructional strategies and course design.
 - Professional Development: Engage in ongoing professional development to stay updated with best practices in online teaching.

VI. Conclusion Future Directions

The objective of this study is to evaluate the existing practices, opinions, and obstacles that are encountered in online learning with the goal of enhancing both online and blended learning practices as well as academic accomplishment. With the help of a questionnaire, 514 students from the College of Business Studies at PAAET in Kuwait were able to provide their responses. According to the findings of the research, students have a favourable understanding of online learning and Ms. Teams as a tool for managing their educational experience. On the other hand, the research also uncovered a few obstacles that would make it more difficult to successfully integrate online learning platforms. The findings need to be taken into consideration in order for administrators and academics to establish a learning method that brings about improvements in academic performance. In terms of future research, I propose expanding the sample size of the study, which takes into account students from a variety of universities in Kuwait, in order to generalise the information obtained.

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