

Students' Satisfaction with Utilizing Padlet as a Collaborative Learning Tool

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Abstract: Technological innovation has significantly enhanced the value of collaborative learning in higher education. Collaborating with peers has made learning more convenient by sharing educational resources and facilitating real-time interaction with classmates and instructors. Students remain connected and actively engaged at any time, and, from any location. Collaborative tools like Padlet offer personalized learning paths and flexible pacing, which sustain students' interest and motivation. The objective of this study was to explore the influence of ease of use of the Padlet and students' behavioural engagement towards students' satisfaction with utilizing Padlet as a collaborative learning tool. A total of 170 students from UiTM, enrolled in three different elective courses, were selected as respondents. The collected data, obtained through a questionnaire, encompassed two satisfaction aspects: ease of use and behavioural engagement. Structural Equation Modelling-Partial Least Square (SEM-PLS) was employed to

analyze the data. The findings clearly show that the ease of use of the Padlet and students' behavioural engagement positively influence students' satisfaction in classroom activities. In summary, Padlet is a transformative tool that revolutionizes the landscape of collaborative learning in higher education. Its integration cultivates an environment of active participation, connectivity, and personalized learning, ultimately enhancing student satisfaction.

Keywords: *behavioural engagement, collaborative learning, Padlet, personalized learning, students' satisfaction*

1. INTRODUCTION

In an era of rapid technological advancements, educational platforms continually evolve to align with the latest teaching and learning methods. The utilisation of these platforms has experienced a significant surge, particularly after governments mandated higher educational institutions to conduct teaching and learning exclusively online in response to the COVID-19 pandemic. This trend continues in the post-pandemic period, reshaping the education landscape.

However, the challenges introduced during its transition to digital learning persist even as the pandemic subsides, particularly for some students (Al-Balas et al., 2020). These challenges encompass two distinct aspects. The first challenge arises from the diversity of courses, necessitating the use of various platforms for teaching delivery, access to learning materials, and engagement in class activities. Consequently, students lacking access to high-end computers, robust internet connectivity, and proficiency in information technology continue to encounter difficulties, leading to reduced interaction with learning materials.

The second significant challenge revolves around students' struggles with effective communication for group discussions and virtual collaboration when working on tasks or group assignments within the context of ODL. Common grievances include concerns about the quality of work produced by other students, the inability of some to match the group's pace, and instances where the workload distribution among team members was

perceived as unfair. Furthermore, students often lose interactions with educators in getting feedback on the work done, and vice versa, leading to a sense of disconnection from their classmates and instructors (Gray & DiLoreto, 2016). This adjustment phase continues even in the post-pandemic education landscape.

Therefore, in addressing these persistent challenges, this study leverages the versatile platform Padlet, highlighting its multifaceted advantages applicable to various classroom activities, including the distribution of learning content, communication between educators and students, and content curation by both parties.

2. COLLABORATIVE LEARNING

Collaborative learning refers to individuals working and learning together as a group (Barkley et al., 2014), signifying a shift towards students and teachers working together in a less authoritarian structure (Davidson & Major, 2014). It entails students remaining engaged with the learning materials, actively participating in class activities while fostering critical thinking, and simultaneously sharing ideas with peers in the classroom. This approach enhances academic outcomes and nurtures valuable interpersonal and communication skills. Research indicates that improved student engagement, easy access to course materials (Sukendro et al., 2020; Balouchi & Samad, 2020), increased availability of peers and instructors, and fostering interaction and collaboration among students all contribute to better learning outcomes (Ornellas & Carril, 2014).

3. PADLET: A COLLABORATIVE LEARNING TOOL

Padlet (www.padlet.com) is a versatile and free interactive multimedia platform renowned for fostering real-time engagement among students and educators, thus promoting whole-class involvement (Fuchs, 2014). The benefits of Padlet include: a) User-Friendly: Padlet is intuitive and easy to use, b) Instant Collaboration: It facilitates real-time collaboration, enabling all students to track each other's contributions, c) Multimedia Support: Padlet accommodates a wide range of file types and multimedia, making it a comprehensive sharing tool, d) Mobile Compatibility: It is

accessible on various devices, e) Aesthetic Interface: Padlet boasts an attractive and customisable interface, f) Privacy and Security: It provides a private and secure environment, g) Flexibility: Padlet is highly adaptable and versatile, h) Export Capabilities: content on Padlet can be saved and exported in various formats, such as PDF, CSV, images, or Excel files, as supported by research from Beltrán-Martín (2019), England (2017), and Zhi and Su (2016). Additionally, Padlet's value in enhancing collaborative learning has been increasingly recognised, and it is accessible to educators of all proficiency levels without the need for specialised training. Notably, Padlet serves a crucial role in promoting student-educator interaction and engagement, both during and beyond scheduled class hours, indirectly fostering student collaboration (Beltrán-Martín, 2019; Ellis, 2015; England, 2017). Ellis (2015) illustrates how Padlet effectively reduces communication barriers between students and educators, thus significantly enhancing the overall learning experience. It provides valuable opportunities for students to engage with course materials and gain insights from their peers' perspectives, making it a preferred solution for addressing the challenge of student-educator interactions in the classroom.

4. FOUR INSTRUCTIONAL MOTIVES FOR COLLABORATIVE LEARNING WITH TECHNOLOGY

Additionally, Resta and Laferrière (2007) identified four instructional motives supporting the integration of technology into the classroom to facilitate collaborative learning. These motives include preparing students for the knowledge society by developing collaboration skills and promoting knowledge creation, enhancing students' cognitive performance to foster deep understanding, providing flexibility in terms of time and space for cooperation and collaborative learning, and promoting student engagement while monitoring cooperative and collaborative work. Based on this instructional model, four activities were designed for this study, as depicted in Fig. 1, all incorporating Padlet to assess their contributions to the aforementioned instructional motives.

Students' Satisfaction with Utilizing Padlet as a Collaborative Learning Tool

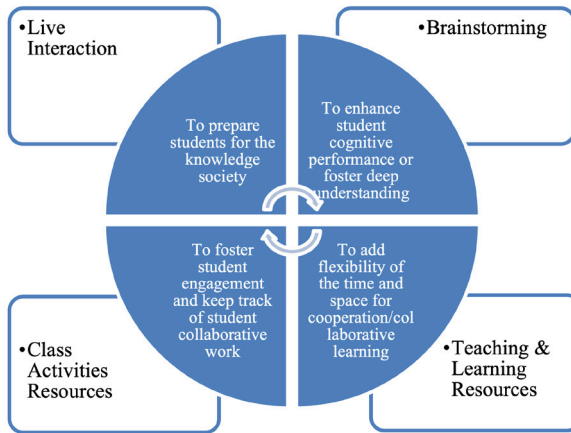


Fig. 1 Activities that incorporate Padlet based on Resta and Laferrière (2007)

5. UTILISING PADLET FOR COLLABORATIVE LEARNING ACTIVITIES

Padlet’s versatility extends to facilitating collaborative learning activities, as exemplified in Fig. 2, Fig. 3, Fig. 4, and Fig. 5. These figures provide concrete examples of activities conducted using Padlet, demonstrating its capacity to support various instructional methods.

5.1 LIVE INTERACTION

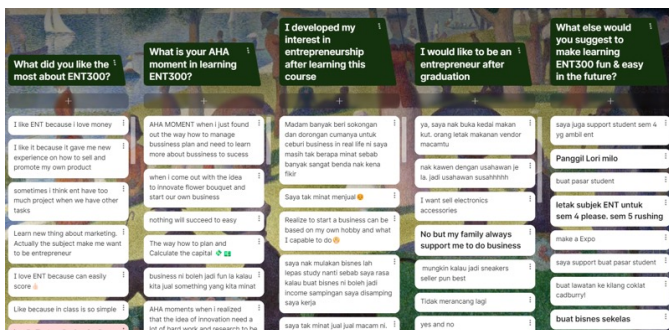


Fig. 2 Live interaction with the students in the class using Padlet

To foster an active and engaging classroom environment, Padlet facilitates interactive two-way communication, fostering peer-to-peer and student-to-educator interactions. In this activity, instructors formulate questions, allowing students to express their opinions, suggestions, ideas, and feedback while preserving their anonymity. This strategy of maintaining student anonymity stimulates and motivates students' participation and engagement in this specific activity, illustrating interactions and active collaboration among students and between students and educators.

5.2 BRAINSTORMING

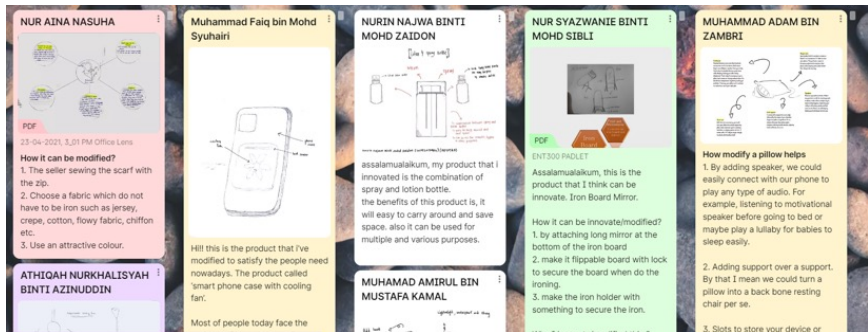


Fig. 3 Brainstorming activities conducted using Padlet.

Fig. 3 illustrates brainstorming activities conducted using Padlet. Additionally, Padlet serves as an effective brainstorming tool (Kimura, 2018). Students can effortlessly and promptly input their ideas onto the digital canvas, making them instantly accessible for sharing and simultaneous viewing by their peers. This collaborative exchange of ideas often leads to the generation of innovative concepts, contributing to a continuous flow of creative thoughts. Engaging in this activity enhances students' cognitive performance and promotes a profound understanding of the subject matter. In this process, instructors introduce topics, challenging students to creatively contribute their insights on the digital canvas, followed by in-class discussions and question-and-answer sessions to explore further and clarify the ideas presented.

5.3 TEACHING AND LEARNING RESOURCES



Fig. 4 Teaching and learning materials within Padlet for the respective courses.

Using Padlet, all course-related teaching and learning materials were centralised onto a single platform, allowing students the flexibility of both time and space to engage in collaborative and personalised learning experiences. In this process, instructors uploaded the necessary materials prior to the beginning of the semester, ensuring universal access for all enrolled students in their respective courses. However, it's important to note that this particular Padlet wall primarily serves as a repository for teaching and learning materials, lacking interactive elements or communication features among students or between students and instructors.

5.4 CLASS ACTIVITIES RESOURCES

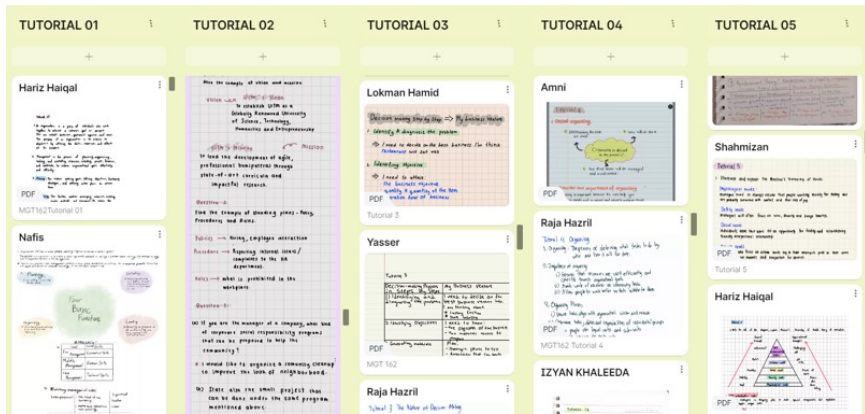


Fig. 5 The compilation of class activities within a designated Padlet.

In addition, to enhance student engagement and facilitate tracking of collaborative work, all class activities were shared on individual Padlet boards, each corresponding to a specific class. These Padlet boards allowed students to incorporate various materials, including images, documents, and videos relevant to their respective classes. All resources were instantly accessible on the Padlet boards, simplifying the process of compiling materials. Furthermore, Padlet empowered students to actively engage with these resources through actions such as leaving comments, liking posts, and downloading materials as well as inserting comments on others' posts and playing with the voting system (Beltrán-Martín, 2019). Students could also directly interact with these resources on the Padlet boards, fostering collaborative sharing and learning.

Building upon the engagements in these activities, this study delves into the factors influencing students' satisfaction, with a specific focus on behavioural engagement in using Padlet. In this study's context, behavioural engagement pertains to students' active participation in learning, encompassing attendance, completion of assignments, in-class attentiveness, and adherence to university guidelines (Elffers, 2012; Fredricks et al.,

2004). It also considers students' perceptions of their competence, effort, and disciplined behaviour within the university setting (Elffers, 2012; Fredricks et al., 2004), emphasising their conformity to behavioural norms and avoidance of disruptive behaviour.

While Padlet has demonstrated its potential in enhancing students' understanding of classroom content (Kleinsmith, 2017), this study primarily investigates students' learning experiences, with a specific emphasis on the user-friendliness and navigation aspects of the interface. Additionally, student satisfaction is defined in relation to their experiences and perceived performance of the educational service (Mukhtar et al., 2015). In this study's context, student satisfaction is intricately linked to students' perceptions and attitudes formed through the hands-on utilisation of Padlet as a collaborative tool.

6. CONCEPTUAL FRAMEWORK

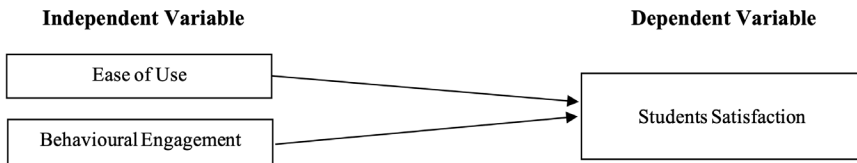


Fig. 6 Conceptual framework proposed for this study

Referring to Fig. 6, the conceptual framework highlights the potential positive impact of two independent variables, namely the ease of use of Padlet and behavioural engagement, on the dependent variable, student satisfaction. It is posited that an improved user experience with Padlet as a learning tool could correspond to higher levels of student satisfaction. In other words, students who perceive Padlet as easy to navigate and utilise are more likely to express satisfaction with the platform. Similarly, concerning behavioural engagement, heightened levels of engagement with Padlet are anticipated to correlate with overall student satisfaction with the platform positively. Students who find Padlet user-friendly, visually engaging, and intuitive are more inclined to participate and engage with the tool actively.

7. METHODS

A total of 170 undergraduate students from UiTM enrolled in three different elective courses, namely Fundamental of Entrepreneurship, Fundamentals of Marketing and Fundamentals of Management, were selected as respondents. These students were active users of the Padlet for the mentioned courses throughout the semester. The data collection involved a questionnaire covering two satisfaction aspects: ease of use and behavioural engagement, adapted from Kleinsmith (2017). The questionnaire was created using Google Forms and distributed through Telegram classroom channels. The data was analysed using Structural Equation Modelling-Partial Least Square (SEM-PLS) on a 6-point Likert Scale ranging from 1 (Strongly Disagree) to 6 (Strongly Agree).

8. RESULT AND DISCUSSION

The results presented in Table 2 confirm the support for both hypotheses, indicating that Behavioural Engagement and Ease of Use have significant positive relationships with Students' Satisfaction.

	Hypothesis	Std. Beta	Std. Error	t-value	Decision	LL	UL	f2	VIF
H1	Behavioural Engagement -> Student Satisfaction	0.378	0.077	4.893	Supported	0.273	0.526	0.33	1.507
H2	Ease of Use -> Student Satisfaction	0.568	0.08	7.084	Supported	0.419	0.681	0.747	1.507

Table 2. Assessment of the Hypotheses

Table 3 below presents the results of the Confirmatory Factor Analysis (CFA) model, assessing the validity and reliability of the measurement instrument used in this study. For behavioural engagement, all items have strong loadings, ranging from 0.858 to 0.896, indicating robust relationships with the latent construct. The Composite Reliability (CR) is excellent at 0.953, and the Average Variance Extracted (AVE) is 0.769, signifying good convergent validity. Ease of Use instruments also exhibit high loadings, ranging from 0.926 to 0.943, indicating strong relationships with the construct. CR is good at 0.929, and AVE is 0.874, demonstrating solid convergent validity.

Student Satisfaction, while showing loadings ranging from 0.649 to 0.867, reflects relatively strong relationships with the construct. The CR is high at 0.946, and the AVE is 0.615, suggesting reasonable convergent validity, though slightly lower than the other constructs. These results indicate that the measurement instrument exhibits strong internal consistency and validity for the Behavioural Engagement and Ease of Use constructs. The Student Satisfaction construct also demonstrates acceptable internal consistency, but there might be room for improvement in terms of convergent validity for some of its items.

Construct	Item	Loadings	CR	AVE
Behavioural Engagement	I actively participate in discussions and activities on Padlet	0.888	0.953	0.769
	I contribute regularly and consistently to Padlet	0.896		
	I complete assigned tasks and activities on Padlet in a timely manner	0.864		
	I regularly contribute meaningful and thoughtful responses on Padlet	0.858		
	I actively explore and interact with the contributions of others on Padlet	0.863		
	I utilize the features and tools of Padlet to enhance my engagement.	0.881		
	I use Padlet to contribute my ideas, insights, and perspectives actively	0.89		
	I find Padlet easy to navigate and use for communication and learning activities	0.943		
Ease of Use	The features and functions of Padlet are user-friendly and exciting	0.935	0.929	0.874
	I can easily adapt to new tasks and activities on Padlet	0.926		
	Padlet helps me express my ideas and opinions effectively	0.69		
Student Satisfaction	Padlet facilitates meaningful and constructive discussions	0.752	0.946	0.615
	Padlet provides a platform for active and interactive learning experiences	0.761		
	Padlet helps me develop communication and digital literacy skills	0.649		
	Using Padlet as a communication tool keeps me engaged during class activities	0.754		
	Padlet encourages me to participate and contribute in the classroom actively	0.795		
	Using Padlet enhances my overall engagement and interest in the subject.	0.791		
	I actively participate in discussions and activities on Padlet	0.827		
	I feel motivated to contribute and engage with my peers on Padlet	0.867		
	I feel comfortable sharing my work and ideas on Padlet	0.793		
	I feel confident and competent using Padlet as a communication tool	0.834		
	I feel more motivated to learn when Padlet is incorporated into our lessons	0.864		

Table 3. Analysis of the result

This study investigated the relationship between the ease of use of Padlet and students' behavioural engagement and their satisfaction within the context of three elective courses attended by 170 undergraduate students at UiTM. The research model was tested using SEM-PLS on survey data. The results support the hypotheses that both behavioural engagement and ease of use significantly influence students' satisfaction.

The findings conclude that students' behavioural engagement positively influences their satisfaction with Padlet. Students actively shared ideas, insights, and perspectives through Padlet, exhibiting higher involvement through responses, comments, and likes. This observation is consistent with Ahmed et al.'s (2016) assertion that learning tools enhance student participation and motivation. Additionally, respondents found Padlet easy to navigate and use for communication and learning activities in the classroom, affirming the hypothesis that ease of use positively influences students' satisfaction.

Moreover, a substantial number of respondents agreed with Padlet's user-friendliness for communication and classroom-related tasks. They highly rated its appealing features and accessible functions, validating the hypothesis that Padlet's ease of use positively impacts student satisfaction. Padlet stands out as an exceptionally user-friendly technological tool that empowers students to seamlessly integrate various apps and resources, such as presentations, links, images, and videos, as noted by Beltrán-Martín (2019). In summary, Padlet's ease of use plays a pivotal role in facilitating student interaction with the platform. Its intuitive interface, straightforward navigation, and accessible features contribute to a positive and efficient learning experience. Consequently, these factors likely enhance student satisfaction and engagement with the tool, fostering their willingness to continue using it for collaborative learning activities.

In other words, most respondents reported increased motivation to actively contribute, engage with peers, and learn when Padlet was integrated into their lessons. This underscores their satisfaction with Padlet's role as a collaborative learning tool. Kleinsmith (2017) affirmed that 67% of respondents expressed a willingness to utilise Padlet in future scenarios. To summarise, students' satisfaction with Padlet is influenced by various factors, including their user experience, engagement levels, convenience,

customisation options, learning effectiveness, collaborative opportunities, flexibility, and the platform's impact on their performance and sense of belonging. A positive experience in these aspects contributes to higher satisfaction levels and reinforces the value of Padlet as an indispensable learning tool.

In summary, Padlet serves as an effective collaborative tool, offering students flexibility and personalised learning experiences, enhancing learning engagement, and fostering effective student-educator interactions. This study emphasises the importance of student-centred teaching approaches and the integration of digital tools to promote interactive learning and create enriched learning experiences.

9. CONCLUSION

This study explored the influence of students' behavioural engagement and ease of use of Padlet towards students' satisfaction. Both behavioural engagement and ease of use significantly influenced students' satisfaction when utilising Padlet as a collaborative tool. Padlet proved effective in enhancing learning engagement and fostering effective student-educator interactions, contributing to students' overall satisfaction and the creation of a dynamic learning environment. The results highlight the importance of adopting student-centred teaching approaches and integrating digital tools to maximise student engagement in the classroom. Educators should remain updated on the latest digital tools and undergo appropriate training to incorporate them into their teaching methodologies effectively. This benefits students by promoting interactive learning and empowers educators to create enriched learning experiences through technology integration.

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