

What Do Our Future EFL Teachers Think about Using Mobile Devices in Class?

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Abstract

This study is primarily aimed to investigate the beliefs and attitudes of Indonesian EFL pre-service teachers toward the use of mobile devices such as smartphones or tablets for learning and instructional practice in Indonesia. Furthermore, this phenomenological study attempted to reveal the factors affecting these two constructs from 20 Indonesian EFL pre-service teachers through semi-structured interviews. As teaching tools, the majority of the participants expressed their reluctance to use mobile devices as instructional tools in in-person classes. However, they acknowledged that this technology could facilitate online learning and agreed that this technology would become more popular in the future. Analysis of the data also revealed factors affecting beliefs and attitudes of pre-service teachers toward the use of mobile devices as instructional tools comprising perceived ease of use and perceived usefulness and other influencing elements of self-efficacy: enactive mastery and physiological arousal. Finally, this study presents implications and recommendations that can be a reference to optimize the integrated mobile technology for class instruction.

Keywords: Beliefs, attitudes, mobile devices

1. INTRODUCTION

The application of technology for pedagogical purposes has initiated various changes that aim to improve the quality of learning and instructional practices. For this reason, the acquisition of digital skills has become a necessity to successfully optimize the use of technology. In schools, teachers are encouraged to acquire and develop their digital skills as part of their professional qualifications. They should be able to design and organize multimedia content in the form of videos (e.g. Blikstad-Balas, 2017) or digital images (e.g. Thompson, 2019) to increase student's learning motivation and the effectiveness of their teaching. Furthermore, they are expected to possess the ability to optimally harness information and communication technologies (ICT) through the Internet aside from using word processors, spreadsheets, and databases (Ibieta et al., 2017).

The use of mobile technology as part of the application of mobile learning has encouraged education experts to explore the application of this technology in the classroom (Sung et al., 2016). Mobile technology offers more unique and appealing benefits over computer-based learning which has been commonly integrated into traditional face-to-face teaching (Santosa, 2017). More specifically, this mobile

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technology offers various values including portability, communicativeness, collaboration, and practicality (Kukulska-Hulme, 2015). The discussion about utilizing mobile devices has led to immense support for many teachers to implement mobile learning with multiple strategies and techniques (Duman et al. 2014) to provide students with a meaningful learning experience.

The application of mobile technology for language learning and instruction constantly develops along with the advent of diverse and innovative educational technology. For this reason, it is essential to prepare future teachers to be well-prepared with various innovations and creativity of technology in their instructional practices. Thus, this study explored the beliefs and attitudes of English as a Foreign Language (EFL) pre-service teachers toward mobile technology for language learning and instruction during their teacher-training program. The following research questions are formulated to serve as a guide for the inquiry:

1. What do EFL pre-service teachers believe regarding the application of mobile devices as instructional tools?
2. What attitudes do EFL pre-service teachers demonstrate toward the application of mobile devices as instructional tools?
3. What factors affect these beliefs and attitudes?

2. LITERATURE REVIEW

2.1. Teaching EFL in Indonesia

The main context of the study is Indonesia where English is considered the primary foreign language to learn by many if not all Indonesian students. It is taught as a compulsory subject from the secondary to tertiary levels of education in Indonesia and is often offered as the primary option for a foreign language to teach in preschools or primary schools. Moreover, it is one of the subjects tested in the national exam and university entrance exam to indicate the mastery of the primary academic skills of students. Therefore, numerous private learning institutions offer private mentorship specifically for this subject.

Despite its special position as the primary foreign language in Indonesia, teaching English has been quite challenging. These challenges are caused by various elements which are strongly intertwined and determined the success of instructional practices. The first challenge derives from the position of English as a foreign language which results in the limited use of this language (Astuti & Lammers, 2017). The second challenge deals with the instructional content emphasizing non-verbal communicative skills and language structure (Milawati, 2019). The third challenge concerns the low teachers' competence to serve in their roles (Milawati, 2019; Sulistiyo et al., 2020). The fourth challenge concerns the students' negative perceptions of and attitudes toward English as a foreign language (Sibarani, 2019; Khasbani, 2018). The final challenge deals with the limited supporting facilities and infrastructure (Songbatumis, 2017).

2.2. The Integration of Mobile Technology in Indonesian Schools

A growing interest in mobile technology in Indonesia has developed in the last few years. This phenomenon is likely caused by the development and trend of mobile technology granting almost all learners access to internet content and opportunities to interact with one another without any restriction of time and place (Zain & Bowles, 2021). It is reported that the number of smartphone users in Indonesia is rising steadily and is predicted to reach as high as 89.86 million by 2022 (Statista, 2020).

Indonesia is also considered one of the largest mobile internet markets globally with a soaring number of mobile internet users, especially teenagers, accessing social media such as Facebook and Twitter (Statista, 2020). This phenomenon can be seen as a potential opportunity to utilize mobile technology for language instruction.

Studies on mobile devices for language instruction have currently been attracting interest from researchers and teaching practitioners, especially in Indonesia. Various teaching platforms and mobile applications have been developed to support language learning (Imelda et al., 2019; Nariyati et al., 2020). For instance, Sari and Putri (2019) found that WhatsApp Group Chat was practical in enhancing the intensity of interaction among students, bridging interaction between the teacher and students, easing work submission, and providing feedback after submission.

2.3. Technology Acceptance Model (TAM)

TAM is specifically developed for investigations involving the use of technologies (Davis et al., 1989). This model highlights the significance of perceived usefulness and perceived ease of use as the key motivational elements for the acceptance of technologies. It further explains that a positive attitude toward technology is manifested if users positively view the technology as a useful and easy-to-use tool (Davis, 1989). Perceived usefulness refers to the degree to which the technology information positively empowers an individual to perform particular tasks, while perceived ease of use refers to the extent to which an individual is certain that technology can be operated with minimum effort (Jeyaraj et al., 2006).

2.4. Self-Efficacy Theory

Self-efficacy theory posits that the development of self-efficacy is reliant upon four primary sources of information input (Staples et al., 1999; Bandura, 1977). In terms of the strengths of influence, these sources can be arranged in a particular order from enactive mastery, vicarious experience, verbal persuasion, to physiological arousal. Enactive mastery refers to information that is acquired concerning an individual's accomplishment. Vicarious experience concerns individuals' images based on their observation of particular actions conducted by others. Verbal persuasion refers to suggestive information that encourages an individual to perform successfully in completing particular tasks or duties. Physiological arousal refers to an individual's capability to evaluate the difficulties of particular tasks and complete them which is affected by the impacts of those tasks (Staples et al., 1999; Bandura, 1977).

3. METHOD

This study adopted a qualitative method to investigate situations, phenomena, or dilemmas resulting from interactions among humans and surrounding objects within particular social contexts in which those interactions occur (Flick et al., 2004). Creswell and Poth (2016) emphasized the application of a qualitative method for unmeasurable variables which allows researchers to propose their axiological assumptions to the data interpretation. This method is suitable for this study since the topic has recently attracted attention from educational experts and researchers so supporting theories do not sufficiently exist (Moon et al., 2016).

Furthermore, this study employed a phenomenological approach to provide insight and elaborated descriptions of the individuals' shared experiences on a particular phenomenon (Creswell & Poth, 2016). The primary objective of this

approach is to analyze individual experiences with a phenomenon and diminish the existing gaps to formulate a more collective description of the experience.

3.1 Participants

The samples in this study were selected using purposive sampling due to the nature of the study. It recruited EFL pre-service teachers or fourth-year undergraduate students majoring in English education from a private university in Indonesia. 20 participants were selected based on their responses and their willingness to join the study after being informed about the study and receiving the consent document via email. These participants consisted of 17 females and 3 males aged 21 to 23 years old. In terms of digital skill levels, one participant claimed to be “very proficient” with mobile technology, 10 participants stated that they were “proficient,” and 9 participants claimed to be “moderate.”

3.2 Instrument

Following the qualitative nature and phenomenological design employed in this study, The researcher used a semi-structured interview as the primary and sole instrument for data collection. This instrument allowed a more flexible and less formal model of interaction during the process. However, it requires collaboration and support from the interviewee to build mutual understanding which allows the researcher to gather the required data effectively (Alhinty, 2016). The questions were constructed in an open-ended format and reflected the elements in both TAM and self-efficacy theory.

4. RESULTS

This study reveals EFL preservice teachers’ beliefs about the use of mobile devices as instructional tools. From the analysis, three themes were identified comprising the usefulness, conditional application, as well as barriers of mobile devices for class instruction.

4.1. What they believe about mobile devices for instructional tools

The participants agreed that incorporating mobile devices for classroom instruction could improve students’ language performance. For instance, YouTube and online learning videos present engaging and comprehensive learning content. The embedded music player in the mobile device could play English songs which helps students to practice their listening skills. Participants also shared their idea of using mobile devices to practice students’ speaking skills by utilizing the voice recording feature. As for reading, they found varied reading content from the internet and presented it in the classroom. In this regard, participant 18 commented.

... Students can be guided to listen to English songs that expose them to new vocabulary in an enjoyable way. Next, I think the use of mobile devices also works for reading activities.... (Participant 18)

The participants also highlighted the impacts of mobile devices on teachers’ creativity. Several participants mentioned that teachers might incorporate mobile technology to develop new and distinctive activities in class. For instance, the participants pointed out the function of mobile devices to develop learning activities

through Padlet which facilitates learning collaboration under a scheme of group work. Through this group work, students could improve their language performance and develop their soft skills such as leadership, teamwork, and communication.

... I have. Also, in my previous classes such as CALL (Computer-Assisted Language Learning) class, the instructor explained how to use Padlet, a teaching platform that can be harnessed to increase students' participation in class.... (Participant 1)

Additionally, all participants highlighted the function of mobile devices to create, transfer, and play multimedia content such as videos, images, and audio. For instructional purposes, teachers can present educational multimedia content they collected from multiple resources in their classes through mobile devices. The participants implied that using this type of content might increase learning effectiveness and improve students' learning motivation. In addition, participants can use their devices to record themselves teaching the lesson through mobile devices and share it with their students.

Maybe, I use my device to conduct my future classes through Schoology or Google Classroom. Next, I will also use my device to develop learning materials in a video format and upload them.... (Participant 2)

Participants argued that mobile devices can be harnessed to facilitate online learning. Due to the global pandemic, the role of mobile devices has become more prominent as they facilitate remote interaction between the instructor and students or among students as well as other classroom activities (Moorhouse & Beaumont, 2020).

In my class which was held in an online format, I used several platforms such as Google Classroom, WhatsApp, and YouTube. WhatsApp was used to inform students about any updates in their classes. Google Classroom was used to manage the class, and during the class, ... (Participant 15)

4.2. What to prepare to use mobile devices in class

Interesting information gathered from the interviews regarding the use of mobile devices as instructional tools lies in particular conditions under which mobile devices can be properly integrated into EFL teaching. From the findings, the participants highlighted their preferences to use mobile devices as supporting devices that should be used carefully in particular learning sequences. A participant commented that:

... mobile devices should only be used for non-primary learning activities including watching teaching videos. (Participant 11)

The participants also pointed at the level of students to determine whether or not mobile devices can be properly harnessed in class. Two participants believed that students in middle schools or lower might independently find difficulties following instructions from teachers to utilize their devices for class instructions.

I think students in elementary schools might not be capable of performing tasks through mobile devices. At least, ninth-graders might be capable of performing the required tasks through mobile devices... (Participant 11)

Another condition to consider for effective applications of mobile devices is the availability of supporting infrastructure which primarily refers to connectivity and device specifications. To incorporate mobile devices for class instruction, teachers and students must connect their devices to the internet to access learning content or instructional platforms. Thus, a good internet connection and proper devices with the required specifications are necessary.

... I think mobile devices that are used in the classroom must have good specifications and an internet connection with good speed should be made available. Also, the supporting facilities should be provided by schools. (Participant 17)

The adoption of mobile devices for class instruction requires suitable mindsets of teachers. As learning facilitators, teachers need to understand that mobile devices serve as tools to improve learning activities and help students understand the learning content better. However, mobile devices should not be employed solely to provide additional exercises to students and thus increase the learning burden.

One thing to consider when integrating mobile technology in the classroom, teachers do not put additional burdens by excessively giving students assignments in every meeting. (Participant 16)

4.3. Possible Barriers

The adoption of mobile technology is not without any barriers that prevent teachers from effectively adopting this technology in their classes. This study indicates various barriers to the integration of mobile technology for classroom instruction including unequal access, unequal competence, and teaching distraction. First, students did not have equal access to mobile devices. Some students needed to use their parents' devices to learn and access the online class. As a result, they might not have been able to fully utilize mobile devices for self-directed learning. For any instruction format, the unavailability of mobile devices serves as the primary barrier to integrating mobile technology into the classroom.

... However, we also need to consider the unequal accessibility to mobile devices among students as they still become an issue in certain areas. (Participant 16)

Second, the study indicated unequal technological competence. Ten participants stated that the main issue with adopting mobile technology in the classroom is the inequality of students' digital skills. As teachers intend to use mobile devices in class, students likely need to use their devices as well. However, each student has technology aptitude which ranges from low to high. For teachers, it can be an issue as students would gain more burden as some of them might encounter technical difficulties to use their devices properly in class.

... As for middle schoolers or those in the lower levels, many students still share mobile devices with their parents.... However, for middle schoolers or lower, I could see that some students might have difficulties operating their devices for class activities.... (Participant 16)

Third, the use of mobile devices could pose students with teaching distractions. The participants also highlighted the issues in monitoring students' actions entirely

during the class. Five participants explicitly expressed their concern regarding students' tendency to access different websites or visit social media while being assigned to complete a task through their devices. They assumed that the use of mobile devices might be less effective should teachers fail to direct students to focus on their class and alleviate any possible distraction by limiting access to some websites or social media.

In my opinion, I found that using a mobile device in class exposes students to distractions so I prefer to use my laptop. Moreover, a laptop is used for more serious tasks than a mobile device. Also, using mobile devices in class, we might be unable to monitor students' actions thoroughly. As we know, many applications pose the threat of learning distractions such as Instagram. (Participant 1)

4.3.1. Resistance to using mobile devices

Participants highlighted their lack of interest in using mobile devices in their classes despite their beliefs about the affordance of mobile devices. They asserted that there are various considerations before deciding to use this technology including the level of education, the availability of supporting infrastructure, and the conditions of students. For them, in-person classrooms with more common technology applications such as PowerPoint presentations give them more assurance for effective learning activities rather than mobile-device-assisted activities.

.... I lean toward more conventional teaching methods ... I am not really into mobile devices though I believe that mobile devices can positively affect language learning. I think I can still use other kinds of technology to support me. (Participant 17)

However, they do not seem to be resistant to the use of mobile devices in case the ideal conditions are met and the need to integrate technology, for instance, online and blended learning, exists. Thus, a participant mentioned:

I will use my mobile device to find learning content and conduct online classes. (Participant 9)

Two participants were disappointed by the improper use of mobile devices among students and rejected this technology for in-person classroom instruction. They emphasized the difficulties and challenges to manage and monitor students when using mobile technology. Additionally, during the remote learning, participants complained that students were very passive. They argued that students should be approached in person to actively involve them in the learning process. Hence, they agreed that mobile devices posed significant threats to learning focus and students' participation.

I once had an experience in which students requested to use their devices in class. Yet, students improperly used their devices to open another application. Thus, I need to remind them of the time to complete their assignment. (Participant 13)

Despite the negative attitudes expressed by the majority, eight participants believed that technology constantly develops and future classroom instructions will be technology-based. They approved the use of mobile technology in the classroom and

expressed their readiness toward the use of technology including mobile devices in their future classrooms. Also, the use of mobile devices during the student-teaching program shaped how they perceive the integration of mobile devices in class.

I think it (mobile technology) will be more popular in the future. Along with the development of technology, mobile devices will be more sophisticated and offer flexibility and multiple functions to support the learning process. (Participant 12)

4.4. Factors affecting the beliefs and attitudes

4.4.1. Perceived Ease of Use

Device portability serves as the primary value of mobile devices compared to other types of processing computer devices. The participants can easily bring their devices anywhere and use them to serve their function as communication tools, web browsers, media players, or even game consoles. Rather than tablets, all of the participants used smartphones as the type of mobile device for both learning and teaching tools. For 18 participants the primary reason is their sole possession of the devices. Meanwhile, only two participants pointed out their preference for smartphones over tablets or other devices such as laptops or PCs for performing particular tasks.

I think mobile devices offer flexibility compared to other devices such as laptops. Specifically, mobile devices are so portable that we can take them anywhere we want and activate them anytime. Overall, mobile devices are easier to operate than laptops. (Participant 3)

In terms of connectivity, mobile devices can always be connected to the internet for ease of access to various references and resources. This connectivity also grants the participants easy access to various references to gain the necessary information about language learning through their devices as easily as through bigger devices such as laptops or PCs. For this purpose, they used mobile browsers or social media including YouTube or Instagram.

4.4.2. Perceived usefulness

The primary use of mobile devices among the participants was mobile translators or dictionaries. For instance, some participants commented that they often used mobile dictionary applications to find the meanings of difficult words. These applications were also used to check their pronunciation.

The ease of accessibility allows participants to use their devices to browse information, download various references, and transfer or receive data from other devices. Additionally, some participants added that they accessed social media instantly through their smartphones or tablets and followed or subscribed to pages that provided important information about tips and strategies for language learning. For instance, participant 4 responded:

... However, I still use Instagram and other applications including bahasa.com. I also have several accounts on some language learning-focused websites which offer tips to improve speaking skills... I have an account that I use to access social media TIK-TOK. This social media shared videos that explain tips and strategies for learning English. I also listened to several podcasts and used Duolingo to practice my language skills. (Participant 4)

4.5. Other factors

The third category concerns other factors regarding self-efficacy. These factors are correlated to the stories and experiences shared by the participants during their teaching training program which includes their experience in class as learners and during the student teaching program as instructors.

4.5.1. Enactive Mastery

The participants reported that they employed several teaching platforms such as Google Meet or ZOOM to ease the connection between teachers and students. Considering the emergence of the 2020 global pandemic, the in-person meeting was prohibited. Thus, the online meeting was deemed the most reasonable option to continue the teaching and learning process. Some participants added that, on some occasions, they accessed their class through mobile devices and provided instruction through the feature of a video conference.

... The use of the mobile device included access to the ZOOM platform which was done once a week. Also, I employed WhatsApp groups to share learning content with students and mediate classroom discussions. (Participant 20)

4.5.2. Physiological Arousal

Reflecting on her experience during the student teaching, a participant reported that students were not used to using mobile devices as a medium of class interaction. She added that students were relatively passive during the instructional process and only responded as teachers individually pointed at them to answer questions. Also, mobile device-assisted learning tends to be teacher-centered.

One thing that I noticed during the class discussion through the application was that students were relatively unresponsive and passive. (Participant 5)

5. DISCUSSION

Mobile technology for classroom instruction served various roles which directly affect the quality of instruction. From the analysis, participants believed that mobile technology offered various affordances that help elevate the quality of classroom instruction. For instance, it allows teachers to construct lessons that incorporate both different and collaborative models of instruction (Kukulska-Hulme, 2013), engaging and competitive activities (Reynolds & Taylor, 2020; Wichadee & Pattanapichet, 2018; Zarzycka- Piskorz, 2016), and more extensive learning opportunities (Kukulska-Hulme & Shields, 2008; Huang et al., 2012).

For instructional purposes, the participants presented educational multimedia content they collected from multiple resources in their classes through mobile devices (Uluyol & Agca, 2012). The participants asserted that using this type of content might increase learning effectiveness and improve students' learning motivation. In addition, participants used their devices to record themselves teaching the lesson through mobile devices and shared it with their students on an online platform.

The study indicated several barriers to the effective application of this model. According to Albadry (2017), teachers and teaching experts are well-informed about the benefits drawn from mobile devices. However, any educational technology poses

certain barriers and issues as it is used in class without sufficient knowledge about the effects on students (Alavi et al., 2016; Ebadi & Goodarzi, 2017). For instance, in rural areas, some students needed to use their parents' devices to learn or access the class which became a significant barrier to the application of online learning or blended learning (Li et al., 2018). There is also an issue regarding the inequality of students' digital skills.

The study also highlighted the challenge of adopting mobile technology in terms of monitoring students' actions during class. The inability to monitor students' actions might cause issues with the adoption of mobile devices in class as students might not focus on the learning process and, instead, misuse their devices (Alkhouday & Alkhouday, 2019). Yau and Joy (2011) found that students were easily distracted by noises from their mobile devices.

There are opposing responses regarding attitudes toward mobile devices as instructional tools. It is an interesting finding since all participants were aware of the affordances of mobile technology as an instructional tool. In this study, their lack of experience or negative experiences with mobile devices as instructional tools led to various impressions including disappointment and lack of interest which were reported by the majority of the participants. This finding supported the findings from Van Praag and Sanchez (2015) who revealed that teachers allowed students to operate their mobile devices within a particular restriction. Without proper strategies, students might get distracted and lose their attention during the learning process. In another study by Şad and Göktaş (2014), the teachers implied their preference for laptops over mobile devices which was attributed to the fact that they had more first-hand experience with laptops than mobile devices to manage their classroom activities.

Perceived ease of use and perceived usefulness are essential factors that influence beliefs and attitudes toward the use of technology, especially mobile devices. These findings resonate with the results of Chung et al. (2015) which suggested that perceived ease of use, compatibility, as well as perceived ease of use and self-efficacy, suitably predict users' intentions to employ their mobile devices to access learning content focusing on English vocabulary. Also, mobile devices connect students with their classes anytime and anywhere (Terantino, 2016; Burston, 2017), develop teachers' creativity (Ishaq et al., 2021; Perry, 2015) develop access to multiple learning resources (Burston, 2017; Van Praag & Sanchez, 2015). In addition, two elements of self-efficacy were identified: enactive mastery and physiological arousal.

The findings indicated that the participants are fully aware of the affordance of technology for instructional objectives. However, according to Schnackenberg et al. (2014), the notion of effectively integrating mobile devices for classroom instruction might not be entirely embraced by many professional teachers or teacher candidates. This notion should be taken into account as part of their teacher preparation program. Thus, the need to create a path for the integration of mobile technology into the education system is no longer avoidable (Van Praag & Sanchez, 2015). As the first step, the curriculum in higher education for the EFL teacher preparation program should provide a space for mobile technology. Also, modeling for the current pre-service teachers should be provided by demonstrating the proper use of mobile devices in the actual class during the program (Hlas et al., 2017). Furthermore, this study implied the need for collaboration between schools and higher education for the successful integration of mobile technology. Menon et al. (2020), as well as Zain and Bowles (2021), asserted that integrating mobile devices into classroom practices requires careful preparation by considering the strengths and limitations of the devices and the impacts they have on instructional practices.

6. CONCLUSION

This study revealed participants' beliefs that mobile devices could positively contribute to the development of language instruction as instructional tools. Interestingly, the majority of the participants expressed their negative attitudes which were reflected in their disappointment through their experience during their student teaching program and their lack of interest in adopting this technology for their future classes. However, they acknowledged that this technology was helpful in facilitating online learning and agreed that this technology would become more popular in the future. Analysis of the data also revealed factors affecting the beliefs and attitudes of pre-service teachers toward the use of mobile devices as learning and instructional tools. Following TAM and self-efficacy theory, the study implied two main constructs affecting the use of mobile devices comprising perceived ease of use and perceived usefulness. Other factors affecting their self-efficacy toward mobile technology instructional tools comprised enactive mastery and physiological arousal.

This study is significant considering the rapid development and prospect of mobile technology. First, it provides information regarding beliefs, attitudes, and the factors influencing these two constructs that are important for the effective application of this technology for language learning and instruction. Second, it presents implications and recommendations that can be a reference to optimize the integrated mobile technology for class instruction and identifies which aspects of the implementation of mobile technology require further investigation.

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