

Examining Digital Practices of Thai Pre-Service EFL Teachers through Reflective Journals

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Abstract

In teacher education, a generally positive perception has been reported towards the use of technology in teaching. Nonetheless, in practice, pre-service teachers and teachers may actually be unwilling to integrate technology in their classrooms. Given that a positive outlook may be developed based on teachers' use of technology, the current study aimed to explore digital practices as a means to better prepare Thai pre-service teachers of English. This study employed reflective journals and a focus group interview to collect data. Findings from the reflective journals were utilized to construct guiding questions for the focus group interview. From both the journals and interviews, it became apparent that 24 pre-service teachers' digital practices were manifested through three interconnected dimensions: information consumption, task completion, and group participation. These dimensions may be useful for teacher educators to consider as a platform to better equip future English teachers with knowledge and skills pertinent for technology use.

Keywords: *Digital practices, technology, pre-service teachers, language education*

Introduction

As we navigate through the 21st century, digital engagement has become increasingly predominant across social media users. Inevitably, a series of changes are bound to take place, in particular the deployment of technology as a learning tool. Previous studies have informed us that engaging in digital practices could create meaningful learning experiences (e.g., Coffman & Klinger, 2007; Sadik, 2008; Starčić et al., 2016). Such experiences, if used appropriately (Keengwe et al., 2008), will serve as a useful indication of learning progress or teaching suitability to both students and instructors (Lewin & Charania, 2018). In English language teacher education, the impact of technology use is evident, especially in the examination of pre-service teachers' technological pedagogical content knowledge (TPACK) (e.g., Tseng et al., 2019). This area of study examines teachers' competency and knowledge in adapting technology to facilitate their teaching or their students' learning processes. TPACK was also utilized in the context of this study by Inpeng and Nomnian (2020). They found that pre-service EFL teachers' comfort and confidence was high when they used Facebook as a technological means to teach.

While studies that utilize TPACK, or others that investigate the use of technolgoocay among pre-service teachers, have been valuable, their focus has been centred upon the teacher education program, without much attention given to what occurs beyond the context of pre-service teachers' formal education. Furthermore, it has been acknowledged elsewhere that encounters and experiences with technology beyond the learning setting could have an impact on the management of classes or development of lessons (e.g., China context, Teo et al., 2019). As such, the current study aims to account for the effects of technology beyond the classroom by looking at digital practices of pre-service English language teachers. This may provide insights into personal behaviours of pre-service teachers that may have an impact on their professional lives. It could also shed light on concerns regarding pre-service teachers' acceptance towards the use of technology, especially in Thailand, where scholarly interest in the use of technology among pre-service teachers is still growing.

Digital Practices of Language Teachers: Supporting In-class and Out-of-class Learning

The rise of digital practice in education is attributed to the development of technology. Initially, technology in education was associated with those from STEM fields, primarily because technology

was thought of as an applied science. Nonetheless, in the 1990s, there was a movement to introduce technology in almost all disciplinary areas and aspects of life (Hasse, 2017). Since then, digital practices have supported teachers' in-class and out-of class learning. For instance, in a study on microblogging by Ebner et al. (2010), students were found to use technological platforms to facilitate informal communication such as social interactions, which were sensitive towards individual users' needs. The study also found that students viewed this platform as appealing because they could seamlessly shift between formal knowledge exchange and informal interaction. Furthermore, the study also reported that information and social exchanges made transparent to others in a course were helpful in promoting critical thinking and social skills. While the study by Ebner et al. (2010) was conducted in Austria, the findings may be relevant to the context of the present study in Asia, as they point to the use of a social pool. This involved friends or followers, as a learning resource, who provided ideas or feedback. The social nature of the digital platform also decreases forms of evaluative anxiety. This was also observed in the study by Inpeng and Nomnian (2020). Within the context of Thailand, these findings coincide with national-level efforts and interests, among both higher education teaching staff and students (e.g., Titthasiri, 2000; Siritongthaworn et al., 2006; Ngampornchai & Adams, 2016). The use of informal means for learning, especially those that are grounded in social networks, are also pivotal for the context of Thailand or the broader scope of Asia, especially with the prevalence of collectivist beliefs (Phuong-Mai et al., 2005).

For English language teachers, not much is known about out-of-class learning supported by digital practices or in the general sphere of education (see Fenwick, 2016), which is also a research caveat in the context of Thailand. The study of Saudelli and Ciampa (2016) took an ethnographic approach to examine three language arts teachers' learning and adaptation of the iPad (and its associated tools) in their teaching. One frequently employed informal approach by the teachers was to get their students (in between classes or during break time) to demonstrate the uses of an iPad. While their students demonstrated, the teachers would ask questions and seek clarification (e.g., Why do you do it this way? Is there another way of doing this?). After some time, these participants were found to have gained some confidence to adapt the use of iPad/technology in their teaching. From this study, we could see that teachers may potentially find ways to adapt to the use of technology in their teaching. Nonetheless, it should not be assumed that all teachers will view technology favourably, especially when learning takes place informally.

In the same study, it was reported that one of the three teachers studied still strongly believed in a teacher-centred classroom, despite the potential of decentring the teacher as source of information through the presence of technology. Other studies also have reported a similar outcome, albeit being done in a formal education setting (i.e., teacher education programs or institutions). For instance, Mei (2019) found that while future English or language teachers viewed technology favourably, not many were ready to accept a greater use of technology in their teaching or classrooms. This also was reported by Mumford and Dikilitaş (2020). They found that pre-service teachers, who held positive attitudes towards technology, may not be familiar with ways to integrate technology properly, and instead used it as a 'blanket solution' for issues faced in the classroom. Furthermore, confidence of using technology may be hampered if there was a disconnect between technology and lessons in a classroom. In other words, if pre-service teachers could still successfully teach or manage a lesson without the use of technology, they would insist on conventional approaches (e.g., paper and pen—Zipke et al., 2019; Hasse, 2017). The pervasive use of technology may also be detrimental, especially if it leads to competition and does not enhance the quality of learning (Başal & Kaynak, 2020).

Expanding the Scope for Learning

The studies discussed so far illustrate that technology has become a common point for investigation and its presence in the English language classroom is no longer ground-breaking. Moreover, it appears that while teachers are being exposed to the possibilities of technology in the language classroom, there remains a preference for conventional methods for teaching (that is, without technology). This inevitably may reduce the impact that out-of-class learning could have on a

teachers' willingness to work with technology in the classroom. Nevertheless, the need to understand the role of technology is still crucial, given the contextualized insights we may glean from its integration in different learning environments (Gönen, 2019), as well as from national initiatives encouraging teachers to be technology-savvy (Tayjasanant & Suraratdecha, 2016).

Areas that have received much attention, due to the emergence and necessity of technology, are a language teacher's professional development and the need to view teaching and learning in a new light. For instance, it may set technologically-savvy teachers apart from those who prefer more conventional teaching approaches (Hasse, 2017). Moreover, those who are more willing to work with technology will see a reconfiguration in the learning environment, where a teacher's centrality may be displaced. This is because technology creates a space where learning becomes multi-faceted, in particular, the learning process becomes subject to the adaptability of students themselves and is not reliant solely on the teachers (Mulcahy, 2012). In line with the possibility of inequality, the uptake of technology by teachers should not be viewed as homogenous; instead, it should be viewed as occupying different points along a continuum of acceptance and resistance. The placement of a teacher's uptake along this continuum will be affected by their agency or lack of—either having control over the integration of technology or being made to integrate technology by external forces (Johannesen et al., 2012).

The presence of technology in the education of future teachers also shifts the theoretical outlook towards teaching and learning. Currently, professional learning among pre-service teachers may be supported through collaboration or practitioner inquiry. However, through the prevalence of technology, pre-service teachers' learning should also account for individual encounters (with technology) and its application in the teaching practice. This inevitably calls for a theoretical framework that is cognizant of the varied ways an individual teacher might learn and adopt (Mulcahy, 2012). A theoretical perspective that takes into account individual encounters that promote learning is the notion of sociomaterial. Through this perspective, learning is extended beyond the scope of the classroom. As a result, learning is not only dependent on the teachers, but also on incidents with objects or entities not necessarily linked to the classroom. Gourlay (2017, p. 32) stated that this perspective is "seen to reside in the fine-grained, small-scale and often unobserved acts of situated practice, a close-up view which stands in contrast to ideological or abstract conceptions, allowing for more of an ethnographic lens to be trained on what is means to be a student." The sociomaterial perspective further encourages agency that is not reactive towards the presence of an authority; instead, agency is "enacted in the emergence and interactions ... occurring in [the] smallest encounters" (Fenwick, 2016, p. 670). This perspective is crucial in the use of technology, as the digital realm is supportive of such small yet significant encounters.

While there may be concerns raised regarding pre-service teachers' perceptions towards technology, the possibilities for learning presented through encounters with technology should not be disregarded. What is more, studies reported earlier were mostly conducted in formal teacher education programs or institutions. To help build a scoping view of the value of digital practices of pre-service English teachers, this study will investigate the online activities that Thai pre-service English teachers engage in. Through this, it is hoped that a better glimpse of the relationship between online activities and learning progress may be established, and subsequently illustrate the sociomaterial practices that Thai pre-service English teachers may possess. This study will be guided by the following research questions:

1. How do pre-service EFL teachers use digital technologies in university learning?
2. What type of interest has influenced pre-service EFL teachers' use of digital technologies?

The Study

The present study was conducted in a local teacher education institution located in the northeast of Thailand. Since 2000, this university has played a significant role in raising the quality of regional education. To minimize illiteracy in the nation, the university prioritizes educational measures that cater to the wellbeing and development of poor communities. To this end, the university's Faculty of

Education offers eleven majors to cultivate young teaching professionals who aspire to contribute to their own communities. To achieve this, pre-service teachers spend time in classrooms learning about principles and theories of pedagogy, and later on they engage in a teaching practicum. However, there has been a concern that current class sizes (90–120 people) pose a challenge to implementation of quality instruction. Considering all that courses taught in different majors share a common goal, that is, to ensure pre-service teachers are equipped with sufficient knowledge of subject matter and teaching skills, it has become necessary to use digital platforms and technologies. Lecturers (the teacher-educators of the pre-service teachers) are also well aware that integrating technology into the classroom can be a fruitful way to promote engagement of pre-service teachers' daily practices and learning by employing tools that will take them into the 21st century.

Participants

This study employed convenience sampling, and involved 24 pre-service English teachers who were in the first semester of their junior year, studying at the Faculty of Education, Rajabhat University. They were all enrolled in compulsory subjects in the 2019 academic year, such as "English for other fields of study," "Development and evaluating teaching innovation," and "Teaching skills for English language teachers." These courses' aims are to furnish pre-service teachers with pedagogical skills, especially those that allow them to use English and technology. Even though the participants were Thai, they were familiar with English as the medium of instruction, as they were learning to be English teachers.

Data Collection

Guided by the ethnographic study of Saudelli and Ciampa (2016), reflective journals were used in this study as the primary means to collect data. There were two phases to data collection. In the first stage, reflective journal entries were written to document the voices of pre-service teachers. According to Leshem and Trafford (2006), the advantages of using reflective journals in language learning are the promotion of autonomy and the improvement of the regulation of learning processes. All the participants were required to write their weekly reflection towards their use of technology and their daily practice of digital engagement for three weeks. In order to keep track of pre-service teachers' progress, we recommended the use of Google Docs. From this first stage, 72 written journal entries were obtained. Five participants were subsequently invited to participate in the next stage, due to their openness to share opinions and their willingness to join the interview.

In the second stage, we conducted a focus group interview to garner an in-depth understanding of their interests in digital practices. Prior to the interview, a list of questions generated from the participants' reflection was prepared to serve as guiding questions. In the meantime, a brief meeting also was scheduled to inform interviewees that their identities would be protected through pseudonyms and their interview data would not affect their academic records or assessments in any subjects. During interviews, it was noted that a potential risk could arise from conflicting ideas, which might take a toll on representation of opinions (Smithson, 2000). Thus, a relaxing and inclusive atmosphere was created to encourage participants to freely express the issues that they faced while engaging in digital practices. Some interview questions were as follows: (a) How do you find the use of technology in your everyday lives? (b) What do you think about using digital technology in learning? and (c) How do you find websites and applications (to use for your learning/teaching)? The interview lasted for about one hour and was audio recorded and then transcribed.

Data Analysis

Data analysis was an ongoing and iterative process between two co-coders (the researcher of this study and a professor relevant to the study context). The coders were familiar with the theoretical basis behind both the local context of English language education and thematic analysis. For the latter, there were two stages included. First, the coders read the data several times to become acquainted with the relevant aspects related to online learning. Then, the transcripts were coded in line with

coding procedures from Braun and Clarke (2006). It is worth noting that this phase of the analysis emphasized the content of what was said, rather than examining how the conversation was produced. Thematic analysis, in effect, is understood as an inductive process of breaking down the data without having pre-existing coding themes. This data-driven approach allows themes to emerge from the data itself. The interviewees' responses were sorted into three themes: information consumption, task completion, and group participation. These were later compared with Meyer's (2019) digital platform map (Table 1). These findings answer the research question about how pre-service teachers use digital technologies for university learning.

Table 1 Meyer's (2019) Digital Platform Map

Digital Platform Map Items	Remarks
Digital Marketplace	The meeting space of buyers and suppliers
Digital Search	People with search targets being matched with multiple possible sources of information
Digital Repository	An online space where suppliers may deposit information or resources regarding items or services, which, at a later time, may be accessed by users or buyers
Digital Communication	A digital and online platform that allows users to send multi-modal messages and documents to others
Digital Community	An online community where people have the intention to remain over an extended period of time to communicate with each other in particular areas of interest
Digital Payment	An online space that facilitates various financial transactions

Findings

Twenty-six written journals were read, coded, together with an in-depth focus group interview with five pre-service teachers. Audio recordings of their responses were transcribed, analyzed, and thematized. The interviewees' responses to the questions were sorted into three themes: information consumption, task completion, and group participation. These three themes illustrated how pre-service teachers' digital practices were beneficial for their courses and task completions. The themes are also compared with Meyer's (2019) digital platform map.

Information Consumption

Participants used different programs to find information regarding their tasks, reflecting the use of the internet and various online platforms to locate and access information (Digital search and repository). Through frequency counting, it was found that the participants mainly used Google (83 mentions) and YouTube (38 mentions) as the preferred search engines to find information. Very few participants mentioned the use of Wikipedia (three mentions) as they were aware that this could be used as a starting point to obtain information, but they could not rely on this site since its content can be written or contributed by anyone. The search engine that the participants decided to use was varied, depending on the objective. If the task was challenging, they would look for the website that provided them with visual presentations and, at the same time, some learning content. Examples of participants written comments in their reflective journals were as follows.

This week I use www.google.com to search information about Adverb and Adjective that what is it and how it functions to prepare for the camp. I use it to search for words in Adverb and Adjective in order to teach and play games at camps with students. And also use Google to research about Gerund what are the functions and structures. In order to be used as a learning activity because teacher provided the teaching clips in English, it was necessary to use Google to study the exact information. (Pre-service teacher 10, written reflection)

Sometimes I choose YouTube in order to understand more content. Because of YouTube, it is an informative voice that contains images makes me not boring to want to listen to that content Such as finding information that will teach the digestive system to the learners easy to understand I chose this

website <https://youtu.be/aumwoiSzs3c> because it's a short cartoon. But can make us know about the digestive system easily. (Pre-service teacher 4, written reflection)

This week I use Wikipedia to search for my Thai subjects it has much information. I have searched for a way of human life and it's pretty interesting because it has a specific word that I can use for my homework and I can find related website for my work when I want to know more information. My friend told me that Wikipedia cannot use as a bibliography when I do some project because anyone can edit the information so it's not use much when you really want true information. (Pre-service teacher 18, written reflection)

The YouTube site was used because the pre-service teachers were assigned to write a lesson plan that had science content, of which they had limited knowledge. They had to learn more about the assigned topic in order to create a reliable lesson plan and activities. The reason that they used YouTube as the preferred platform to gain more knowledge was that certain subjects such as science can be difficult to explain and understand. As a result, using YouTube as a virtual library to support learning by accessing its videos allows the participants to better visualize complex concepts, procedures, and ideas. YouTube was also a commonplace for seeking entertainment. When asked about their digital engagement in free time, the participants often mentioned YouTube as their preferred sites for leisure as the following examples illustrate.

I like using YouTube after class because it is a way for me to kill my time and it is a way to access the world news. I always go to watch some drama that I don't have time to watch on TV. Using YouTube is fun because we can see strange things that I don't commonly see in real life such as weird animal reactions, people eating habits and interesting foreigners' life. (Pre-service teacher 4, focus group interview)

There are many times when I feel stressed about learning or work. I would like to open YouTube to listen to music, watch movies and watch interesting documentaries. I think YouTube has many benefits. I can watch music, videos, short movies and clips of almost every subject. (Pre-service teacher 22, written reflection)

What is observed here is the blurring of boundaries between access to information to support learning and access to materials that offer leisure (or a break from learning). This may reflect the sociomaterial notion that the learning space may contain materials that are not strictly used to enhance formal education. It also provides a plausible explanation for pre-service teachers' acceptance towards technology as a viable tool for education (e.g., Mei, 2019), but at the same time remain unwilling to integrate it into the learning environment. Perhaps the seamless transition between varied materials (such as that offered by YouTube) is a concern held by teachers, which is subconsciously translated through the minimal use of technology, or even the rejection of technology in the classroom.

Task Completion

The courses in the university aim at incorporating technology and engaging pre-service teachers in digital practices. The assignments often require participants to use technology to complete their tasks, for example, in writing lesson plans, creating materials, or giving feedback to peers by using online platform in some languages courses. This kind of assignment makes it unavoidable for the participants to engage in digital practices in order to complete their assignments. As seen in the previous theme, participants were familiar with an array of materials to help with their work as indicated by the following reflections.

The next thing that I did was discussing with my friends in group to prepare lesson plan. First, we agreed to discuss at the library and we helped one another to find data about the work assigned in which the topic is Social Studies: Australia and New Zealand. And got the website <https://immi.homeaffairs.gov.au/citizenship-subsite/files/thai-non-test.pdf> it's about Australia in presence and we chose many interesting stories from this website because it's the thing we need. After that, we needed to get data of New Zealand and we got <https://www.educatepark.com>, which is great

because it provides us with the brief data about New Zealand and I and my group colleagues love it. (Pre-service teacher 3, written reflection)

The last assignment was journal. I noted my work on memo in telephone and used www.translate.google.co.th and www.th.ilovetranslation.com to checked grammar. (Pre-service teacher 13, written reflection)

Before sending images, use the Meitu program on my smartphone in the Android system to add photos, add filters to make the image more vivid and look better, and modified the additional directory using the PPT program. (Pre-service teacher 14, written reflection)

This information came from an instance where English had to be taught through using social studies content. The pre-service teachers had to create a lesson plan and prepare materials to teach the sophomore students. That was why they reported the extensive use of resources in order to complete the task. Since the topic assigned was about Oceania, of which they had limited knowledge, the participants relied on different websites and online resources.

In this case, task difficulty was reduced because of the pre-service teachers' engagement with technology. Beyond the scope of the course, pre-service teachers already had encounters with particular sites (Pinterest and Shutter Stock), and these sites came in handy when they had to create lesson materials with attractive visuals. Pre-service teachers' autonomy to independently refer to external sources, which are not necessarily geared for education purposes, is reflective of a study by Tayjasanant and Suraratdecha (2016), where students self-regulated their learning by identifying useful spaces to support learning. The theme of task completion is also interesting as it was not necessarily informal learning, given that the real purpose was to complete required school work. This may reflect a sociomaterial approach to learning, where there is no distinction between formal and informal learning, even if learning materials come from an informal source. This approach is similar to the seamless shift reported by Ebner et al. (2010), as reflected by one interviewee.

It's very difficult to get this work done because I know nothing about Australia and New Zealand. We have only 2 weeks to prepare to teach. I think our Power Point must be attractive, so the junior wanted to pay attention to our teaching. I looked for pictures from many websites such as Pinterest and Shutter Stock. Normally, I always spend my free-time browsing through those websites so I know where to look for those photos relating to the topic. (Pre-service teacher 1, focus group interview)

Group Participation

As mentioned earlier, the big class sizes in this study context may have hindered individual tasks. Lecturers tend to assign students to work in groups, since it is convenient and practical to give feedback and to allow cooperative learning. To develop group skills, students need to do more than just complete group tasks. Along the way, it is important that they learn to negotiate with each other to ensure that the task is completed in an equitable manner. The pervasiveness of various social media tools facilitate this process. In the following excerpts, we could see how students communicate with each other via Facebook or Google Docs, both of which have been reported as common social learning tools in Thailand (Inpeng & Nomnian, 2020).

This week I use Facebook and Google more often than other applications. Because most are working in groups therefore choose to use Facebook to submit work and let friends in the group help each other to see about the work in various courses. For example I use Google Translate to translate words 'the brain's control center' and use Google to find interesting teaching activities. To be used in making social studies lesson plans about geography, use Google to find pictures about tourist attractions in Sisaket province to put pictures in the innovation book In the course of development and evaluation of English language teaching. (Pre-service teacher 5, written reflection)

It can be seen that this pre-service teacher reported multiple tasks that she and her peers had to complete within a few weeks. To make sure that they could finish the work on time, they contacted each other using different digital channels, similar to what was reported by Lienhardt et al. (2010). When asked about the reason for using Facebook and Google during the interview, she revealed,

Normally, we use Line to contact each other on the things that are not related to studying but it is not good for work because I cannot send file to friends. When doing the lesson plan, I think it is good to use Google Docs because we can all do the work from the same file. I save automatically, so I don't confuse if this file is the old version or new version. Using Facebook is also good to discuss because we can upload files and send documents. It's easy to trace what our friends have sent earlier too. Well, actually these are the common place where I use to talk to friends, so I don't have to spend time to study how to use it. But for Google Docs, it's a bit new. (Pre-service teacher 5, focus group interview)

To contact each other, the participants went through cooperative learning. This idea focuses on participants as a member of group work together to learn or solve a problem, with each individual responsible for understanding all aspects. By using digital technology in a group, the learning process appears to have been accelerated because pre-service teachers are able to both be heard and to hear their peers, while in a traditional classroom setting they may spend more time listening to what their lecturer says.

Discussion

Through the pre-service teachers' reflective journals and focus group interviews, we could see that various technologies were used to assist in different tasks. Using Google as a search engine was regarded as a practical choice for participants to identify initial information. Facebook was used to support pre-service teachers in the completion of their group work, since it is a familiar channel for communication. Videos on YouTube are appealing as they help learners to easily acquire and retain knowledge, as well as develop specific skill sets. This is on account of demonstrations being the most effective way to get a message across. Based on the uses of these technologies, and the themes that guided the discussion, we may summarize the participants' digital practices, based on Meyer's (2019) digital platform map, in the following manner (Table 2).

Table 2 Summary of Digital Practices Based on Meyer's (2019) Digital Platform Map

Digital Platform Map Items	Example	Description of Use
Digital Search	Content platforms and search engines <i>Google, Pinterest, Shutter Stock</i>	<ul style="list-style-type: none"> ▪ To find potential answers ▪ To find useful and attractive visual aids for teaching resources
Digital Repository	Youtube and Wikipedia	<ul style="list-style-type: none"> ▪ To access information regarding content or to learn in a motivating environment ▪ To provide entertainment during leisure time
Digital Communication	Social messaging platforms <i>Line</i>	<ul style="list-style-type: none"> ▪ For communicating with peers
Digital Community	Online social community <i>Facebook</i>	

From these instances, it may be observed that the pre-service teachers employed a myriad of digital practices for formal and informal purposes. The participants of this study were also seen to work optimally with their peers. This was similarly observed in Saudelli and Ciampa's (2016) study, where the teachers who were confident with technology were more willing to share tips with others. Inpeng and Nomnian's (2020) also found there was a positive disposition towards using an online platform (i.e., Facebook) for sharing their pre-service education and experiences. This form of sharing, as well as digital practices, may also be encouraged by the openness of the courses that these participants were taking. These courses did not stipulate how pre-service teachers should work, which allowed them to enact agency. This included drawing in practices that may not necessarily be found in a formal classroom. As such, they were not forced to comply with a particular process decided by an authority figure. This approach would yield a lower resistance from teachers, and encourages more creativity (see Johannessen et al., 2012). More than just illustrating pre-service teachers' agency and

creativity, it also reflects a form of engagement that is “rooted in the ‘messy’ networks of everyday practice and ‘practical wisdom’ (Gourlay, 2017, p. 32). For professional development, this is indicative that teachers are constantly faced with situations that require practical problem-solution approaches. With regards to teaching and learning theories, the benefits drawn from out-of-class digital practices necessitates the broadening of teacher practices to include experiences or knowledge obtained from beyond the formal educational realm. Hence, the learning process and source of knowledge are expanded to various objects or entities that the pre-service teachers encounter, such as that discussed by Mulcahy (2012).

Pedagogical Implications

While it was observed that pre-service teachers’ digital practices may have a positive impact on their teaching practice, there are several pedagogical implications worth considering. First, with a more open learning environment that supports student agency and collaboration, the assessment of pre-service teachers’ practice should weigh in on their decision-making process, instead of focusing only on the outcome. Second, while pre-service teachers may bring in valuable materials gained from their sociomaterial encounters, there still needs to be the filter to ensure that these materials are appropriate. As seen through the findings, participants brought in materials from familiar digital spaces. To ensure that materials are appropriate, the selection process needs to move beyond the familiar. This was actually already happening, as seen through the participants’ reflection, where they pointed out issues pertaining to the validity of Wikipedia. Nonetheless, attention should be focussed on this issue by teacher educators, in order to cultivate a critical sense to better guide pre-service teachers as they encounter materials elsewhere. As such, they will be more cognizant of their roles and dispositions in processing materials obtained elsewhere, and the “political capacities that are exercised on them” (Fenwick, 2016, p. 670).

From this study, it appears that digital practices have potential to support independent learning, seen through pre-service teachers’ ability to integrate knowledge and discover and solve problems. This study’s findings also pointed out the value of task-driven classroom teaching that necessitates pre-service teachers’ digital practices. These tasks provide participants with a heightened awareness of their knowledge and skills, particularly those gained outside of the formal learning environment. Through these tasks, pre-service teachers were thus able to combine theory, practice, previous encounters, and personal experiences. To some extent, this process also exercised participants’ teamwork and communication abilities. In future studies, it would be fruitful to consider taking an ethnographic approach, such as that undertaken by Saudelli and Ciampa’s (2016). This would enable digital practices to be identified that are distinctly held by pre-service English teachers, especially in a context where English is not the primary or official mode of communication. This examination should also include insights into the ‘openness’ of large classrooms, which have inadvertently compelled pre-service teachers to look for materials or information beyond their lecturers.

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