วารสารการบริหารและนิเทศการศึกษา ปีที่ 15 ฉบับที่ 2 พฤษภาคม-สิงหาคม 2567

Learning Achievement, Teamwork Abilities, and Satisfaction of Using Padlet as a Collaborative Learning Tool in Classroom: A Case Study of Pre-Service Teachers at Burapha University

ผลสัมฤทธิ์ทางการเรียน ความสามารถในการทำงานเป็นทีม และความพึงพอใจในการใช้แพทเลทเป็นเครื่องมือการเรียนรู้แบบร่วมมือในห้องเรียน: กรณีศึกษานิสิตครู มหาวิทยาลัยบูรพา

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(Received: 2024-06-14; Revised: 2024-07-16; Accepted: 2024-08-09)

Abstract

Padlet is an online collaborative platform that can be used to facilitate learning and interaction among students. This study utilized Padlet as a collaborative learning tool in a classroom setting. The purposes of this research were: (1) to compare pre-service teachers' learning achievement before and after using Padlet as a collaborative learning tool in classroom settings, (2) to examine pre-service teachers' teamwork abilities after using Padlet as a collaborative learning tool, and (3) to explore pre-service teachers' satisfaction after using Padlet as a collaborative learning tool. The study involved 27 pre-service teachers who were enrolled in the Research for Improving Learning course in the academic year 2023 at Burapha University. A one-group pre-test and post-test design was employed in this study. The research instruments were an achievement test, a questionnaire on teamwork abilities, and a questionnaire on satisfaction with using Padlet. Data analysis was performed using the mean, standard deviation, and paired sample t-test.

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The results showed that (1) there were significant differences between pre-test and post-test learning achievement, with the post-test scores being higher than the pre-test scores after utilizing Padlet as a collaborative learning tool at a statistically significant level of 0.05; (2) the teamwork abilities of pre-service teachers after using Padlet as a collaborative learning tool were at an excellent level; and (3) the satisfaction of pre-service teachers after using Padlet as a collaborative learning tool was at an extremely high level.

Keywords: Padlet, Learning Achievement, Teamwork Abilities, Satisfaction, Collaborative Learning

บทคัดย่อ

แพทเลทเป็นแพลตฟอร์มที่ใช้ทำงานร่วมกันออนไลน์เพื่อส่งเสริมการเรียนรู้และการมีปฏิสัมพันธ์ร่วมกันของนักเรียน งานวิจัยนี้ศึกษาการใช้แพทเลทเป็นเครื่องมือการเรียนรู้แบบร่วมมือในชั้นเรียน โดยมีวัตถุประสงค์การวิจัย ได้แก่ 1) เพื่อเปรียบเทียบผลสัมฤทธิ์ทางการเรียนของนิสิตครูก่อนและหลังการใช้แพทเลทเป็นเครื่องมือการเรียนรู้แบบร่วมมือ 2) เพื่อศึกษาความสามารถในการทำงานเป็นทีมของนิสิตครูหลังการใช้แพทเลท และ 3) เพื่อศึกษาความพึงพอใจของนิสิตครูหลังการใช้แพทเลท กลุ่มตัวอย่างได้แก่ นิสิตครูจำนวน 27 คนที่ลงทะเบียนรายวิชาการวิจัยเพื่อพัฒนาการเรียนรู้ ในภาคเรียนที่ 2 ปีการศึกษา 2566 มหาวิทยาลัยบูรพา เป็นการศึกษากลุ่มเดี่ยวโดยวัดก่อนและหลังการทดลอง เครื่องมือที่ใช้ในการวิจัย คือ แบบทดสอบวัดผลสัมฤทธิ์ แบบสอบถามความสามารถในการทำงานเป็นทีม และแบบสอบถามความพึงพอใจในการใ ช้แพทเลท สถิติที่ใช้วิเคราะห์ข้อมูล ได้แก่ ค่าเฉลี่ย ส่วนเบี่ยงเบนมาตรฐาน และการทดสอบ Paired Samples T-Test

ผลการวิจัย พบว่า 1) ผลสัมฤทธิ์ทางการเรียนก่อนและหลังการใช้แพทเลทเป็นเครื่องมือการเรียนรู้แบบร่วมมือของนิสิตครูมีความแตกต่างกันอย่างมีนัยสำคัญโดยคะแนนการทดสอบหลังเรียนสูงกว่าคะแนนก่อนเรียนอย่างมีนัยสำคัญทางสถิติที่ระดับ 0.05 2) ความสามารถในการทำงานเป็นทีมของนิสิตครูหลังการใช้แพทเลทเป็นเครื่องมือการเรียนรู้แบบร่วมมืออยู่ในระดับดีเยี่ยม และ 3) ความพึงพอใจของนิสิตครูหลังการใช้แพทเลทเป็นเครื่องมือการเรียนรู้แบบร่วมมืออยู่ในระดับความพึงพอใจอย่างยิ่ง

คำสำคัญ: แพทเลท, ผลสัมฤทธิ์ทางการเรียน, ความสามารถในการทำงานเป็นทีม, การเรียนรู้แบบร่วมมือ

Introduction

In the digital age, collaborative learning with technology has emerged as a teaching practice that fosters students' engagement, interaction, and collective learning through technology. This approach is based on a learning theory, which is connectivism and posits that individuals process information and learn by forming connections. This approach emphasizes the importance of technology in promoting lifelong learning. Learners are able to acquire knowledge through skills acquisition, social and professional networks and technology-enabled information access (Waltemeyer et al., 2021).

In recent years, technology has been integrated into educational settings. Technology-enhanced learning has gained prominence in educational settings. It offers more opportunities for collaboration and engagement in learning. It is transforming how education is delivered in the 21st century. This notion aligns with the United Nations' Sustainable Development Goals (SDGs) which state that equipping students with technological skills can promote lifelong learning (United Nations, 2023). Among these tools, Padlet has gained popularity as one of the digital tools in classrooms because of its user-friendly and versatile interface. It facilitates both learning and collaboration.

Padlet, an online whiteboard or virtual wall, is an online platform for teachers and students to build online bulletin boards for interaction, reflection, and collaboration. It allows users to share knowledge, ideas, and receive feedback from others that promotes interactive learning environments (Deni & Zainal, 2018; Chen, 2022; Jong & Kim Hua, 2021). It has different layouts, including a square board, a feed of information, or an open canvas, and offers multiple formatting options that allow learners to upload files, post images, documents, and videos (Gill-Simmen, 2021). In addition, Padlet can support real-time, whole-class participation and assessment. Teachers can immediately access other students' responses (Fuchs, 2014; Gill-Simmen, 2021). Moreover, Padlet is easy-to-access on various devices. Users can access Padlet on various platforms without the need to create an account or to acquire special technical knowledge (Fuchs, 2014; Chen, 2022). As a result, Padlet provides a rich environment for engagement and allows people to express their thoughts on particular issues. It helps students organize and clarify information and boosts their enthusiasm to study (Arouri et al., 2023). Using Padlet allows learners

to carry out collaborative classroom activities where they can collaborate on classroom assignments, share resources, engage with subject material, and view posted by their classmates (Anwar et al., 2019; Zainuddin et al., 2020; Waltemeyer et al., 2021), and it is a platform that promotes a student-centered learning environment (Jong & Kim Hua, 2021). Research by Zainuddin et al. (2020) demonstrated that Padlet significantly enhances student engagement and fosters active learning. Similarly, Jong and Kim Hua (2021) investigated the use of Padlet for assessing writing skills and discovered that students responded positively to this platform. Additionally, Rulianah et al. (2022) revealed that the combination of cooperative learning and the use of Padlet improved student achievement.

Collaborative learning occurs when students coordinate within a group so that each member contributes equally to the success of the entire project. Collaborative learning should support group members in completing tasks more effectively (Wang, 2009). However, collaborative learning encompasses not only socio-cognitive activities but also learners' emotions and their motivation to learn. Simply assigning learners to a group does not lead to effective collaboration and interaction (Strauß & Rummel, 2020). It requires more thoughtful instructional design and technology, as the technologies available to the groups can affect their interaction. Each technology has different aspects that facilitate collaboration. Technology that facilitates sharing and distribution of knowledge and expertise can support effective collaboration (Wang, 2009). According to Wang (2009), computer-supported collaborative learning (CSCL) encompasses individual accountability, positive interdependence, coordination, and monitoring learning processes. Padlet has features that allow students to post, share, and organize their ideas on a virtual board, enable real-time communication, support a variety of media formats, facilitate collaborative activities, and allow teachers to track and monitor students' progress (Jong & Kim Hua, 2021; Shuker & Burton, 2021). As a result, Padlet can be an effective technology-enhanced learning tool that supports and improves collaboration.

Despite its growing popularity, there is limited research on the impact of Padlet on pre-service teachers, particularly regarding learning achievement and teamwork skills. In the Research for Improving Learning course, pre-service teachers who enrolled in this course had to work on their group projects and collaborate with the team members to make contributions. As a result,

this study aimed to fill this gap by exploring the impact of Padlet as a collaborative learning tool on learning achievement, teamwork abilities, and satisfaction among pre-service teachers at Burapha University. This research sought to reinforce students' collaboration with learning tools and enhanced their learning achievement and teamwork abilities. The insights gained from this study will inform educational administrators and supervisors about the benefits and challenges of integrating technology-enhanced learning tools like Padlet, which enhance collaborative learning practices and improve teacher training outcomes.

Research Objectives

1. To compare the learning achievement of pre-service teachers before and after using Padlet as a collaborative learning tool

2. To examine the teamwork abilities of pre-service teachers after using Padlet as a collaborative learning tool

3. To explore the satisfaction of pre-service teachers after using Padlet as a collaborative learning tool

Research Hypotheses

1. The post-test mean scores of pre-service teachers after using Padlet as a collaborative learning tool were higher than pre-test mean scores.

Research Framework

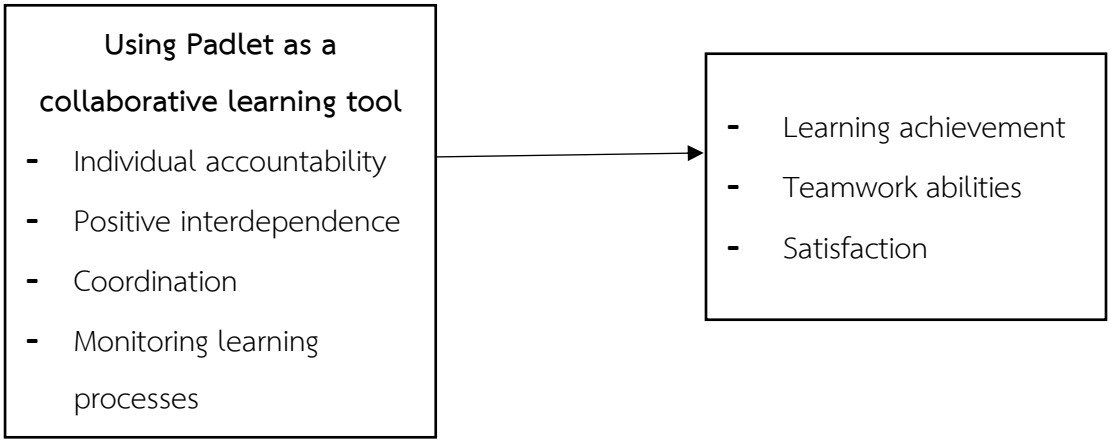

Figure 1. Research Framework

Methodology

1. Research Design

This study employed a one-group pre-test post-test design to examine Padlet as a collaborative learning tool and its effects on learning achievement, teamwork abilities, and satisfaction among undergraduate students.

2. Sample

The sample involved 27 pre-service teachers who enrolled in the Research for Improving Learning course in the second semester of the academic year 2023 at the Faculty of Education, Burapha University, Thailand. The purposive sampling method was used to select the sample group.

3. Research Instruments

There were three research instruments in this study, as follows:

1) The pre- and post-achievement test

The researcher used a pre-and post-achievement test to measure learning achievement in this study. There were 20 multiple-choice questions with one correct answer for the pre- and post-achievement test. The score was 1 for the correct answer and 0 for the incorrect answer. The pre-achievement test was administered at the beginning of the course, and the post-achievement test was conducted at the end of the course. The pre- and post-achievement test was completed via Google Form. All items had an index of Item Objective Congruence (IOC) higher than 0.5. The reliability of the test using KR-20 was 0.73. The item difficulty ranged from 0.44 to 0.81, and item discrimination ranged from 0.23 to 0.91, except for items no.1, no.4, and no.15. These items were revised to make them more appropriate.

2) Questionnaire on teamwork abilities

The researcher used a questionnaire on teamwork abilities to measure the level of teamwork abilities of pre-service teachers after using Padlet as a collaborative learning tool. There were 9 five-point Likert scale items for measuring teamwork abilities. The degree of teamwork abilities was as follows: 5 = Excellent, 4 = Good, 3 = Fair, 2 = Poor, and 1 = Very poor. It was

administered at the end of the course through Google Form. Item discrimination ranged from .37 to .89. Cronbach's alpha reliability was .88.

3) Questionnaire on students' satisfaction with using Padlet as a collaborative learning tool

There were 9 five-point Likert scale items for measuring the satisfaction of pre-service teachers with using Padlet as a learning tool. The instrument consisted of three components: the process of learning activity, content, and convenience of media usage. The degree of satisfaction was as follows: 5 = Extremely satisfied, 4 = Very satisfied, 3 = Satisfied, 2 = Somewhat satisfied, and 1 = Not at all satisfied. The questionnaire was administered at the end of the course through Google Form. Item discrimination ranged from .48 to .65. Cronbach's alpha reliability was .87.

4. Data Collection

This study was conducted in the second semester of the academic year 2023 (December 2023 – March 2024). It involved 27 pre-service teachers enrolled in the Research for Improving Learning course. The research was divided into three stages.

1) Pre-implementation: A pre-achievement test was administered at the beginning of the semester to establish baseline data.

2) Intervention phase: Padlet was implemented as a collaborative learning tool throughout the semester. During this phase, the researcher designed the curriculum to integrate the utilization of Padlet as a platform for collaboration and interaction. A series of tasks were designed for students to carry out in class and after class as collaborative work, including case study analysis, instrument development, project drafts, and final projects.

3) Post-implementation: the post-achievement test was administered at the end of the semester, followed by a questionnaire on teamwork abilities and a questionnaire on satisfaction with using Padlet as a collaborative learning tool.

The researcher used meaningful learning tasks to promote collaboration by adapting the framework of computer-supported collaborative learning (CSCL) by Wang (2009), including individual accountability, positive interdependence, coordination, and monitoring learning processes. These are as follows:

Table 1 A series of tasks using Padlet as collaborative learning tool

Task	Description	Strategy	Activity
Individual accountability	A group member' s contribution to achieving the overall goals. Students take responsibility for their tasks.	Making the tasks meaningful and relevant. Defining roles and responsibilities of group members. Focusing on the learning process	Each group could decide on a research topic on their own. Moreover, the teacher let them plan the roles and responsibilities of the group members by themselves.
Positive interdependence	Friendship and positive relationships within a group.	Offering resources, setting up reward, and creating a supportive environment	The students were allowed to choose their group members for the research project. Teacher also gave awards to the group.
Coordination	Everyone contributes to the learning task and works together toward the goal.	Using technology features that can facilitate shared workspaces where tasks can be shared and coordinated with others.	Padlet was used for storage and sharing.
Monitoring learning processes	Keeping track of student progress to make the learning more	Using technology to track and	The teacher monitored the learning process

	efficient and identifying strengths and weaknesses in the instructional design.	monitor students' learning progress	from what students posted on Padlet.

5. Data Analysis

The data was analyzed using descriptive statistics and paired sample t-tests with the Statistical Package for the Social Sciences (SPSS) program. Descriptive statistics were analyzed using the mean and standard deviation for the teamwork abilities and satisfaction of pre-service teachers using Padlet as a collaborative learning tool. Furthermore, paired sample t-tests were conducted to determine statistically significant differences in the learning achievement of pre-service teachers before and after using Padlet as a collaborative learning tool.

The interpretation of mean scores to analyze teamwork abilities were as follows (Srisaat, 2017):

4.51 – 5.00 means students have "excellent" teamwork abilities.

3.51 – 4.50 means students have "good" teamwork abilities.

2.51 – 3.50 means students have "fair" teamwork abilities.

1.51 – 2.50 means students have "poor" teamwork abilities.

1.00 -1.50 means students have "very poor" teamwork abilities.

The interpretation of mean scores to analyze students' satisfactions towards the use of Padlet were as follows (Srisaat, 2017):

4.51 – 5.00 means students are "extremely satisfied" with the use of Padlet.

3.51 – 4.50 means students are "very satisfied" with the use of Padlet.

2.51 – 3.50 means students are "satisfied" with the use of Padlet.

1.51 – 2.50 means students are "somewhat satisfied" with the use of Padlet.

1.00 -1.50 means students are "not at all satisfied" with the use of Padlet.

Results

1. Pre-service teachers' learning achievement of using Padlet as a collaborative learning tool

Table 2 Paired Sample t-test of pre-service teachers' learning achievement

Learning effectiveness	Pre-test		Post-test		n	95% CI for Mean Difference		*t*	*df*	*p*
	M	*SD*	*M*	*SD*						
	11.15	2.01	15.63	3.30	27	-6.06	-2.89	-5.80*	26	.00

*$p < .05$.

A paired-samples t-test was conducted to compare pre-test and post-test mean scores on learning achievement. There was a significant difference in the scores for the pre-test (M = 11.15, SD = 2.01) and the post-test (M = 15.63, SD = 3.30); t(26) = -5.80, p < .05. The post-test scores after utilizing Padlet as a collaborative tool were higher than the pre-test scores at a statistically significant level of .05. These results support the research hypothesis, suggesting that undergraduate students increased their learning achievement in this course after using Padlet as a collaborative learning tool.

2. Pre-service teachers' teamwork abilities on using Padlet as a collaborative learning tool

Table 3 Mean and standard deviation of pre-service teachers' teamwork abilities

Statement	Teamwork abilities		Level
	M	*SD*	
We are able to collaborate to set goals in work	4.74	.52	Excellent
We are able to assign responsibilities in tasks	4.59	.50	Excellent
We are able to aware our own responsibilities	4.70	.54	Excellent
We maintain good relationship with our team members.	4.67	.48	Excellent
We provide assistance to team members	4.74	.44	Excellent

We maintain good working environment within the team.	4.56	.64	Excellent
We adjust ourselves to work together as a team.	4.70	.46	Excellent
We help to express opinions in work tasks.	4.67	.67	Excellent
We communicate within a team to help solve problems.	4.56	.80	Excellent
Total	4.65	.39	Excellent

The results indicated that pre-service teachers had excellent teamwork abilities when using Padlet as a collaborative learning tool (M = 4.65, SD = .39). Specifically, pre-service teachers were able to collaborate to set goals in their work (M = 4.74, SD = .52), and they provided assistance to team members within their group (M = 4.74, SD = .44). Moreover, they had excellent teamwork abilities in awareness of their own responsibility (M = 4.70, SD = .54) and adjustment to work together as a team (M = 4.70, SD = .46).

3. Pre-service teachers' satisfaction on using Padlet as a collaborative learning tool

Table 4 Mean and standard deviation of pre-service teachers' satisfaction on using Padlet as a collaborative learning tool

Statement	Satisfaction		Level
	M	*SD*	
The Process of Learning Activity			
Using Padlet makes me more enthusiastic and interested in learning	4.56	.64	Extremely satisfied
Using Padlet enables me to exchange opinions and interact with friends	4.67	.55	Extremely satisfied
I can use Padlet as a source to gain additional information.	4.59	.57	Extremely satisfied

Using Padlet helps create learning atmosphere.	4.63	.56	Extremely satisfied
Content			
Using Padlet helps me understand the content I've learned better.	4.37	.68	Very satisfied
Using Padlet bridge the gap of theoretical knowledge into practical knowledge	4.56	.50	Extremely satisfied
The Convenience of Media Usage			
The content on Padlet is arranged appropriately and easy to understand	4.70	.46	Extremely satisfied
The display on Padlet is suitable	4.59	.69	Extremely satisfied
It is convenient to access content on Padlet	4.78	.42	Extremely satisfied
Total	4.59	.38	Extremely satisfied

The results showed that pre-service teachers were extremely satisfied with the use of Padlet as a collaborative learning tool (*M* = 4.59, *SD* = .38). When considering the process of learning activity, pre-service teachers were extremely satisfied because using Padlet enabled them to exchange opinions and interact with their friends (*M* = 4.67, *SD* = .55) and helped them to create a learning atmosphere *(M* = 4.63, *SD* = .56). Regarding content, they were extremely satisfied that Padlet could bridge the gap between theoretical knowledge and practical knowledge (*M* = 4.56, *SD* = .50). They were very satisfied that this tool helped them understand the content better (*M* = 4.37, *SD* = .68). In terms of the media usage, pre-service teachers were extremely satisfied with the convenience of assessing content on Padlet (*M* = 4.78, *SD* = .42) and how the content was arranged appropriately and easy to understand (*M* = 4.70, *SD* = .46).

Discussion

Regarding pre-service teachers' learning achievement using Padlet as a collaborative learning tool, the results showed that the post-test scores were significantly higher than the pre-test scores. Pre-service teachers increased their learning achievement after using Padlet as a collaborative learning tool. It indicates that Padlet is the platform that can promote learning achievement. The teacher used Padlet to share resources and encouraged students to participate in group work by submitting and sharing completed tasks and group assignments. It allows students to organize and present their ideas effectively. The teacher asked questions, assigned tasks, and monitored the work on Padlet, emphasizing individual accountability and monitoring learning processes as part of collaborative learning. This approach allows students to take ownership of their learning and keep track of their learning progress, enhancing their learning achievement. Waltermeyer et al. (2021) stated that Padlet serves as a virtual bulletin board where students can work together on classroom assignments, share resources, and organize course-related content in both traditional and online learning environments to foster student collaboration. Wang (2009) mentioned that monitoring the learning process enables teachers to assess students' individual and group learning more accurately, helping students identify their strengths and weaknesses and understand what needs to be done to progress in their learning. This is consistent with Boateng and Nyamekye (2022), who found that Padlet could improve learning outcomes in Integrated Sciences in Ghana by enhancing the level of attention, responsiveness, interest, and participation. Similarly, Deni and Zainal (2018) found that the use of Padlet helped students improve their understanding of the content because they had access to others' work and teacher's feedback. Students used Padlet to learn from their mistakes, see how others answered questions, and received feedback from teachers. Gawin (2021) also found that Padlet supported project-based learning in an entrepreneurship course, where participants used Padlet to facilitate remote group work discussions.

In terms of pre-service teachers' teamwork abilities when using Padlet as a collaborative learning tool, the findings indicated that pre-service teachers had excellent teamwork abilities. The results showed that all items indicated excellent teamwork abilities. This suggests that pre-service teachers believed that they had excellent teamwork abilities when using Padlet as a

collaborative learning tool. This might be because Padlet is a technology-enhanced learning tool that promotes collaboration and helps improve the teamwork abilities of pre-service teachers. The teacher assigned group work and allowed students to choose their own group members, enabling them to work with peers they have good relationships with. This approach emphasizes individual accountability and positive interdependence as part of collaborative learning. Each student is responsible for their task and supports one another in completing their research project. Moreover, they maintain a positive relationship with group members for the smooth progress of the project. According to Wang (2009), each member is accountable for their share of the work to achieve the group's overall goals, and good working relationships facilitate effective collaboration. Zainuddin et al. (2020) found that Padlet allows students to work in their own space for individual and group tasks. Students collaborate on specific tasks, making tasks more manageable and less stressful for them. Mahmud (2019) showed that using Padlet as a learning tool, students developed new ideas and knowledge through activities, shared ideas with friends, and collaborated and interacted with peers.

When considering pre-service teachers' satisfaction with using Padlet as a collaborative learning tool, the result showed that pre-service teachers were extremely satisfied with the use of Padlet as a collaborative learning tool. They were extremely satisfied with using Padlet as a part of their learning process, particularly in exchanging opinions and interacting with their friends. They were also extremely satisfied with the usage of Padlet which was easy to access and had appropriately arranged functions. This might be because the features of Padlet are easy to use and practical for their research group projects. They were satisfied and motivated to use Padlet, and the material on this platform is also easy for them to understand. The displays and functions of Padlet emphasize coordination in collaborative learning. According to Waltermeyer et al. (2021), Padlet is a tool that makes learning easier and more meaningful. It functions like sticky notes that share ideas on the wall instantly. It is a versatile pedagogical tool that can be accessed on any device. Padlet serves as a valuable learning resource where teachers can engage students and facilitate collaboration. Anwar et al. (2019) investigated students' perception at the use of Padlet in Linguistics class in Indonesia. The findings showed that most students have a positive attitude towards the use of Padlet in linguistic learning in general. It is pleasant for users to interact,

collaborate to share their work, ideas, and thoughts. This is consistent with Jong and Kim Hua (2021), who investigated the use of Padlet as a technological tool for assessing students' writing skills in online classrooms. The results found that the students exhibited positive responses towards Padlet. Most of the students found that Padlet is easy to use, interesting, practical and suitable to be used for writing assessment. Arouri et al. (2023) stated that Padlet is an engaging teaching strategy that makes it simple for students to participate without feeling self-conscious. Padlet eliminates the awkwardness and anxiety associated with replying at any time. Additionally, Al Momani and Abu Musa (2022) investigated students' attitude towards Padlet. The results showed a highly positive attitude towards Padlet as a mobile online interactive and collaborative tool.

Conclusion

Padlet is an online platform designed for collaborative learning and student interaction. The study aimed to investigate the effect of using Padlet as a collaborative learning tool on pre-service teachers' learning achievement, teamwork abilities, and satisfaction. The study was conducted with 27 pre-service teachers enrolled in the Research for Improving Learning course at Burapha University. A one-group pre-test post-test design was used. Data were analyzed using mean, standard deviation, and paired sample t-test.

This study provides empirical evidence that Padlet is an effective digital tool that can be used as collaborative learning to promote learning achievement, teamwork abilities, and satisfaction. Pre-service teachers' post-test scores were higher than pre-test scores after using Padlet as a collaborative learning. Additionally, pre-service teachers had excellent teamwork abilities and they were extremely satisfied with the use of Padlet for collaborative learning. Padlet can create a collaborative learning environment.

Suggestion

1. Suggestions to apply in the field

1.1 Educational administrators and supervisors should promote and support the use of technology-enhanced learning in the classroom and establish guidelines for learning and teaching activities with technology to accommodate all learners.

1.2 Padlet can be used as a tool in developing teachers' teaching profession that could benefit teaching practices and promote collaboration.

2. Suggestions to apply in the future research

2.1 Future research should extend the research to different populations, such as secondary or tertiary students

2.2 Future research should explore the effectiveness of Padlet as collaborative tools using different research designs, such as qualitative research design or mixed methods research design

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