English Education Journal
Volume 11, Number 2, January 2023, pp. 72-88
ISSN: 2302-6413 (Print) 2716-3687 (Online)

Pre-Service Teachers' Perception of Using Powtoon in Microteaching Course Focusing on Technology Integration Self-Efficacy (TISE)

Sekarningtyas Adita Ramadhani, Ngadiso, Ellisa Indriyani Putri Handayani
English Education Department
Teacher Training and Education Faculty
Sebelas Maret University of Surakarta
e-mail: tyasadita@student.uns.ac.id

Received: 6 October 2022
Reviewed: 10 November 2022
Accepted: 22 November 2022

Abstract
The research was aimed to explore pre-service teachers' TISE perception of using Powtoon in the Microteaching course (ada 3 tujuan?). This qualitative research used a narrative inquiry method in collecting the data from the participants through questionnaires, narrative frames, interviews, and artifacts. Thematic analysis was used to analyze the data. The result showed that pre-service teachers had favorable perceptions of Powtoon and their TISE. They also found some problems in implementing Powtoon that came from experience, skill, environmental aids, emotional state, and resources. In the process, they found their solutions to the problems highlighting collaborative learning, growth mindset, group management, etc. Furthermore, participants showed their optimism and pessimism in using Powtoon. They mentioned that Powtoon barely increased their TISE, however, they could utilize the tool well. The difficulties encountered by participants in incorporating Powtoon into the educational process covered a wide range of TISE dimensions. These difficulties were tackled with a range of creative methods aimed at improving their TISE. The finding can be useful for pre-service teachers to be aware to their TISE and for lecturers to adapt more convenient learning tools.

Keywords: *pre-service teacher, powtoon, microteaching, technology integration self-efficacy*

INTRODUCTION

In teaching and learning, self-efficacy is one of the succeeding factors that determine a proper education (Lemon and Garvis, 2016). According to Bandura (1994), self-efficacy is an individual's belief in their ability to achieve a performance. In addition, Teo et al., (2008) stated that teachers' beliefs about the capacity of technology use in education affect their performance in class. Therefore, it is important for pre-service teachers to build their self-efficacy in integrating technology. This highlighted the importance of self-efficacy for pre-

service teachers as it is impossible for them to create proper teaching materials with low self-efficacy.

Several other researchers have found the influence of self-efficacy in technology integration for pre-service teachers. Lemon and Garvis (2016) found that self-efficacy can build technology capabilities, especially for pre-service teachers who have no experience in teaching. Additionally, Kapici (2020) indicated that when pre-service teachers prepared lesson plans on the virtual platform, their self-efficacy increased dramatically. To support this statement, Cooper et al. (2020) highlighted that online teaching practice can allow pre-service teachers to reflect on and reconsider classroom instruction.

Previous studies have been conducted in a range of educational areas. Other studies, on the other hand, focus only on the principles of TISE. This study concentrates on pre-service teachers' perceptions of the use of Powtoon in Microteaching courses for TISE development. The study on pre-service teachers' TISE assisted teachers in selecting and implementing the appropriate digital media for instruction. Therefore, this research focuses on answering the research problems: (1) How does pre-service teachers' perception of using Powtoon in the Microteaching Course affect their technology integration self-efficacy? (2) What are the problems faced by pre-service teachers in implementing Powtoon? and (3) How do pre-service teachers overcome their problems in implementing Powtoon?

LITERATURE REVIEW

Perception

Quick and Nelson (1997) stated that perception is the act of processing information about others. Perception may be favorable if the input is well received. Meanwhile, perception may be negative as they reject and separate themselves from the stimulation (Silviyanti and Yusuf, 2015). According to the experts' explanations above, it can be inferred that perception is the action of recognizing, comprehending, choosing, and assigning meaning to anything, whether it be visual or audible, that is occurring around their environment.

Walgito (1989) defined several indicators of perception, including absorption, understanding, and evaluation. Absorption happens when the five senses (hearing, sight, touch, smell, and taste) receive a stimulus, either only one or some senses combined. After the appearance of pictures or impulses in the brain, the images are classified, compared, and evaluated in order to develop understanding. Lastly, through assessment an individual compares their recent knowledge with their acquired knowledge.

Perception of Technology in Teaching

In the hand of a teacher, technology might be a beneficial tool to implement in class or the other way around. According to Baek and Sung (2020), the pedagogical framework is altering as a result of the inventive developments brought about by technological advancements in schools.

There are several reasons why teachers seem hesitant to effectively utilize technology in class. Katemba (2020) stated the factors are lack of confidence, technological

expertise, training, accessibility, and technical assistance. Several studies have demonstrated that pre-service teachers find it challenging to apply the learning techniques and implement the technology-based teaching methods that are essential for effectively utilizing technology in education (Agyei & Voogt, 2011; Tondeur et al., 2012; Katemba, 2020).

Based on the explanation above, it can be concluded that the perception of technology in teaching and learning played a great role in determining the outcome of pre-service teachers in utilizing technology. Additionally, Katemba (2020) stated that the factors include a lack of confidence, technological expertise, training, accessibility, and technical assistance. The inclusion of instructional technology and instructors' perceptions are inextricably linked. The premise is that teachers should be encouraged to learn better methods to integrate technology into classes, or the other way around.

Powtoon (Web 2.0)

According to Butler (2012), Web 2.0 refers to a wide range of web-based applications that facilitate collaboration, communication, and information sharing via simple interfaces. As a part of technology usage in education, Web 2.0 becomes a great tool to assist teachers. According to Hart (2022, online), there are five major functions of Web 2.0, which are Content Development, Learning Tools Platforms, Office Tools and Suites, Social and Communication Platforms, and Web Tools and Platforms. For pre-service teachers, it is crucial to utilize the Content Development category as the teaching practice.

In this case, the researcher focused the research on the implementation of Powtoon by pre-service teachers. It is based on the findings from research by Rioseco, Paukner, and Ramirez (2017) who found that Powtoon was effective for pre-service teachers to create interactive content by integrating animation tools to make educational videos. As this research focuses on Microteaching aspects, it is reasonable to investigate Powtoon as this tool can help pre-service teachers develop content for their teaching practice.

Powtoon is a web-based application that allows user to create animated presentations with a variety of media sources, including graphics, cartoons, and animated pictures. According to Gursoy and Goksun (2019), pre-service teachers prefer Powtoon to use in creating teaching materials for its animation development tool. The impact of the Powtoon tool was demonstrated by Rioseco et al. (2017) who discovered in their research that undergraduate students saw Powtoon as a stimulating tool for creating interactive content via animations and videos. Based on this explanation, it can be concluded that Powtoon is indeed a beneficial tool for pre-service teachers to use as it is reliable, useful, and multifunctional for teachers to develop teaching content.

Microteaching

According to Wallace (1991), microteaching in teacher education is a type of teacher training that is supposed to be restricted in many ways but methodical. In addition, Choudhary, Choudhary, and Malik (2013) described microteaching as a special activity that emphasizes integrating concepts into practices, education, and research, along with creativity and implementation. Given the description above, it is clear that microteaching

in the field of education refers to a teaching simulation course for future teachers to hone their instructional techniques.

Microteaching blends theory and practice and allows pre-service teachers to minimize performance stress, learn how to cope with constructive criticism, and analyze and overcome their flaws. The goal of microteaching is to discover practices that take place during teaching practice at universities or colleges (Spelman & John-Brooks, 1972). Thus, microteaching is a practicing medium for EFL pre-service teachers.

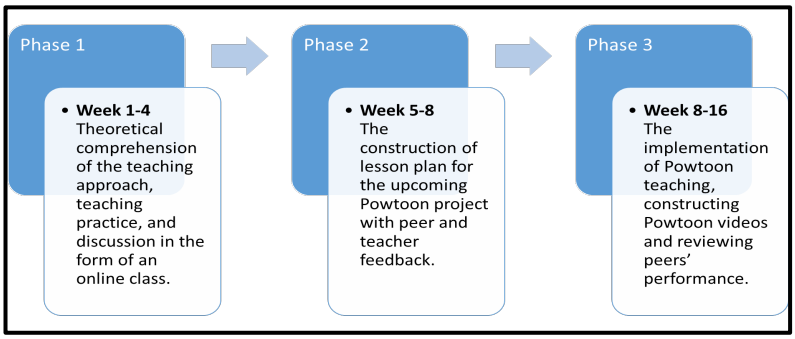
Microteaching in Powtoon Setting

The course was done via online learning setting. In the Microteaching course, pre-service teachers were given knowledge about several teaching techniques in the EFL context such as Discovery-Based Learning, Task-Based Language Learning, and etc. The Microteaching course was conducted over 16 weeks and the class were divided into five groups.

There were three phases of this course. In the first phase which lasted in the first four weeks, students discovered the theoretical foundations of each teaching technique by analyzing articles and making presentations of possible techniques. The second phase was done by analyzing to constructing a real-setting lesson plan based on the framework they had developed. From this lesson plan, the group designed their own teaching materials and innovation needed for video practice. The monitoring was done weekly via Zoom meetings and the group needed to revise their work based on the teachers' and peers' feedback. The last phase lasted from Week 8 to Week 16. In this phase, students were working completely using Powtoon. Each week, the groups are required to create teaching practice in an online teaching setting using Powtoon with three different scenarios, those are opening, main content, and closing based on their own lesson plan. During this period, each group worked simultaneously to create the teaching video. Powtoon was used weekly to update the progress of the groups. Each week the monitoring was done by receiving feedback from both peers and the lecturer. The phase of Microteaching in the Powtoon setting can be summarized in the following Figure 1.

Figure 1

The Summary of Microteaching in Powtoon Setting



Technology Integration Self-Efficacy (TISE)

Bandura (1994) proposed the notion of self-efficacy, which he described as individuals' convictions about their capacity to reach particular performance levels and

exert control over events that affect their lives. Bandura (1994) provided four sources of self-efficacy as elaborated below:

1. Mastery experiences: Mastery experiences are the most effective approach to improving self-efficacy. These mastery experiences might be regarded as a personal success experience.
2. Vicarious experiences of social models: defined as when people see how others behave, assess their performances, and decide which ones were successful and which ones failed.
3. Social persuasion : Encouragement from friends, family, and colleagues regarding their accomplishments or failures in terms of performance influences people's self-efficacy.
4. Physiological and emotional states: People's emotions, tension, and anxiety can all influence their opinions regarding relevant performance judgments.

Teo et al. (2008) stated that teachers' perceptions about the influence of technology in education are reflected in their classroom practices. It has been suggested that positive changes in teachers' beliefs are required to promote technology integration strategy in classrooms (Ertmer and Ottenbreit-Leftwich, 2010). For that reason, teachers' self-efficacy in integrating technology is essential (Lemon and Garvis, 2016). In addition, Nathan (2009) stated that technology integration self-efficacy (TISE) refers to teachers' beliefs about using technology in education. According to the self-efficacy theory, teachers' beliefs about their abilities may highlight the process of technology integration in education.

Integration of technology self-efficacy indicates actual implementation (Anderson, 2011). Additionally, Gomez, et al. (2022) stated that the concept of technology self-efficacy focuses on a teacher's perception of their capacity to integrate digital resources, including Web 2.0 technologies and software applications, into curriculum-wide teaching and classroom activities. The indicators of TISE are concluded in Table 1.

Table 1

The Indicators of TISE

Abbitt and Klett (2007)	**Lee and Lee (2014)**	**Farjon, Smits, and Voogt (2019)**	**Construct of Indicators**
Instructional media	Resources	Tool	**Resources**
Integrating technology	Instructors' abilities	Skill	**Skill**
Preparation practice	Environmental aids		**Environmental Aids**
	Pedagogical technological		
	Prior teaching experience	Experience	**Experience**
	Attitude	Will	**Will**

Based on these indicators, it can be concluded that TISE covers a wide array of knowledge and skills that are needed for pre-service teachers. Every teacher must have the knowledge to use technology as it is a crucial component of teaching (Ruggier and Mong, 2015). According to Birisci and Kul (2019), digital technologies are regarded as standard resources in schools when it comes to incorporating relevant information and communication opportunities.

RESEARCH METHOD

The research design for this reseach was narrative inquiry. Narrative inquiry is a research approach that focuses on narratives or experiences about the process of language learning and teaching (Benson, 2014). This research used biographical narrative inquiry to explore pre-service teachers' perception of Powtoon in Microteaching. The participants of this research were five pre-service English teachers who completed the Microteaching course in their third year.

To collect the data, this research used a set of questionnaires, narrative frames, interviews, and artifacts. The questionnaires were used to acquire informations through written statements. Then, the narrative frames were used to gain deeper narratives from partivipants. The interview was later done by having interview through Google Meet to confirm participants' answers. Lastly, supporting artifacts were used to support participants' statements. The data that have been acquired then analyzed using thematic analysis. This analysis was done through three framework : a repeated reading of the data, coding and categorization of data extracts, and reorganization under thematic headings.

FINDINGS AND DISCUSSION

Pre-service Teachers' TISE Perception of Using Powtoon in the Microteaching Course

As previously mentioned in Chapter II, the indicators of perception are absorption, understanding, and evaluation. In this section, the absorption part is about how participants absorb Powtoon's information for the first time, the understanding part is about how participants understand Powtoon features and its relation with their TISE, and the evaluation part is about participants' overall evaluation of Powtoon and TISE in integrating technology into teaching practice.

Absorption

This absorption indicator could be obtained through the experience that the participants had. With this, the researcher collected the data based on the participants' way of absorbing Powtoon's information for the first time in Microteaching course.

Participants have various perceptions regarding absorbing Powtoon information. Initially, they found Powtoon had some conveniences and difficulties as a first-time user.

> *"I felt there were some easiness and difficulties when using Powtoon for the first time and I felt pessimistic when using this platform."*
>
> (24/8/2023-JI-NF)

> *"I think I was pessimistic when I used Powtoon for the first time, I was trying to be as positive as I could be and I believe there are some conveniences and difficulties when it comes to using tools like this."*
>
> (27/8/2023-JI-Int)

While some approached it with pessimism, citing past experiences and concerns about perfectionism, others embraced it with optimism, appreciating its potential benefits. This created mixed impressions, both pessimistic and optimistic of the participants, these varied perceptions are in line with the result of Rioseco, Paukner, and Ramirez's (2017) study, which revealed that students had various perceptions when using Powtoon based on their exposure to similar technology.

As they began to use Powtoon more in the Microteaching course, they experienced some difficulties when trying to absorb Powtoon's information.

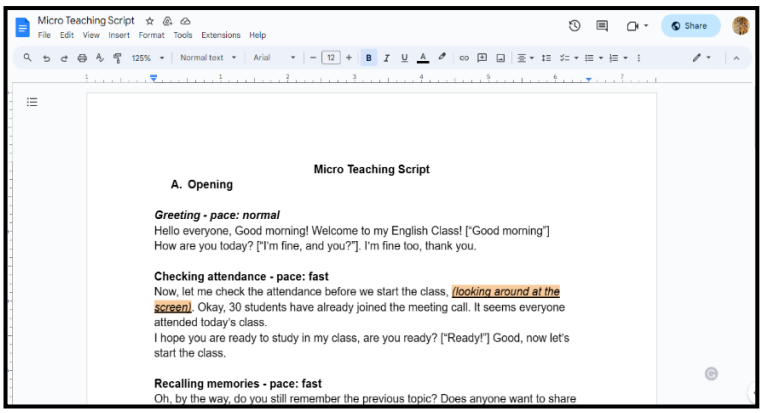
> *"I felt it was very difficult to absorb information about Powtoon as the platform demanded so many resources such as specific devices, which some of my group mates could not provide, and internet network"*
>
> (28/8/2023-MK-Int)

This result highlighted how technical necessity, tool practice, and experience influenced participants' perceptions. According to Gursoy & Goksun (2019), certain 'prejudices' were found in absorbing technology information, which led to experiencing difficulties when implementing it.

They also found specific experiences when they felt focused and unfocused while using Powtoon as shown in Figure 2.

Figure 2

Participant MK's group storyboard



> *"I felt unfocused while using Powtoon because my focus was divided as I needed to resolve Powtoon's issues. I found myself more focused on searching for alternatives so I did not need to use Powtoon that much. I usually use Filmora as a substitute. I edited the video based on the storyboard using Filmora and finished it on Powtoon."*
>
> (28/8/2023-MK-Int)

Lastly, most of the participants agreed that they were quite confident with their self-efficacy in absorbing Powtoon's information. They felt that Powtoon allowed them to improve their skill in using technology and they felt Powtoon has a lot of potential to use as a teaching tool. This result was in accordance with Abbitt and Klett's (2007) result which stated that TISE had "a direct impact on how technology is used in teaching and learning", (p. 36).

> *"I did not think that there are any issues to my self-efficacy in absorbing Powtoon's information because I knew my own work and I felt quite confident about my own work on Powtoon"*
>
> (27/8/2023-JI-Int)

> *"I was quite confident with my ability to absorb information about Powtoon. The reason is because Powtoon is a new thing to me and I was highly interested to learn how it worked."*
>
> (6/9/2023-NBL-Int)

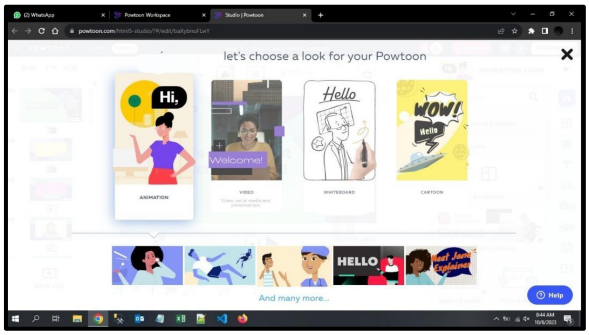
Understanding

Participants showed that overall they had a good understanding of Powtoon as a tool. They mentioned that they understood Powtoon's features and mastered them well.

The participants' understanding of Powtoon's features is in line with the study by Demirkan (2019), which revealed that pre-service teachers found Powtoon's features easy to understand and suitable for teaching English purposes.

Figure 3

Powtoon's Features



Based on Figure 3, participants mentioned some of the features they mastered and the reason for their understanding.

> *"I have a reasonably comprehensive understanding of Powtoon's features, including but not limited to template editing, animations, text, media integration, and the ability to share/export content to various platforms."*
>
> (27/8/2023-MK-NF)

> *"I have a decent understanding of Powtoon's features, such as Text, Character, Sound, Animation Options, Background, and more."*
>
> (27/8/2023-AP-NF)

Regarding the factors that influence their understanding of Powtoon, participants mentioned the importance of having a decent experience and support system. These factors helped them to understand Powtoon well.

> *Yes, I think it's very important to learn from my friends' experience because they tried the trial and error phase first and then they can guide me better. I received a lot of help from my friends when I first used Powtoon because I was clueless and it really helped me to understand how to use the features."*
>
> (1/9/2023-AP-Int)

In addition, participants also mentioned their perception of the influence of Powtoon on their TISE. They mentioned the potential use of Powtoon and its resources that motivated them to use technology.

> *"In my opinion, Powtoon had an influence on my TISE because it helped I to create a better teaching practice videos and especially editing the videos which made me more creative in producing these contents."*
>
> (27/8/2023-JI-Int)

Lastly, in terms of creating creative teaching materials, participants showed that there were distinct perceptions toward it. Participants who agreed that Powtoon helped them to create creative materials mentioned that the platform gave them a new sight of creating educational media. The result was similar to Rioseco, Paukner, and Ramirez's (2017) research. They stated that pre-service teachers have good perceptions of Powtoon and they thought Powtoon is relevant for "the learning contents and for skill development" (p. 129).

"This platform helped me in creating creative content because I can make unique videos using animation tools or just designing fun templates for my video."

(27/8/2023-AP-NF)

Evaluation

Participants' perceptions towards their evaluation of using Powtoon were broadly varied. First, participants stated that they had their own ways of evaluating their understanding of Powtoon. Some mentioned the use of multimedia resources and peer support as a way to help them evaluate their understanding.

"I evaluated my understanding of using Powtoon by watching tutorials on YouTube."

(3/9/2023-NBL-NF)

"I evaluated my understanding of using Powtoon by editing assignment videos by utilizing various features provided by Powtoon and then asking for opinions or input from my friends and lecturers."

(27/8/2023-AP-NF)

In terms of comparing their ability to integrate technology between Powtoon and other applications, most participants showed their preferences for other applications instead as they thought Powtoon was complicated to use. In line with this result, Gursoy & Goksun (2019) explained that pre-service teachers have their own preferences when it comes to the utilization of technology.

"I don't think that Powtoon helped my ability to use technology. It is because I can improve my skills with other applications such as Powerpoint or Filmora. Powtoon is complicated and demands technical resources which I could not provide."

(8/9/2023-GKU-Int)

In addition, only a few participants thought that Powtoon had a relation with their TISE in teaching practice. Participants who mentioned that Powtoon increased their TISE stated that the tool had a good influence on them. Moreover, Gursoy & Goksun (2019) found that pre-service teachers had low self-efficacy in implementing Powtoon. They believed Powtoon was fun but they wanted to learn more about innovation and technology, so they were hesitant to use it.

"Powtoon has a lot to do with my overall self-efficacy in integrating technology into my teaching practices, as I have come to know what can help me to edit materials to increase students' interest in teaching and learning activities."

(6/9/2023-NBL-Int)

Lastly, regarding the possibility of implementing Powtoon in future teaching, only few participants that considered it. They mentioned that Powtoon can be useful in the future when it comes to creating diverse teaching materials. According to Demirkan (2019) integrating these kinds of technologies in the classroom would provide an innovative way for teachers to reach their students.

"Powtoon is practical to use, provides facilities that support the creation of teaching materials using animation which can eliminate boredom in learning and attract students' attention, this way I absolutely will consider to use it in the future"

(1/9/2023-AP-Int)

The finding of participants' evaluation of using Powtoon showed that overall Powtoon had a relation with participants' TISE and their consideration of using it as a teaching tool in the future.

Problems Faced by Pre-service Teachers in Implementing Powtoon

Experience

The first problem was the lack of mastery. This problem came from the lack of decent experience. Fortunately, most of the participants did not face this problem as they already had sufficient experience.

> *"I have decent experience in using technology that is similar to Powtoon. This way, I did not face any problems related to the lack of mastery"*
>
> (27/8/2023-AP-NF)
>
> *"I did not experience problems like those because before using Powtoon I had already used technology several times which has similar functions and features to Powtoon, namely Canva."*
>
> (1/9/2023-AP-Int)

The second problem was unfamiliar material. Participants found that Powtoon's features were unfamiliar to them as it was their first time to use it. Some of the participants who encountered this problem mentioned that having previous knowledge did not help because the features were slightly different.

> *"Because my previous experience did not deal with Powtoon, I encountered some problems as I felt unfamiliar with the features. The editing part was somehow different from other applications I have used before so I needed some time to learn about it."*
>
> (6/9/2023-NBL-Int)

According to Lee and Lee (2014), most teacher training courses deal with mastering the software, however, it is often neglected how to implement it to support the teaching process. This finding is related to the participants' perception as they stated they felt unfamiliar and strange to use technology, especially when utilizing it as a teaching tool.

Vicarious Learning or Skill

This indicator deals with participants' comprehension and assessment of others' performance. The first problem was technological complexity. Participants who faced this problem mentioned the difficulties in dealing with Powtoon. Some factors that caused it were time-consuming programs and imprecise timing features.

> *"Powtoon is quite troublesome in parts of the timeline that are less precise. So I often experience timing problems when inserting objects/visuals/audio into videos."*
>
> (27/8/2023-MK-NF)
>
> *"I felt that Powtoon is less complex and less accurate as editing platform. I often had to deal with problems related to the timer slider while editing and this hampered my editing process."*
>
> (28/8/2023-MK-Int)

The second problem was the lack of various role models or examples. Role models were important in TISE as participants needed good examples to look up.

> *"I have actually been given a tutorial on how to use it, but in my opinion the features are complicated and also it needs a premium subscription even though my lecturer has given me a premium account"*
>
> (29/8/2023-GKU-NF)
>
> *"I did not faced any problems regarding the lack of role models or examples as the role models that I got (lecturer and, group mates) are already enough for me."*

(27/8/2023-AP-NF)

According to Cooper et al. (2020), pre-service teachers encountered difficulties in incorporating their observations of technology, such as those enabled by Powtoon, into their own teaching strategies. This implies that for pre-service teachers, the gap between vicarious learning and practical application might be a substantial barrier.

Social Persuasion or Environmental Aids

This topic deals with the support from the environment of Microteaching. The first problem was negative or inaccurate feedback. This problem resurfaced as some feedback might be too bold for the participants, leading to their low self-efficacy in using Powtoon. They found that mostly the problem came during the feedback-sharing session when the lecturer and other groups got a chance to give a comment on each group's videos.

"I feel that feedback from the lecturer is sometimes difficult for me to accept because it does not match my expectations and causes me to lack self-efficacy."

(27/8/2023-MK-NF)

"When the lecturer gives feedback that is less than satisfactory for me and my group, I will feel less confident in the results that I and my group have worked on."

(24/8/2023-JI-NF)

The second problem was the lack of a supportive environment. Most of the participants were having a problem with their own group mates. They mentioned how they needed to work twice as hard and even covered their peers' work as they found that their group mates were not reliable and less responsive.

"The influence of my group, which was less responsive and less serious in completing assignments on Powtoon, had quite a big effect on completing assignments on Powtoon."

(24/8/2023-JI-NF)

"There was a problem regarding the lack of support from group colleagues due to device constraints to help create content on Powtoon."

(27/8/2023-MK-NF)

The finding is similar to the finding by Gursoy & Goksun (2019), which stated that feedback allows pre-service teachers to evaluate and monitor their performance in the learning process as it will raise the teacher's (lecturer's) insight and let pre-service teachers to evaluate their abilities and adapt to new methods.

Emotional State or Will

Emotional state or will played a role in influencing participants' TISE in using Powtoon. According to Katemba (2020), resistance to change and negative attitudes are some factors that hinder teachers from using technology efficiently. Resistance to change made teachers feel comfortable with the current situation and unwilling to adapt to newer methods, while negative attitudes made teachers feel technology was insufficient as it required a lot of new materials and paperwork. The first problem, fear of failure, showed that participants felt anxiety while integrating Powtoon. Their view demonstrated that they had experienced since they frequently compared their own work with others and were continuously looking for flaws in their work.

"I am afraid that the results of the learning videos wouldn't be as good as those of other groups, because to be honest, I'm not a creative person."

(29/8/2023-GKU-NF)

"I was less optimistic after seeing my own editing, I always look for what was lacking from my own work."

(24/8/2023-JI-NF)

The second problem was the hesitance to use technology. This problem deals with the hesitation that participants felt because they prefer their current techniques and are afraid to change.

"I found that the tools I have used before Powtoon is already enough for me. I do not think that I need to hassle myself with Powtoon just to make teaching materials. Sometimes it is important to have new tools but I do not think Powtoon is necessary."

(8/9/2023-GKU-Int)

Resources

As resources are the main requirements for using Powtoon, participants faced a lot of trouble with their own resources. The first problem was insufficient resources. This problem deals with participants' technical devices. Participants mentioned that they encountered the problem as their device specifications were not sufficient, they also noted how their internet connection hindered them from using Powtoon efficiently. Katemba (2020) found that the lack of technical support such as the internet or insufficient computers interrupted teachers from implementing technology.

"Powtoon demanded necessary resources such as device specification. My laptop was not able to run Powtoon well because the hardware could not support it. As a result, the application often crashes or makes my laptop lagging."

(6/9/2023-NBL-Int)

"Powtoon requires a fairly specific device and consumes a lot of network data, so only 2 of the 4 members of my group can interact with working on content in Powtoon."

(27/8/2023-MK-NF)

The second problem, poor usability, deals with usability problems faced by participants while using Powtoon. Participants showed that some features of Powtoon were the sources of the problem. They mentioned that they faced rendering problems, unsynchronized editing, and loss of data while using Powtoon.

"I often had to re-edit because the preview in Powtoon is different from the final result, even though the rendering duration is quite long and consumes a lot of data; Powtoon couldn't be done together, so the processing time is often inefficient."

(28/8/2023-MK-Int)

Solutions Found by the Pre-service Teachers

Experience

Firstly, as participants had to solve the lack of mastery problem, they found that having practical experience could resolve the problem. The participants mentioned that being directly involved with Powtoon through assignments helped them to adapt to the tool.

"I started to practice with Powtoon repeatedly as I got more assignments. And while doing it, I found it best that I use other apps along with Powtoon."

(27/8/2023-MK-NF)

"After I understood Powtoon, I often got around editing content on Powtoon by involving the use of other platforms to adapt, for example I edit videos from talent on Wondershare for the cut & trim section so that my time is more efficient."

(28/8/2023-MK-Int)

Secondly, in order to solve unfamiliar material problems, participants came up with collaborative learning solutions. They found that having a discussion and working together with their peers could help them familiarize themselves with Powtoon features as they discussed their problem and came up with a solution together.

"When I found unfamiliar materials on Powtoon, I usually solve it by discussing it with my groups and working together by having online meetings."

(3/9/2023-NBL-NF)

Gursoy and Goksun (2019) suggested that it is better for pre-service teachers to receive professional development programs regarding Web 2.0 tools such as Powtoon. As a result, the study advised pre-service teachers to spend more time practicing with the tools and learning about relevant training courses together.

Vicarious Learning or Skill

Participants had to resolve problems related skill such as technological complexity and the lack of various role models or examples. In order to solve it, participants came up with two solutions. The first solution was autonomous learning. They found that by having individual learning strategies, they could overcome technological complexity problems. They revealed that by experiencing trials and errors with Powtoon's features they could be familiar with Powtoon's technology. In line with this, Petko, Prasse, and Cantieni (2018) found that teachers' skills played a crucial role in technology integration in education.

"When I am unsure how to use a Powtoon feature, I would experiment with it on my own until I understand and can operate it."

(24/8/2023-JI-NF)

"I usually tried to use Powtoon independently as I could not get much help from my group mates. And while I use it, I learn and experiment with what I could do with some features."

(27/8/2023-JI-Int)

The second solution was the use of multimedia resources. This solution was implemented to resolve the lack of various role models or examples. The addition of online learning media helped participants to learn Powtoon better. They found that YouTube exceptionally helped them to understand Powtoon's features.

"I used help from outside resources such as YouTube tutorials which really help me if I experience problems when editing in Powtoon"

(6/9/2023-NBL-Int)

Social Persuasion or Environmental Aids

Participants faced some problems related to social persuasion or environmental aids such as negative feedback and the lack of a supportive environment. There were two

solutions that participants used to solve the problems. The first one was reevaluating others' feedback. By reevaluating the feedback, participants could find some constructive suggestions. They found that the feedback actually helped their performance in the course, even though they misunderstood it at first.

> *"After I get feedback from the lecturer, I usually write down the feedback that I got as evaluation material for my performance so that in the next video there will be an improvement compared to the previous one."*
>
> (8/9/2023-GKU-Int)

The second solution was getting support from outside. The inner environment for participants was their own groups, which means they could seek help from others if this environment could not support them. Participant MK who got support from other group members noted the importance of receiving different information to support what they need.

> *"When I encountered some troubles, I usually ask other groups if they experienced similar problems or whether they knew other information. I did this to support my own knowledge because oftentimes my groups could not provide the information I need."*
>
> (28/8/2023-MK-Int)

These solutions were consistent with the findings of Lemon and Garvis (2015). They underlined the importance of having constant feedback, peer guidance, and individual support in integrating technology.

Emotional State or Will

Two problems related to this indicator are fear of failure and hesitance to use technology. The first solution was support from others. Receiving support, whether from group members or others, helped participants to overcome their fear of failure.

> *"Since this was my first time using Powtoon, my group played a lot in helping me overcome my doubts in using Powtoon and supporting my self-efficacy to use the technology."*
>
> (6/9/2023-NBL-Int)

The second solution was a growth mindset. Participants developed a positive mindset to encourage themselves and reduce their hesitance to use technology. They found that by having the right mindset they could push themselves to learn about Powtoon better and finish their assignments. Katemba (2020) discovered that technology actually benefits teachers, they only felt comfortable with traditional teaching and were scared to use technology because they did not receive the right support to improve themselves.

> *"I persuaded myself that I could finish the stuff as usual even if I had to use a platform I disliked. I compare this situation to being forced to cut down a tree with an axe despite having a chainsaw."*
>
> (28/8/2023-MK-Int)
>
> *"I am upgrading myself, I have to be more familiar with technology and motivate myself to understand more about technology, especially educational technology such as Powtoon."*
>
> (8/9/2023-GKU-Int)

Resources

The participants had to face problems related to resources such as insufficient resources and poor usability. They resolved insufficient resources by finding appropriate tools. The alternatives were used for crucial problems such as devices and the internet.

"My solution to insufficient resources problem was upgrading my device to support Powtoon."

(3/9/2023-NBL-NF)

"My solutions to insufficient resources problem were searching for better internet connection by trying to switch my provider and looking for public Wi-Fi."

(27/8/2023-AP-NF)

In addition, to solve the poor usability problem, participants needed group management. They found that dividing the work according to members' ability to run Powtoon was effective for their group. Moreover, Rioseco, Paukner, and Ramirez (2017) found that pre-service teachers thought Powtoon was challenging and encouraged active, collaborative, and valuable learning, ignited their interest, and encouraged dedication to their own learning.

"Because not every group members could access Powtoon smoothly, we decided to divide the group works. There are three roles, the presenter of the video, the editors, and the scriptwriters."

(27/8/2023-AP-NF)

CONCLUSION AND SUGGESTION

In conclusion, this research delved into pre-service teachers' perceptions of using Powtoon in a Microteaching course with a focus on TISE, the problems faced by participants in implementing Powtoon, and the solutions to overcome the problems. The analysis, guided by Walgito's (1990) perception indicators, revealed nuanced insights into participants' absorption, understanding, and evaluation of Powtoon. While the findings indicated a mixed perception, with participants expressing optimism, facing absorption challenges, and preferring alternative tools for technology integration, it is noteworthy that the participants demonstrated a decent understanding of Powtoon's features. The identified challenges, categorized into experience, vicarious learning, social persuasion, emotional state, and resources, presented multifaceted barriers. However, the study also shed light on constructive solutions, emphasizing the importance of practical experience, collaborative learning, autonomous learning, reevaluating feedback, peer support, and resource management. Despite the varied perceptions and challenges, the research implies that, with adequate support and strategic interventions, pre-service teachers can effectively harness tools like Powtoon, underscoring the potential for enhanced TISE in future teaching endeavors.

Overall, participants found that Powtoon impacted their TISE in teaching practice. However, regarding the usability of Powtoon as a whole in the Microteaching course, the researcher found that some improvements were needed to run the course effectively. Hence, some supplementary tools can support the possibility of Powtoon as a teaching medium. Nevertheless, participants had overall high self-efficacy regarding technology integration as they already had the necessary experiences and skills.

By this, the researcher implied that Powtoon can be implemented in the Microteaching course, with notes that the implementation also includes the necessary alternatives to prevent technical problems. Furthermore, this research has the potential to

raise awareness among pre-service teachers about TISE and for lecturers to adapt more convenient learning tools. However, due to the limitation of this research, the result of the research could only reflect a glimpse of reality. This research may also be significant for future research because it had to fill the gaps in this study that have yet to be discussed.

REFERENCES

Abbitt, J. T., & Klett, M. D. (2007). Identifying influences on attitudes and self-efficacy beliefs towards technology integration among pre-service educators. *Electronic Journal for the integration of technology in Education*, *6*(1), 28-42.

Anderson, S. E., Groulx, J. G., & Maninger, R. M. (2011). Relationships among preservice teachers' technology-related abilities, beliefs, and intentions to use technology in their future classrooms. *Journal of Educational Computing Research, 45*(3), 321-338. https://doi.org/10.2190/EC.45.3.d

Bandura, A. (1994). Self-efficacy. *In V. S. Ramachaudran (Ed.), Encyclopedia of human behavior (Vol. 4*, pp. 71-81). New York: Academic Press. (Reprinted in H. Friedman [Ed.], Encyclopedia of mental health. San Diego: Academic Press, 1998).

Benson, P. (2014). *Narrative inquiry in applied linguistics research. Annual Review of Applied Linguistics, 34*, 154-170.

Demirkan, O. (2019). Pre-Service Teachers' Views about Digital Teaching Materials. *Educational Policy Analysis and Strategic Research, 14*(1), 40-60. https://doi.org/10.29329/epasr.2019.186.3

Cooper, R., Warren, L., Hogan-Chapman, A., & Mills, L. (2020). Pre-service teachers and their self-efficacy toward online teaching. *SRATE Journal, 29(2)*, 1-7.

Choudhary, F. R., Choudhary, M. R., & Malik, S. K. (2013). *Strength for Today and Bright Hope for Tomorrow Volume 13*: 2 February 2013.

Gomez, F. C., Trespalacios, J., Hsu, Y. C., & Yang, D. (2022). Exploring teachers' technology integration self-efficacy through the *2017 ISTE Standards. TechTrends, 66*(2), 159-171. https://doi.org/10.1007/s11528-021-00639-z

Gursoy, G., & Goksun, D. O. (2019). The experiences of pre-service science teachers in educational content development using Web 2.0 Tools. *Contemporary Educational Technology, 10*(4), 338-357. https://doi.org/10.30935/cet.634168

Hart, J. *The Top 100 Tools for Learning 2022*. Retrieved: March 8, 2023, from: https://www.toptools4learning.com/

Kapici, H. O., & Akcay, H. (2020). Improving student teachers' TPACK self-efficacy through lesson planning practice in the virtual platform. *Educational Studies*, 1-23. https://doi.org/10.1080/03055698.2020.1835610

Katemba, C. V. (2020). Teachers' Perceptions in Implementing Technologies in Language Teaching and Learning. *Acuity: Journal of English Language Pedagogy, Literature and Culture, 5*(2), 123-136.

Lee, Y., & Lee, J. (2014). Enhancing pre-service teachers' self-efficacy beliefs for technology integration through lesson planning practice. *Computers & Education, 73*, 121-128. http://dx.doi.org/10.1016/j.compedu.2014.01.001

Lemon, N., & Garvis, S. (2016). Pre-service teacher self-efficacy in digital technology. *Teachers and Teaching, 22*(3), 387-408. https://doi.org/10.1080/13540602.2015.1058594

Nathan, E. J. (2009). *An examination of the relationship between preservice teachers' level of technology integration self-efficacy (TISE) and level of technological pedagogical content knowledge (TPACK)* (pp. 1-113). University of Houston. https://www.learntechlib.org/p/127311/

Petko, D., Prasse, D., & Cantieni, A. (2018). The interplay of school readiness and teacher readiness for educational technology integration: A structural equation model. *Computers in the Schools, 35*(1), 1-18. https://doi.org/10.1080/07380569.2018.1428007

Quick, J. C., Wright, T. A., Adkins, J. A., Nelson, D. L., & Quick, J. D. (1997). *Preventive stress management in organizations* (Vol. 1997, pp. 89-110). Washington, DC: American Psychological Association.

Rioseco, M., Paukner-Nogués, F., ve Ramírez-Muñoz, B. (2017), "Incorporating Powtoon as a Learning Activity into a Course on Technological Innovations as Didactic Resources for Pedagogy Programs." *International Journal of Emerging Technologies in Learning. 12*(6), 120-131. http://doi.org/10.3991/ijet.v12i06.7025

Ruggiero, D., & Mong, C. J. (2015). The teacher technology integration experience: Practice and reflection in the classroom. *Journal of Information Technology Education: Research, 14*, 161-178.

Spelman, B. J., & John-Brooks, C. S. (1972). Microteaching and Teacher Education: A Critical Reappraisal. *Irish Journal of Education*, 75. https://www.jstor.org/stable/30077201

Teo, T., Chai, C. S., Hung, D., & Lee, C. B. (2008). Beliefs about teaching and uses of technology among pre-service teachers. *Asia-Pacific Journal of Teacher Education, 36*(2), 163-174. https://doi.org/10.1080/13598660801971641

Walgito, Bimo. (1989). *Pengantar Psikologi Umum*. Surabaya: Bina Ilmu

Wallace, M. J. (1991). *Training foreign language teachers: A reflective approach.* Cambrige University Press.