

# Exploring Student Engagement in Post-pandemic Classrooms: The Role of Padlet Technology

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**Abstract:** *The COVID-19 pandemic forced a rapid shift to remote education, posing significant challenges to student engagement when in-person learning resumed. This study aims to investigate the impact of active and blended learning on student engagement, with a specific focus on Padlet utilisation's effectiveness in facilitating teaching and learning. The study explores affective, behavioural and cognitive engagement as indicators of student engagement and analyses Padlet's role as a mediating tool in enhancing the educational experience. Data was collected through a questionnaire, and hypotheses were tested using Structural Equation Modelling-Partial Least Squares (SEM-PLS). The findings reveal that affective and cognitive engagement in the classroom, facilitated by Padlet, positively influences student engagement. Furthermore, Padlet emerges as an effective mediating tool for enhancing active learning experiences. Nevertheless, contrary to expectations, no significant direct relationship*

*was observed between behavioural engagement and Padlet utilisation, nor any significant indirect relationship between behavioural engagement, Padlet usage and student engagement. These results indicate that Padlet's mediating role was insignificant in this context. This study highlights the limited relevance of traditional behavioural indicators in driving technology adoption or engagement with Padlet. To enhance technology integration, educators should prioritise fostering emotional and intellectual engagement while strategically integrating Padlet into the teaching methods. These insights provide valuable strategies for educators to promote student engagement and enrich the post-pandemic classroom experiences.*

**Keywords:** *Affective engagement, behavioural engagement, cognitive engagement, Padlet, student engagement*

## 1. INTRODUCTION

The COVID-19 pandemic brought rapid and significant changes to education, with institutions worldwide shifting to remote teaching and learning. This abrupt transition posed challenges in maintaining classroom interaction and student engagement, demanding innovative solutions from educators. Upon returning to in-person learning, it became apparent that the dynamics had shifted, highlighting the crucial necessity for effective methods to reignite student engagement. Among the challenges educators encounter is fostering active classroom participation among undergraduates, which has proven to be particularly difficult (Dorssom, 2023). This challenge was further intensified when transitioning back to in-person education after a period of remote teaching and learning during the COVID-19 pandemic, where educators and students faced difficulties amidst this transformative shift (Dorssom, 2023).

Against this backdrop, this paper explores the utilisation of Padlet technology, an interactive online tool designed to engage students in a physical classroom setting. The primary objective of this study is to assess the impact of active and blended learning approaches within the classroom on student engagement, with a specific focus on evaluating the effectiveness of Padlet technology as a facilitative tool. This study aligns with the concept of student engagement, emphasising active participation and intellectual

commitment to assigned tasks (Kuh, 2009). This investigation aligns with Kuh's assertion that "engaging students in active learning is one of the principles of good practice" (p. 696).

As Hernández-de-Menéndez et al. (2019) highlighted, active learning empowers students through direct participation in the learning process, promoting critical thinking. It integrates careful planning, active participant engagement, and effective Information and Communication Technologies (ICT) use (Hernández-de-Menéndez et al., 2019). ICT, including in-class internet access (Baepler et al., 2014), software applications (Erol & Özcan, 2016) and projection technologies, plays a pivotal role in reshaping traditional learning methods (Graeff, 2010; Hernández-de-Menéndez et al., 2019). Active learning entails a range of techniques, from basic to advanced approaches. Among the most straightforward active learning strategies are interactive questions-and-answers (Q&A) sessions, internet searches, group discussions (Fisher, 2010), debates, and concept mapping (Graeff, 2010) contribute to the field of active learning methods.

Scholarly discourse on blended learning presents various interpretations. For the scope of this study, the researchers adopt Rossett et al.'s (2003) definition, emphasising the integration of classroom and e-learning, multiple forms of e-learning formats, and a range of offline learning methods. Blended learning offers the potential to combine traditional classroom settings, e-learning collaborative activities, synchronous learning, and self-paced asynchronous instruction. Scholars like Svinicki et al. (2014) underscore the synergy between the instructor, students, content and technology, with technology playing a pivotal role Eiland (2018).

Chen (2022) recommends using technology to enhance classroom activities, emphasising discussion and collaboration. Padlet, a dynamic platform, enhances participation and engagement (DeWitt et al., 2014). It is accessible through standard web browsers, requires no prior preparation or app download, seamlessly operates across various devices and fosters real-time interaction (Fuchs, 2014). Fuchs (2014) emphasises that technology has reshaped traditional pedagogy, nurturing interactive engagement in today's education.

## **1.1. UNDERSTANDING STUDENT ENGAGEMENT: AFFECTIVE, BEHAVIOURAL AND COGNITIVE DIMENSIONS**

In understanding student engagement, this study aligns with theoretical frameworks proposed by Bond et al. (2020) that emphasise affective, behavioural and cognitive engagement, contributing to a nuanced understanding of student engagement. It is worth noting that the educational technology landscape has encountered challenges due to the lack of well-defined theoretical foundations, hindering the operationalisation and comprehension of student engagement (Bond et al., 2020). Consequently, there has been a growing call for comprehensive theoretical foundations and the integration of theory into empirical research within this domain (Bond et al., 2020; Hew et al., 2019). Additionally, there is a need for a deeper insight into how educational technology can impact student engagement in diverse contexts (Castaneda & Selwyn, 2018).

Over the past decade, scholars, practitioners and policy-makers have increasingly focused on conceptualising and assessing student engagement (Bond et al., 2020). However, critiques concerning the depth and robustness of theorisation surrounding student engagement remain, as evident in works by Zepke (2018) and Boekaerts (2016). To address these challenges, there has been a call for a more comprehensive synthesis (Bond et al., 2020). Student engagement can be comprehended through its three widely acknowledged dimensions: affective, behavioural and cognitive engagement. As described by Bond et al. (2020), “cognitive engagement relates to deep learning strategies, self-regulation and understanding; affective engagement relates to positive reactions to the learning environment, peers and teachers, as well as their sense of belonging and interest; and behavioural engagement relates to participation, persistence and positive conduct” (p. 2). According to Bond et al. (2020), each dimension encompasses a range of indicators experienced on a continuum with varying activation levels, ranging from low to high and valence from positive to negative. The indicators employed in this study align with the works of Fredricks et al. (2004) and Bond et al. (2020), representing the cognitive, affective and behavioural actions and reactions that manifest as observable and measurable aspects of student engagement.

### **1.1.1. AFFECTIVE ENGAGEMENT**

Affective engagement encompasses a spectrum of emotional responses within the educational context, nurturing emotional connections with the learning environment, peers, and educators while fostering a strong sense of belonging, enthusiasm, and genuine interest in academic pursuits (Bond et al., 2020). Expressions such as “liking,” “excitement,” and “happiness” towards schools, classes, classmates, and educators indicate positive emotional affiliation (Fredricks et al., 2011). This emotional involvement also includes elements like genuine interest, participation and the experience of boredom (Ben-Elihayu et al., 2018).

To explore affective engagement, this study employs a tailored questionnaire designed to evaluate the resonance between students’ emotional experiences while using Padlet and the affective engagement indicators articulated by Bond et al. (2020). These questionnaire items aim to assess how Padlet fosters enthusiasm, interest, enjoyment, satisfaction, positive emotional experiences, confidence building, well-being, and a positive attitude towards the subject and learning experience.

### **1.1.2. BEHAVIOURAL ENGAGEMENT**

Behavioural engagement encompasses active participation, persistent effort, and favourable actions exhibited by students within the education context (Bond et al., 2020). It signifies commitment demonstrated through active involvement in academic, social and extracurricular activities (Fredricks et al., 2011). Fredricks et al. (2004) highlight three dimensions of behavioural engagement: positive conduct, active engagement in learning and academic tasks, and participation in school-related activities. These definitions align with the perspective that behavioural engagement goes beyond mere attendance and reflects a genuine commitment to learning (Fredricks et al., 2011).

This study explores behavioural engagement through a customised questionnaire in line with the theoretical foundations of Bond et al. (2020). The questionnaire items strive to assess how Padlet facilitates dynamic participation, consistent effort, focused attention, interaction, persistence, task completion, and proactive actions, nurturing behavioural engagement.

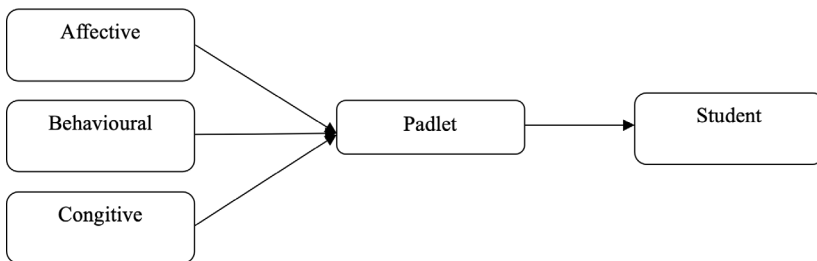
### 1.1.3. COGNITIVE ENGAGEMENT

Cognitive engagement can be conceptualised as a student’s active involvement in the learning process. It includes various facets, such as the depth of thoughts devoted to learning activities, attentive and concentrated participation in the task at hand, and purposeful and thoughtful approaches to academic tasks (Ben-Eliyahu et al., 2018; Fredricks et al., 2004). This multifaceted construct is pivotal for fostering a profound understanding and skill acquisition, emphasising self-regulation and critical thinking (Fredricks et al., 2004; Bond et al., 2020).

This study investigates cognitive engagement through a tailored questionnaire aligned with these theoretical underpinnings. The questionnaire items are strategically designed to assess how Padlet facilitates critical thinking, stimulates self-regulation, cultivates enthusiasm and interest, encourages reflective practices and personal effort, promotes deep learning, and contributes to a comprehensive understanding of the subject matter.

## 1.2. CONCEPTUAL FRAMEWORK AND HYPOTHESES

Therefore, based on the above discussion, this study’s conceptual framework and hypotheses are as follows:



**Fig. 1.** Conceptual framework proposed for this study

H1	Affective engagement has a significant impact on the utilisation of Padlet
H2	Behavioural engagement has a significant impact on the utilisation of Padlat
H3	Cognitive engagement has a significant impact on the utilisation of Padlet
H4	The utilisation of Padlet has a significant influence on student engagement.
H5	Affective engagement has a significant indirect effect on student engagement through the mediation of Padlet
H6	Behavioural engagement has a significant indirect effect on student engagement through the mediation of Padlet
H7	Cognitive engagement has a significant indirect effect on student engagement through the mediation of Padlet

Fig. 1. Conceptual framework proposed for this study

## 2. METHODOLOGY

### 2.1. RESEARCH CONTEXT AND PARTICIPANTS

This study investigates Padlet's impact on student engagement and effectiveness in three courses for three hours per week for a four-week trial to overcome barriers to active participation and enhance the learning experience by integrating student-generated content into lectures. The participants in this trial consisted of students enrolled in various diploma programmes and semesters. Specifically, students from Diploma in Computer Science, Semester 1, took Fundamentals of Management, while students from Diploma in Accountancy, Semester 4, took Fundamentals of Marketing. Additionally, students from the Diploma in Applied Science, Semester 5, were enrolled in Fundamentals of Entrepreneurship. Notably, these students were not business management majors but took these subjects as part of their academic requirements.

This study employed a blended learning approach, combining traditional face-to-face classroom teaching with the use of Padlet, an online interactive e-learning tool, to actively engage all students in the learning process. To facilitate students' participation in the Padlet discussion, the researcher shared a link in the WhatsApp class group, allowing students to remain "Anonymous", reducing the pressure associated with sharing ideas on Padlet and promoting active involvement in discussions. Padlet served as a platform for posing questions and involving a larger number of students in providing answers, fostering a more inclusive (e)learning environment, rather than personalising content for individual students based on their progress, the blended approach aimed to create a collective and interactive (e)learning experience for all participants.

Unlike traditional verbal questioning in the classroom, which often yields limited responses, the researchers adopted an alternative strategy. At the beginning of each class, the researchers posted questions on the Padlet related to the day's topic, and students provided their answers independently. Subsequently, based on these responses, the researchers facilitated a class-wide discussion.

For instance, in the Fundamentals of Marketing course, when discussing topics related to Social Media, the researcher initiated the class with questions on Padlet, such as: "How much time do you spend on social media daily? What are the two main social media platforms you frequently use? Why is social media important to you? Do you think social media has positive or negative effects?". These questions encouraged diverse responses, aligning with Fuchs's (2014) emphasis on creating peer learning and self-assessment opportunities. Padlet approach surpassed the limitations of relying solely on a few verbal responses by enabling students to access and learn from each other's answers.



## **2.2. DATA COLLECTION AND ANALYSIS**

In line with the research objectives, a quantitative approach was employed to measure and analyse the numerical data to identify the relationship between variables. Data collection was carried out using a Google Form, where students rated their level of agreement with each statement using a 6-point Likert Scale ranging from 1 (strongly disagree) to 6 (strongly agree). A self-administered closed-ended questionnaire was used to ensure data collection and analysis consistency. The questionnaire comprised two sections. The first section gathered demographic information with four questions, while the second section included 32 items focusing on affective, behavioural, cognitive engagement, student engagement and Padlet usage. These variables were tailored to suit the study's context while maintaining their alignment with existing literature. The respondents' selection followed a purposive sampling approach, utilising convenience non-probability sampling due to the specific nature of the target respondents and research objectives. A total of 170 undergraduate students enrolled in the Fundamentals of Management, Fundamentals of Marketing and Fundamentals of Entrepreneurship courses were purposefully selected, representing the primary Padlet users in this study's context. The convenience sampling approach facilitated easy access to these students within the university setting.

This study employed Structural Equation Modelling-Partial Least Squares (SEM-PLS) to analyse the data. SEM-PLS has gained prominence as a method for analysing multiple relationships in business studies (Babin et al., 2018) and validating the relationship among variables within a single model.

## **2.3. RESULTS AND FINDINGS**

The following results highlighted the interaction and engagement that positively and negatively affect students' affective, behavioural and cognitive engagement when utilising Padlet.

<b>Construct</b>	<b>Item</b>	<b>Loadings</b>	<b>CR</b>	<b>AVE</b>
Affective Engagement	AE1	0.894	0.947	0.788
	AE2	0.889		
	AE3	0.896		
	AE4	0.908		
	AE5	0.876		
	AE6	0.863		
Behavioural Engagement	BE1	0.887	0.953	0.769
	BE2	0.897		
	BE3	0.861		
	BE4	0.858		
	BE5	0.866		
	BE6	0.881		
	BE7	0.889		
Cognitive Engagement	CE1	0.902	0.961	0.805
	CE2	0.909		
	CE3	0.895		
	CE4	0.859		
	CE5	0.919		
	CE6	0.876		
	CE7	0.919		
Padlet	PAT1	0.851	0.946	0.783
	PAT2	0.913		
	PAT3	0.919		
	PAT4	0.843		
	PAT5	0.893		
	PAT6	0.886		
Student Engagement	SE1	0.778	0.903	0.663
	SE2	0.849		
	SE3	0.833		
	SE4	0.738		
	SE5	0.823		
	SE6	0.856		

**Fig. 1.** Conceptual framework proposed for this study

Table 1 illustrates the measurement model for Affective Engagement, Behavioural Engagement, Cognitive Engagement, Padlet technology and Student Engagement. The loading of each item on its respective construct is shown, along with the Composite Reality (CR) and Average Variance Extracted (AVE). Loadings exceeding 0.7 indicate strong associations with their corresponding constructs. The CR values, ranging from 0.903 to 0.961, highlight the constructs' high internal consistency. Furthermore, the AVE values, ranging from 0.663 to 0.805, demonstrate substantial captured variances, thus affirming the measurement items' reliability and validity within the scope of this study.

No	Construct	1	2	3	4	5
1.	Affective Engagement					
2.	Behavioural Engagement	0.824				
3.	Cognitive Engagement	0.803	0.726			
4.	Padlet technology	0.841	0.718	0.778		
5.	Student Engagement	0.836	0.659	0.693	0.757	

**Table 2:** Discriminant Validity (HTMT criterion)

To assess discriminant validity and establish distinctiveness between constructs, this study employed the heterotrait-monotrait (HTMT) criterion (Henseler et al., 2015) to demonstrate clear discriminant validity among the constructs (Kline, 2011). The HTMT values in Table 2 are all below the threshold of 0.85, signifying the apparent distinctiveness of the constructs within the measurement model and indicating reliable measurements. Specifically, the values of 0.803 between Behavioural Engagement and Cognitive Engagement, 0.726 between Cognitive Engagement and Padlet, 0.778 between Padlet and Student Engagement, and 0.757 between Student Engagement and Cognitive Engagement all emphasise the unique nature of these constructs. This outcome underscores the measurement model's credibility and the underlying concepts' distinctiveness.

	Hypothesis		Std. Beta	Std. Error	t-value	Decision	LL	UL	R <sup>2</sup>	VIF
H1	Affective Engagement → Padlet technology		0.564	0.104	5.444*	Supported	0.353	0.696	0.7	3.405
H2	Behavioural Engagement → Padlet technology		0.051	0.079	0.645	Not supported	-0.063	0.194		2.743
H3	Cognitive Engagement → Padlet technology		0.276	0.106	2.6**	Supported	0.138	0.494		2.574
H4	Padlet technology → Student Engagement		0.7	0.078	9.019*	Supported	0.584	0.845	0.49	1

\*p<0.05, \*\*p<0.01, LL (Lower Limit), UL (Upper Limit), VIF (Variance Inflation Factor)

**Table 3:** The Direct Effect Analysis

The results in Table 3 provide valuable insights into the relationships between engagement constructs and the utilisation of Padlet in this study. The results confirm Hypothesis 1 that Affective Engagement significantly influences the use of Padlet technology, with a path coefficient of 0.564 and a t-value of 5.444. This indicates that higher levels of Affective Engagement correspond to increased Padlet utilisation. Similarly, Hypothesis 3 reveals a positive and significant impact of Cognitive Engagement on Padlet utilisation. This association is supported by a path coefficient of 0.276 and a t-value of 2.6. This result highlights the interplay between cognitive involvement and the usage of Padlet.

Conversely, Hypothesis 2 does not support the direct impact of Behavioural Engagement on Padlet utilisation. The path coefficient of 0.051 and a t-value of 0.645 falls below the statistical significance threshold. However, the strongest relationship is found in Hypothesis 4, where Padlet significantly influences Student Engagement. The path coefficient of 0.7 and a t-value of 9.019 suggested that increased Padlet utilisation is strongly associated with higher levels of Student Engagement.

The analysis of direct effects and associated findings supports three out of the four hypotheses tested. Specifically, Affective Engagement, Cognitive Engagement and Padlet utilisation were found to have significant positive impacts on each other. However, Behavioural Engagement did not exhibit a statistically significant direct effect on Padlet utilisation.

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	Hypothesis	Std. Beta	Std. Error	t-value	Decision	LL	UL
H5	Affective Engagement → Padlet technology → Student Engagement	0.395	0.093	4.242**	Supported	0.229	0.537
H6	Behavioural Engagement → Padlet technology → Student Engagement	0.036	0.058	0.616	Not supported	-0.043	0.146
H7	Cognitive Engagement → Padlet technology → Student Engagement	0.193	0.076	2.537**	Supported	0.099	0.347

\*p<0.05, \*\*p<0.01, LL- Lower Limit, UL – Upper Limit

**Table 4:** The Indirect Effect Analysis

Table 4 reveals significant insights into the interrelationships between engagement constructs and Padlet utilisation, impacting student engagement. For Hypothesis 5, a noteworthy indirect effect is observed, indicating that Affective Engagement significantly influences Student Engagement through the mediation of Padlet utilisation. The path coefficient of 0.395 and a t-value of 4.242 suggest that heightened Affective Engagement directly affects Padlet usage and indirectly enhances Student Engagement through increased Padlet utilisation. The confidence intervals (LL: 0.229, UL: 0.537) confirm the statistical significance of this indirect pathway.

Similarly, Hypothesis 7 demonstrates a substantial indirect impact. Cognitive Engagement indirectly affects student engagement through its influence on Padlet utilisation. The path coefficient of 0.193 and a t-value of 2.537 emphasise the significance of this effect. This implies that stronger Cognitive Engagement directly affects Padlet usage and indirectly contributes to elevated levels of Student Engagement by promoting higher Padlet utilisation. The confidence intervals (LL: 0.099, UL: 0.347) further validate the statistical significance of this indirect pathway. However, Hypothesis 6, which explores the indirect effect of Behavioural Engagement on Student Engagement through Padlet utilisation, is not supported. The path coefficient of 0.036 and a t-value of 0.616 falls below the statistical significance threshold.

The findings support two out of the three hypotheses related to indirect effects. Specifically, Affective Engagement and Cognitive Engagement are shown to have significant indirect effects on Student Engagement through their impact on Padlet utilisation. On the other hand, Behavioural Engagement's indirect influence on Student Engagement through Padlet utilisation is not supported.

### **3. DISCUSSION**

This study aimed to explore the intricate interplay between blended and active learning, focusing on the effectiveness of Padlet technology in enriching teaching and learning experiences. The study's assessment of different dimensions of engagement and Padlet's impact on education has uncovered valuable insights into the dynamic relationship between technology and student engagement.

The findings highlight the importance of emotions in technology integration. Students who experience positive engagement and motivation when using Padlet are more inclined to utilise the tool actively. This observation underscores the significance of establishing a positive emotional connection with the learning process (Fredricks et al., 2004; Bond et al., 2020), indicating its potential influence on technology utilisation, affecting the overall engagement experience. The strong connection between established Affective Engagement and Padlet usage suggests that cultivating positive emotions could effectively encourage technology integration within classroom settings.

Moreover, this study illuminates the role of cognitive involvement in shaping how students interact with educational tools. Notably, students who engage in critical thinking, deep understanding, and reflective learning are more likely to use Padlet effectively. This finding suggests that educators should focus not just on technology integration but also on nurturing cognitive processes. The substantial correlation between Cognitive Engagement and Padlet utilisation reveals how technology can enhance the depth and quality of students' cognitive involvement, aligning with the active learning principle (Fredricks et al., 2004; Kuh, 2009; Bond et al., 2020).

In contrast to expectations, this study did not find support for the direct relationship between Behavioural Engagement and Padlet utilisation, nor did it uncover any significant indirect relationship. While this might appear counterintuitive, these outcomes offer insights worth careful consideration. In understanding why Behavioural Engagement is insignificant, it is important to delve into previous studies that often emphasised measuring positive engagement, leading to a lack of attention to signs of disengagement in behaviour (Bond et al., 2020). Bond et al. (2020) highlighted students' emotional experiences, such as frustration, opposition/rejection, and disappointment, as disengagement indicators. Adherence to classroom norms, rule-following, and attention spans (Fredricks et al., 2004) might also contribute to disengagement. These emotional aspects could overshadow the behavioural indicators, making them appear less prominent (Bond et al., 2020).

Furthermore, specific tools and activities within educational contexts that involve technology, such as website creation tools and social networking platforms, were frequently linked to increased levels of disengagement (Bond et al., 2020). For instance, students exhibited disinterest when utilising website creation tools (Sullivan & Longnecker, 2014), and studies by Cook and Bissonnette (2016) revealed that using social networking tools (X, previously known as Twitter) led to difficulties in self-expression within the constraints of concise posts. These collective findings emphasise that behavioural engagement might not serve as the sole determinant of overall student engagement. Its perceived insignificance may stem from the dynamic interplay between affective, cognitive and environmental factors.

Therefore, this finding suggests that factors such as familiarity with the technology, personal preferences, or the platform's nature could influence students' interaction with Padlet despite their active classroom involvement. This aligns with the notion that certain tools may foster higher disengagement and that mere behavioural engagement might not inherently lead to heightened usage of specific technological tools (Bond et al., 2020; Sullivan & Longnecker, 2014; Cook & Bissonnette, 2016). For educators, understanding students' comfort levels with the technology and aligning tool utilisation with learning objectives becomes crucial in bridging this gap. This discovery justifies the insignificance of behavioural engagement in this study's context. It opens the door for further exploration of how behavioural

participation indirectly influences technology adoption, shedding light on the concealed influence of students' classroom behaviours on technology integration.

The strong effect uncovered in this study points out the potential of Padlet utilisation to foster participation, collaboration and overall student engagement. The strong correlation between Padlet and Student Engagement supports the notion that well-designed educational technologies can enhance the learning experience, going beyond traditional boundaries and creating a more dynamic and immersive learning environment. These findings become particularly relevant in contemporary education, where digital tools are increasingly integrated to enhance learning outcomes.

Delving into the indirect effects, this study revealed a compelling relationship between Affective and Cognitive Engagement, Padlet utilisation and Student Engagement, showing how emotional and cognitive aspects influence technology use and extend to broader student engagement. The indirect impact of Affective Engagement through Padlet utilisation emphasises the role of emotions in fostering comprehensive engagement outcomes. Similarly, the connection between Cognitive Engagement, Padlet utilisation and Student Engagement shows that cognitive processes drive both technological interaction and holistic engagement.

Given the evolving educational landscape of the post-COVID-19 pandemic, it is worth considering the potential impact of this global shift on technology integration and student engagement. The pandemic accelerated technology adoption in education, possibly influencing student attitudes towards technology tools like Padlet. Integrating a post-pandemic perspective could enhance the relevance of this study's findings and their applicability in contemporary educational contexts.

#### **4. CONCLUSION**

In conclusion, this study has explored the intricate interplay between engagement dynamics, active learning methods, and technological integration, particularly emphasising the adaptable Padlet platform. The implications of these findings extend beyond the confines of this study, offering valuable insights for educators, researchers and practitioners alike.



These insights reveal a multidimensional perspective on how technology tools like Padlet can be effectively used to foster emotional resonance, stimulate cognitive thinking, and encourage active participation. As education continues to evolve in a technology-driven world, this study serves as a catalyst, helping educators and researchers craft meaningful and transformative learning experiences that empower students and establish a stronger connection with their learning journey.

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