

CALL INITIAL TEACHER EDUCATION IN VIETNAMESE HIGHER EDUCATION: UNHEARD VOICES

by **Luan T. Nguyen**

Ho Chi Minh City Open University, Vietnam

luan.nguyen @ ou.edu.vn

and **Ngoc Giang Tran**

Hanoi National University of Education, Vietnam

giangtn85 @ hnue.edu.vn

Abstract

The pressing need to prepare Computer-Assisted Language Learning (CALL) professional competence for English as a Foreign Language (EFL) pre-service teachers has come to be significant to ongoing national reforms to improve English teaching pedagogy. This study employed a convergent mixed-methods research design to investigate the perceptions of Vietnamese EFL pre-service teachers and teacher educators concerning technology preparation and integration into the EFL initial teacher education in Vietnamese higher education. The data included a survey completed by 67 pre-service teachers, a focus group discussion with six of them, and a semi-structured interview with three teacher educators at a higher education institution in Vietnam. Findings reveal that pre-service teachers received significant opportunities to learn regarding CALL-related knowledge within their initial teacher education program. The findings also show a number of substantial factors impacting the integration of Information and Communications Technology (ICT) into the initial teacher education regarding individual teacher educators, individual EFL pre-service teachers, the provision of resources, and CALL technology-related policies. The study suggests that the EFL initial teacher education program needs to take the opportunity to learn and policies on CALL-related pedagogies into account developing pre-service teachers' professional competence.

Keywords: Initial teacher education; pre-service teacher education; English as a Foreign Language (EFL); Computer-Assisted Language Learning (CALL); technology integration; Vietnamese higher education

1. Introduction

Computer-Assisted Language Learning (CALL) integration into language initial teacher education has come to be recognised as one of the most important and growing interests in CALL teacher education in the 21st century mobile and diverse contexts (Gillespie, 2020; Hubbard, 2019; Meihami, 2021; Son, 2018). The line of CALL research has made pivotal

contributions to the integration of ICT into the programs for language teaching and language teacher education across levels. Hubbard (2008) contended the significance of the future of CALL which “is closely tied to the future of language teacher education because language teachers are pivotal players: they select the tools to support their teaching and determine what CALL applications language learners are exposed to and how learners use them” (p. 176). Hubbard’s argument was clearly asserted in a later work by Hong (2010) emphasising that “the ultimate goal of CALL teacher education is to enable L2 teachers to integrate CALL technology into their classroom with confidence and knowledge” (p. 53). The experience in CALL-related technology integration into classroom practice has therefore become one of researchers’ and educators’ particular interests and concerns. Echoing this and focusing more on the integration of CALL for teacher training and development, Son (2018) proposed a model for CALL teacher development with four elements: exploration, communication, collaboration, and reflection. Therefore, there is an insistent need for more research on CALL preparation and integration in the ITE programs in diverse contexts.

The current study contributes to the fragmented body of research on CALL initial teacher education. While the integration of ICT and CALL-related technology has been found to be at the core of the initial teacher education and influenced by contexts (Gudmundsdottir et al., 2020; Hong, 2010; Masoumi, 2021; McGarr & Ó Gallchóir, 2020; Rana & Rana, 2020), little research has been conducted in the tertiary initial teacher education in the EFL contexts, including Vietnam, which involves a huge population of pre-service teachers. To provide a missing fragment, the current study aims to provide insights into EFL pre-service teachers’ and teacher educators’ perceptions of the preparation of ICT and CALL integration into tertiary EFL initial teacher education, a hitherto under-researched context.

2. ICT integration in the initial teacher education

The educational applications of ICTs have been acknowledged in different ways in the literature. Researchers utilised ICTs as new teaching tools and technologies for education (Masoumi, 2021; McGarr & McDonagh, 2021; McGarr & Ó Gallchóir, 2020; Valverde-Berrocoso et al., 2021) described as “computer- and internet-based technologies, covering both generic software applications (e.g., word processors, presentation software, email packages, web browsers, search and download) and CALL software applications plus websites useful for teaching foreign languages” (Dang, 2013, p. 2). In this notion, Vo (2019) furthered the definition of ICT as technology-related applications that are used in the contexts of EFL teaching and learning, consisting of hardware equipment, CALL technologies, and software.

Strong interest in ICT application and integration in the initial teacher education has been observed around the world, with an array of different models proposed by several researchers (Aşık et al., 2020; Gudmundsdottir et al., 2020; Masoumi, 2021; McGarr & McDonagh, 2021; Nguyen, 2019; Vo, 2019). In the European context, while having the same conclusion about the role of ICT as an important component in the ITE programs, Aşık et al. (2020) and Gudmundsdottir et al. (2020) pointed to different foci in such integrated processes. In fact, Aşık et al. (2020) based on their interviews with pre-service teachers from Turkey, Portugal and Poland to highlight the significance of modelling and reflection in ICT integrated initial teacher education programs. On the other hand, Gudmundsdottir et al. (2020), from a large scale survey on more than 1,000 pre-service teachers in Norway and Spain, emphasised the growing importance of the responsible use of ICT in initial teacher education programs. This responsible use of ICT involves multiple aspects, including privacy-related matters, cyber ethics, and critical digital literacy. Also stressing the vital role of cyber ethics in ITE programs, McGarr and McDonagh (2021) based their study in the context of Ireland and concluded that digital competence as well as ICT integration is “an evolving concept and care must be taken” (p. 115) to maintain the pre-service teachers’ autonomy and the employment of ICT.

Interestingly, sometimes the views of pre-service teachers and teacher educators are reported to be opposite. Specifically, Masoumi (2021) in a Sweden-based research project found that while the pre-service teachers felt insufficiently supported for the future use of ICT, the teacher educators were sure about multiple initiatives implemented to prepare the next generation of teachers for technology use. Such misalignment in the pre-service teachers’ and teacher educators’ perspectives might have been due to the fact that initial teacher education programs in Sweden did not provide an adequate learning environment for the pre-service teachers to develop their technological literacies. In this line of thought, various researchers pointed out an array of negative factors influencing the process of ICT application in initial teacher education programs: limited access to ICT resources, lack of institutional support, weak digital competence of teacher educators, cultural and language differences, lack of time, and so on (Aşık et al., 2020; Gudmundsdottir et al., 2020; Tran et al., 2020; Valverde-Berrococo et al., 2021; Vo et al., 2020). However, Le et al. (2022) observed that infrastructure and learning experiences had positive impact on pre-service teachers’ ICT competence. Le et al.’s (2022) observations confirmed what Granston (2003) found that institution-levelled factors importantly contributed to the interactive process between pre-service teachers and educators in their efforts to integrate technology in teaching and learning. These findings were in line with what Vo (2019) found in the context of ICT integration in a tertiary EFL initial teacher

education program in Vietnam highlighting that barriers across levels were related to the lack of ICT policies. Vo's (2019) conclusions confirmed what Peeraer and Van Petegem (2012) had found earlier in their attempt to investigate the relationship between ICT policies in teacher education and their actual applications in the context of Vietnam. Based on their analysis of the vision statements for the integration of ICT in five different teacher education institutions in Vietnam, these researchers revealed that the practices of ICT applications were limited (Peeraer & Van Petegem, 2011). Although the training for basic ICT skills was planned, there was a lack of concrete ideas and topics for training on the use of ICT in teaching and learning (Peeraer & Van Petegem, 2012).

In addition, the plans of these teacher education institutions were perceived as unbalanced in the sense that they put strong priority on the infrastructure development and neglected the professional development for teaching staff, especially pedagogical and curricular change and revision. Therefore, teacher educators are in charge of their personal professional development (PD) at the different degrees of engagement and in different ways; for example, undertaking intensive PD courses (Nguyen, 2019; Tafazoli, 2021b) or engaging with the online community of practices (Mai et al., 2020). These findings empirically raised greater attention in the EFL initial teacher education programs to the practice of CALL integration in the pedagogy. In fact, numerous guidelines across levels for EFL pre-service teacher education reflect these concerns.

In the unprecedented context of the COVID-19 pandemic, the integration of ICT in initial teacher education programs has been put to test due to the mass and sudden application of remote learning across educational institutions. Given this, Valverde-Berrocoso et al. (2021) argued for the need of a flexible education system which promotes fairness, equity, accessibility, and creativity. This flexibility in education with ICT integration "requires a redefinition of teacher training model that encourages learning anywhere, anytime" (Valverde-Berrocoso et al., 2021, p. 1). Echoing the emphasis on preparing pre-service teachers for ICT skills in the 'new norm' due to the global pandemic, Nguyen et al. (2022) identified a number of factors that should be thoroughly considered for the ICT integration in ITE programs.

EFL pre-service teacher competence in the 21st century digital age that is constituted from categories of teacher knowledge and dispositional components (Blömeke & Delaney, 2014; Nguyen, 2021) values the integration of ICT pedagogies in initial teacher education. The Technological Pedagogical Content Knowledge (TPACK) was built from Shulman's (1986, 1987) notion of pedagogical content knowledge as a theoretical framework for understanding the utilisation of EFL pre-service teachers' technology knowledge in their preparation. The

technological knowledge is situated within the overlap of content and pedagogical knowledge to form four more categories of interrelated knowledge. Among emerged categories, TPACK regarding “the knowledge required by teachers for integrating technology into their teaching in any content area” (Schmidt et al., 2009, p. 125) was regarded as the basis of good teaching with effective technology integration (Mishra & Koehler, 2006; Schmidt et al., 2009) and focus on opportunity to learn in the program (Schmidt et al., 2011). The EFL pre-service teachers’ acquisition of these domains contributes to their professional competence preparation. For example, Turkish pre-service teachers found technological competence as a crucial element to their professional preparation across diverse contexts (Ekrem & Recep, 2014).

In conclusion, research has shown the practices of ICT and CALL integration in the initial teacher education, but further research is needed for a more nuanced understanding of EFL pre-service teachers’ perceptions of their CALL-related knowledge preparation in their initial education program. Within available literature, little is known about the preparation of EFL pre-service teachers ICT and CALL integrated knowledge domains in Vietnamese higher education institutions, even though EFL pre-service teachers’ voices have been found to be context-dependent (Masoumi, 2021; McGarr & McDonagh, 2021; Tran et al., 2020; Vo et al., 2020). It is worth noting that a few studies have focussed on the influential barriers (Le et al., 2022; Vo, 2019) and limited opportunities for teacher PD in CALL (Mai et al., 2020; Nguyen, 2019), but ignored the CALL-related knowledge preparation for Vietnamese EFL pre-service teachers. To fill this gap, the current study is timely investigating the following research questions:

1. How is the practice of ICT integration into the EFL initial teacher education in Vietnamese higher education perceived?
2. What factors impact the integration of ICT into the EFL initial teacher education in Vietnamese higher education?

3. Theoretical framework

CALL research must be in close line with research on language teacher education and situated in a changing milieu to address the effective integration of CALL technology into teaching practice (Hong, 2010; Hubbard, 2019; Son, 2018). Initial teacher education in CALL focuses on what CALL-related knowledge and skills are taught and how they are taught to prepare pre-service teachers for their teaching. The theoretical framework by Hong (2010) visible in Figure 1 highlights that language teachers’ integration of CALL technology into their classroom practice is influenced by three orbital factors: “CALL teacher education, teachers’ individual

factors, and contextual factors” (p. 60). The orbit of CALL teacher education in the centre of the sphere emphasises the importance of language teachers’ technology integration relative to the factors of teachers’ individual beliefs and milieu. The nearer or further distance across orbital factors indicates twofold that (1) CALL teacher education is likely to impact language teachers’ individual beliefs regarding their knowledge, skills, attitudes, and perceptions towards CALL technology; and (2) contextual factors and CALL teacher education are relatively interdependent. Hong’s (2010) model has been framed to enhance L2 teachers’ CALL competence (Son et al., 2011) and further explore the benefits and barriers that Iranian teachers encountered in their practices of CALL (Tafazoli, 2021a). This study adopted Hong’s (2010) model as a theoretical framework to inform data collection and analysis to investigate how EFL pre-service teachers perceive the practice of ICT integration into their initial education, how educators voice their teaching practices, and how different factors affect the practice of ICT integration into the EFL initial teacher education in Vietnamese higher education.

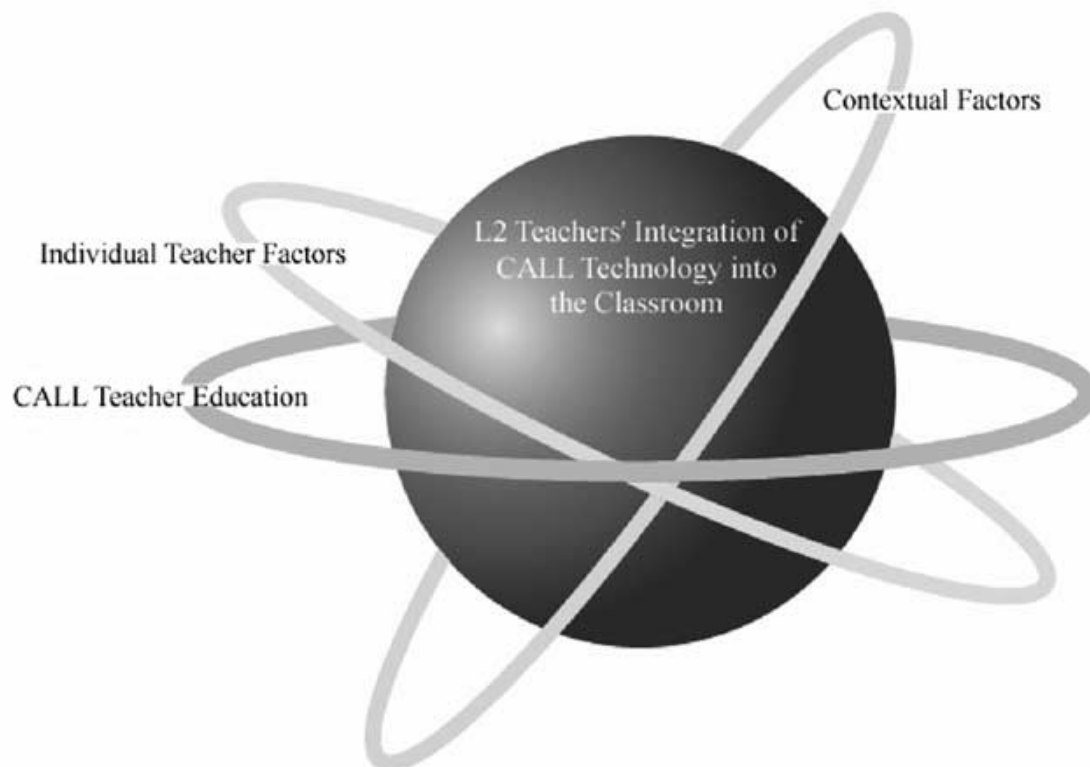


Figure 1. The Sphere Model of L2 teacher's integration of CALL technology into the classroom (Hong, 2010, reduced with permission)

4. Methodology

A convergent mixed-methods design was employed to conduct this research for a number of reasons (Creswell & Guetterman, 2019). First, these researchers claim that the combination of

quantitative and qualitative methods will “provide a better understanding of the research problem and question than either method by itself” (Creswell & Guetterman, 2019, p. 535). Moreover, the use of multiple sources of data will enhance the validity of a study through the triangulation process (Mertens, 2014). The following sections present the context of the study, the instruments and data collection procedure, and data analysis.

4.1. Context of the study

The research site chosen for this study was a leading institution of teacher education located in one of the largest cities in the south of Vietnam. This institution has a long tradition of development with prestigious achievements. It prides itself on the mission of training, fostering teachers, and organising applied research in education and other disciplines to fulfil the needs of high-quality teachers’ training, of advanced research for the cause of developments in education, society, and economy of the provinces in Southern Vietnam and the whole country.

4.2. Participants

The current study reported in this article was part of a larger project exploring EFL pre-service teachers’ perceived experience in their tertiary initial education in Vietnam (Nguyen, 2021). The participants were sixty-seven EFL pre-service teachers and three EFL teacher educators in the faculty of English language teacher education at a Vietnamese university in southern Vietnam. These EFL pre-service teachers were undertaking their final year of studies in a four-year EFL initial teacher education program and would become English teachers in upper-secondary schools once they had completed their initial education program. They were, at the time of the research conducted, in their current and direct engagement in the 2013-2017 cohort, from 21 to 23 years of age, of both genders (80% female and 20% male), varied in background and English language proficiency, and had completed the school-based teaching practicum. Some participants were from big cities and urban areas, even from the gifted upper secondary schools specialising in English. Some others came from the rural, isolated, and mountainous regions where English teaching and learning had many difficulties and limitations. Three EFL teacher educators were recruited based on the convenience sampling method and had extensive experience in the EFL initial teacher education and curriculum development under research (Table 1).

Table 1. EFL Teacher educators' demographic information

Participant	Gender	Age	Highest qualifications	Years of experience in EFL initial teacher education
E1	Male	20 - 30	Master's Degree	5 – 10
E2	Female	31 – 40	Master's Degree	More than 10
E3	Male	31 – 40	PhD	More than 10

These educators had been teaching in the program for years and working on the curriculum innovations, development, design, and revision within their institutional education programs. They had insightful perspectives about the education programs and policy.

4.3. Instruments and data collection procedure

Surveys, semi-structured focus group interviews, and individual interviews were used as three main instruments of data collection. We chose to conduct a survey because it enabled us to collect a large amount of reliable and valid data regarding the factual, behavioural and attitudinal opinions in a large group (Dörnyei & Taguchi, 2010). The survey consisted of questions that were developed and structured to align with the categories. This part of the survey was developed in a larger project and was well-matched with the context of the current study. The survey was anonymous and included two sections. The first section contained questions to collect participants' demographic data such as gender, higher education institution and the period of studies abroad. The second section was to elicit EFL pre-service teachers' perceptions of how they experienced the current pedagogical practices of CALL-related categories of knowledge in their initial education program. The survey was designed in the form of a 4-point Likert scale from 1 to 4, indicating the different degrees of intensity (*no opportunity* = 1, *ample opportunity* = 4). The middle point of *neither little opportunity nor some opportunity* as in the 5-point original Likert scale model was purposefully removed from this survey. This removal encourages the final year EFL pre-service teachers to think thoroughly before making their final decision on indicating the extent and degree of *opportunity* that they were provided to learn in their initial program because “there is no absolute standard for the number of response options to be used on Likert scales (and on rating scales in general)” (Dörnyei & Taguchi, 2010, p. 8).

The focus group and individual interview questions were developed based on the synthesis of literature and Hong's (2010) framework. The researchers conducted a focus group interview with a team of six EFL pre-service teachers who responded to and provided their

contacts after the survey completion and analysis. The use of focus group interviews was to help the researchers discover the hidden rationales, experiences, perceptions, and perspectives about the themes which emerged from the results of the quantitative data analysis. The focus group interview lasted between 30 and 60 minutes and was audiotaped fully with the permission of the group members. During the focus group, the participants used mostly Vietnamese and sometimes switched to English when they felt comfortable. The focus group was conducted in the classroom, which was convenient for the participants after their class hours. The researchers transcribed the focus group recording. The transcript was then translated into English utilising the back-translation method for data analysis because the final results were to be presented in English (Liamputtong, 2010).

After the focus group interview with EFL pre-service teachers, the researchers employed semi-structured individual interviews with three EFL teacher educators to examine their perspectives about their practices of institutional policy-related administration and pedagogy by collecting meaningful and rich responses because these interviews allowed the researchers to approach “closer to an individual’s perspective” (Kayrooz & Trevitt, 2005, p. 10), to capture further in-depth information, to measure attitudes and interests, and to explore perceptions, perspectives, feelings, and values (Johnson & Christensen, 2020). The researchers aimed to contrast the teacher educators’ perspectives to EFL pre-service teachers’ perceptions of their program that was crucial to provide a contextualisation of their voices.

4.4. Data analysis

The researchers analysed the quantitative data utilising IBM SPSS Statistics 26.0 and used descriptive statistics with the closed-ended questions. The analysis of Cronbach alpha indicated that this part of the survey designed for a larger project and reported in this paper achieved high reliability ($\alpha=0.90$).

The researchers coded the focus group and interview data manually and with the help of NVivo 12 software. Each interviewee was coded with a number plate to protect the confidentiality of the participating pre-service teachers and teacher educators. Inductive thematic analysis was utilised to code the data to identify and report emerging patterns (themes). This inductive method allowed the researchers to explore the richness, depth, and divergence of professional experiences and to identify key patterns that aggregated and emerged from the data through the pre-service teachers’ and educators’ perspectives and words. The researchers engaged with the identification of themes by adopting an iterative process consisting of steps suggested by Braun and Clarke (2006): data familiarisation, generation of

codes, aggregating and refining themes. This coding process was iterative until the researchers accepted the content and meaning of participants' responses to the questions, as illustrated in Figure 2.

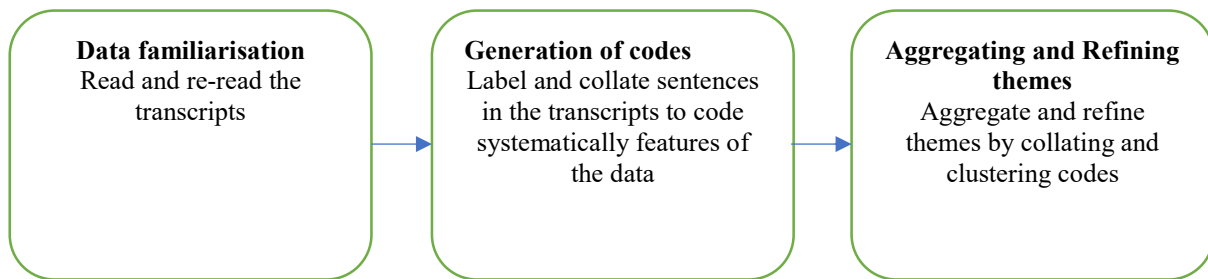


Figure 2. The coding process

Specifically, after reading and rereading through the transcripts several times in the first phase, we created a code of “opportunity to learn CALL knowledge” and assigned it to the transcripts, as appropriate, at the second phase. The researchers added new codes as new content emerged. In the third phase, the researchers analysed data involving selecting one key category and collating all relevant categories to this key core category to aggregate themes based on the data. The researchers selected “opportunity to learn CALL knowledge” as the core category. The researchers coded all focus group and individual interview transcripts independently, placing all illustrative quotes in each category by each participant’s self-reported experiences in their initial education program and practices. The researchers compared and checked a cluster of codes under different categories to ensure accurate expression of each participating pre-service teacher and educator. Any inconsistencies were discussed and resolved. The emerging themes represented the EFL pre-service teachers’ experiences in an opportunity to learn and educators’ perspectives of their practices in the initial teacher education program.

5. Findings

The research reported in this article was part of a larger project investigating EFL pre-service teachers’ experience in their initial teacher education in Vietnamese higher education. Using the lens provided by Hong (2010) and focussing on two prominent themes, we were able to explore EFL pre-service teachers’ and educators’ perceptions of how the practices of ICT and CALL technology are integrated into the Vietnamese tertiary initial teacher education.

5.1. High presence of opportunity to learn CALL-related knowledge

Most of the participating EFL pre-service teachers reveal a high presence of opportunity to learn CALL-related knowledge in their initial teacher education program (M=3.05). Preservice teachers reported that their program provided a high volume of opportunities to learn the 21st century enabling knowledge and skills with a key focus on the digital media technology competences and ICT pedagogies (M=3.33), as illustrated in Table 2. Pre-service teachers had ample opportunity to learn about searching for potential teaching materials and downloading resources from the online sources (M=3.45), using word-processing software to write a worksheet, following standard conventions (M=3.42), creating lessons with downloaded texts, pictures, graphics (M=3.28), and using a data projector for lessons involving the internet or a DVD (M=3.27).

In a similar vein, pre-service teachers reported receiving less opportunity to learn about designing blended learning modules using a learning management system (i.e., Moodle) (M=3.11), using any standard Windows/Mac software, including media players (M=3.09), coordinating project work with digital media (i.e., using a camera, the internet, social networks) (M=3.05), about using any available classroom digital equipment, my mobile, tablet profitably for language learning (M=2.85), organising computer files in logically ordered folders (M=2.81), setting and supervising online work for learners (M=2.64), and selecting and using online exercises appropriate to their personalised needs (M=2.57). However, pre-service teachers reflected that they received little opportunity to learn about troubleshooting the problems with classroom digital equipment (M=2.28).

Responses from the survey participants were supported by a student in the focus group interview who said that she was educated to become a diversified teacher in today's digital age.

I had the opportunity to learn not only professional competence but also modern, the latest and trendy educational technologies. For instance, I was instructed how to use computer and digital media technologies for online teaching, digital storytelling, and recording and editing teaching video clips. (FG1)

While most EFL pre-service teachers highlighted a high volume of opportunities that their program had provided to learn CALL-related and technology-enhanced knowledge, some interviewees reflected receiving limited opportunity to learn digital media and ICT pedagogies in English language teaching. The other two focus group students expressed their dissatisfaction with the quality of teaching education technology in their English language teaching program, stating that the teaching had not been well prepared and superficial (FG4,

FG3). In this notion, one teacher educator shared that they valued technology-enhanced knowledge preparation for their pre-service teachers. This educator also raised their concerns that the existing curriculum content regarding CALL-related knowledge in the institution was quite outdated. He showed his expectations that “*I would hope how to develop my and other colleagues’ professional competence to enhance our teaching practices to meet and satisfy EFL pre-service teachers’ needs and demands*” (E1). The interview excerpt emphasised educators’ expectations towards more opportunities for continuing professional development to upskill their knowledge and skills.

Table 2. EFL Pre-service teachers’ perceptions of opportunity to learn CALL-related knowledge

	Items	Participants (n)	Mean
1.	My program provides me with opportunities to learn about information and communication technology (ICT) pedagogies.	67	3.33
2.	My program provides me with opportunities to learn about using word-processing software to write a worksheet, following standard conventions.	67	3.42
3.	My program provides me with opportunities to learn about searching for potential teaching materials on the internet.	67	3.45
4.	My program provides me with opportunities to learn about downloading resources from websites.	67	3.45
5.	My program provides me with opportunities to learn about creating lessons with downloaded texts, pictures, graphics, etc.	67	3.28
6.	My program provides me with opportunities to learn about organising computer files in logically ordered folders.	67	2.81
7.	My program provides me with opportunities to learn about using software for handling images, DVDs, and sound files.	67	3.22
8.	My program provides me with opportunities to learn about using any standard Windows/Mac software, including media players.	67	3.09
9.	My program provides me with opportunities to learn about using a data projector for lessons involving the internet, a DVD, etc.	67	3.27
10.	My program provides me with opportunities to learn about setting and supervising online work for learners.	67	2.64
11.	My program provides me with opportunities to learn about selecting and using online exercises appropriate to my individual needs.	67	2.57
12.	My program provides me with opportunities to learn about coordinating project work with digital media (e.g., using a camera, the internet, social networks).	67	3.05
13.	My program provides me with opportunities to learn about troubleshooting most problems with classroom digital equipment.	67	2.28
14.	My program provides me with opportunities to learn about using any available classroom digital equipment, my mobile, tablet, etc. profitably for language learning.	67	2.85
15.	My program provides me with opportunities to learn about designing blended learning modules using a learning management system (e.g., Moodle).	67	3.11

In addition, most of the pre-service teachers indicated that they mainly used ICT pedagogies that they had been taught for resource discovery (94.0%), archiving lessons

(91.0%), exchanging information (91.0%), and developing pedagogical materials (79.1%). Meanwhile, they admitted less frequently using technology-related competence for communicating with colleagues and personal organising and planning as elaborated in Table 3.

Table 3. Frequencies of pre-service teachers' purposes of ICT use

Items	Participants (n)	Frequencies (%)
1. development of pedagogical material	53	79.1%
2. archiving lessons	61	91.0%
3. information exchange	61	91.0%
4. communication with colleagues	52	77.6%
5. personal planning	39	58.2%
6. organisation	42	62.7%
7. resource discovery	63	94.0%

EFL pre-service teachers' responses were strongly supported by all educators when they were asked about ICT applications in their practices. All of the teacher educators indicated that they used ICT in their teaching practices on a weekly basis. Notably, some educators claimed that they had been integrating ICT into every lesson they had with their pre-service teachers, ranging from using common presentation tools such as MS PowerPoint to complex virtual classroom management platforms like Moodle. One educator shared that, "... *in the current situations, generally speaking, the frequency of using [ICT] is a lot, and this frequency will depend on the applications themselves*" (E2). Educator 2's sharing in the interview excerpt highlighted a high degree of frequent use of CALL and ICT tools in their practices as a daily basis, which agrees with pre-service teachers' reported responses.

5.2. Factors impacting ICT integration in the EFL initial teacher education

Teacher educators perceived that the practice of ICT integration in their program was influenced by a variety of factors. Informed by Hong (2010), these factors included the individual educator obstacles, the provision of infrastructure, the EFL pre-service teacher-related obstacles and the CALL EFL pre-service teacher preparation policies.

5.2.1. Individual educator obstacles

Most of the teacher educators pointed out a number of problems existing among themselves, which prevented the use of ICT or made the ICT use less effective in their teaching practices. To be more specific, the educators were well aware of the influence of their skills, knowledge, and confidence on the use of ICT applications in the lessons for their pre-service teachers. As a result, if such factors were negative, the application of ICT in the EFL initial teacher education

programs would be badly affected or limited. For example, when an educator was not confident with their skills and knowledge about ICT, they would find using CALL technologies time-consuming; and therefore, they would choose not to use them or only use to a limited level.

Another obstacle to using CALL technologies in the educators' teaching practices was the so-called 'fear of change'. Some educators noticed that their colleagues did not want to move away from their familiar teaching style to try new features, for example, ICT applications, fearing that such changes might be too difficult or might not be suitable in their situations.

The biggest barrier here is the teachers' thoughts, many of them, who are quite old-aged, are afraid of doing it [using ICT]. They keep thinking that it will be too time-consuming, they don't even try it just once, to see that it is good, okay, and there is no problem with it. (E1)

This educator's interview response showed the barriers educators encountered with attention to their anxiety of change when deploying CALL-related and ICT-related activities in their lesson planning and delivery.

5.2.2. Provision of infrastructure

All three interviewed educators shared the views that one of the biggest barriers to ICT use in their context was the limited institutional infrastructure. More specifically, they were most concerned about issues with the infrastructure with respect to the availability and quality of the Internet connection. It was clear that these educators found it difficult, sometimes impossible, to make good use of ICT applications they wanted to use in their lessons if the Internet connection was unstable, unreliable, or even unavailable. The use of mobile internet connection from their mobile phones was only a temporary solution because it was costly and required technical skills from the educators.

In addition, the poor quality of the ICT equipment in class was another problem for the teacher educators. Some educators emphasised that the available equipment in their classes, such as computers, projectors, smart boards, audio systems was unreliable due to the frequent errors whilst using such equipment. They reported facing challenges in troubleshooting such equipment. One of the most optimal solutions was that they had to prepare their own laptops or ended up using traditional ways of teaching instead of blending their lessons with ICT applications. One educator noted that "*Ah ... yes ... I think there are a number of difficulties. Firstly, as you may know, there is Wi-Fi connection here in some buildings, but it is really*

unstable, on and off" (E2). Educator 2's response highlighted issues related to the poor quality of infrastructure, e.g. poor internet connection, at the higher education institution.

An additional issue that many educators mentioned was the limited and slow support they received in cases of technical errors with ICT equipment. When a piece of equipment in the classroom was not functioning properly as it should; for example, a projector was broken down, unable to show images or connect to the computer/laptop, the educator had to call for a technician for support. It was obvious that the educator in this scenario expected a fast and helpful technician to minimise the downtime of the lessons. However, the educators in this study reflected that the technical support they received in such situations was normally slow and limited, which contributed to the obstacles preventing their use of ICT in their EFL initial teacher education programs (E2, E3).

5.2.3. EFL pre-service teacher-related obstacles

Some educators believe that their pre-service teachers' attitude, interest, and readiness are also part of existing barriers to ICT use in their initial education. One educator stated that,

Ah, generally speaking when I use Moodle with my class, some of them are quite lazy. Actually, sometimes I post the documents online, but they don't log in to get it, so I have to check if they access it regularly, some students do it every two days, some take longer. So, it depends on the students. (E2)

The interview excerpt showed issues with regards to individual pre-service teachers' dispositions. Student disengagement in the lesson caused interruption of educators' use of CALL technologies in their classroom.

5.2.4. CALL technology integration policies

All of the interviewed educators claimed that there were no official requirements in their institution regarding the use of ICT in the education programs, or, at least, they had never been aware of any such requirements. According to the educators, their institutions' management boards only encouraged them to use ICT, if possible, to enhance the quality teaching and learning. Therefore, many of the educators explained that their use of ICT in their teaching practices came from their personal interests in ICT and CALL technologies in education. They believed that this was an effective way to help improve their teaching performance and capabilities. Also, one educator expressed their desire for an official institutional guideline or

policy document with a key focus on the implementation and use of ICT applications and CALL technologies in their EFL initial teacher education program, stating that,

I think, ...ah..., there should be a specific requirement because at the moment some people may find designing lesson plans and then using online learning platform a bit time and energy consuming, but it is only short-term, for long-term, this will have more benefits. (E1)

They argued that this clear policy was necessary for a long-term positive effect on the quality education and training of the institution. One educator highlighted that “*at the moment, it is still at the encouragement level with some directions and the development of the current M-learning platform also serves as a fundamental step to encourage the educators here to use more ICT in their teaching*” (E3).

Educator 3’s sharing indicated the inconsistent policies on the integration of ICT and CALL tools into the teaching and learning in the program. No official policy on requirements and guidelines about the CALL technology integration resulted in the variations in educators’ practices, which affected the pre-service teachers’ learning experience and academic outcomes.

6. Discussion

6.1. The significance of opportunity to learn for professional development

While answering the first research question on the perceived ICT integration in the EFL initial teacher education program, the current study found that EFL pre-service teachers perceived and valued opportunity to learn in their initial education program. For example, the majority of participants were provided with highly present opportunities to learn CALL-related knowledge and skills, which is consistent with findings of a study conducted by Schmidt et al. (2011) stating the important role of learning opportunities with emphasis on domains of knowledge in teacher preparation. The current study argued that the English language teacher education institution structures pre-service teacher competence as an outcome of initial teacher education through their provision of opportunity to learn to the extent that is consistent with the philosophy of the articulation between initial teacher education and actual teaching (Blömeke & Delaney, 2014). This philosophy, which has been dominant in guiding teacher education reforms in the past decades, emphasises the need to enhance teacher knowledge preparation in which teachers are viewed as learners of teaching, what they need to know and can do (Shulman, 1987). The current study has furthered understanding on the provision of opportunity to learn as an important dimension of the quality assurance of the initial teacher

education program. More specifically, the opportunity to learn CALL-related knowledge importantly contributes to preparing pre-service teachers for the technology integration into their competent practices once they complete their initial program (Le et al., 2022; McGarr & McDonagh, 2021; Schmidt et al., 2011; Valverde-Berrocoso et al., 2021).

In addition, qualitative interview analysis showed interesting findings. The interviewed educators expressed their desire for and expectations about their professional development opportunities with key focus on pedagogical and technological competence. These findings concur with the observations in the literature that foreground the teacher educators' needs for continuing professional development with particular attention to their personal demands, interests, and practices through various modes (Nguyen, 2019; Nguyen et al., 2022). By considering various presence of opportunity, the current study contributed to the literature on the integration of ICT and CALL technologies in the initial teacher education where prior research usually explored only a few traits such as use of ICT in the program (Gudmundsdottir et al., 2020), modelling in ICT (Aşık et al., 2020), and extensive attention to digital competence (McGarr & McDonagh, 2021).

6.2. Framed barriers and inconsistent policies

The results showed the factors influencing the integration of ICT and CALL technologies in the initial teacher education with attention to educator-related and pre-service teacher-related challenges, the provision of resources, and policies on CALL teacher education. While educators admitted adverse influence of professional knowledge, skills, confidence, and psychological fear of change on their deployment of CALL activities, pre-service teachers' attitude, engagement and willingness were reported as existing obstacles to ICT- and CALL-integrated initial teacher education. These findings prove that the teacher educators are sure that they are prepared for their personal continuing professional development in many ways and willing to update the trend and innovations (Nguyen et al., 2022). While in agreement with the observations that the educators' attitudes toward technology had a significant impact on their teaching practices (Afshari et al., 2009; Masoumi, 2021), the current study highlighted that although the educators are regarded as agents of change, they would face challenges in accepting the changes for their practices as "technology integration takes time: time to learn about the innovation, time to be adequately prepared to use it" (Afshari et al., 2009, p. 96). In addition, the current study argued that the initial teacher education program provides EFL pre-service teachers with opportunities to learn and practise the CALL-related knowledge in their coursework program to prepare them well for teaching and learning as categories of teacher

knowledge are part of constituents to the EFL pre-service teacher professional competence (Blömeke & Delaney, 2014; Le et al., 2022; Shulman, 1987).

In addition, the analyses of interviews showed issues with the limited quality of infrastructure related to poor internet connectivity, under-resourced and dated ICT equipment, and slow support to troubleshooting technological problems. These findings aligned with previous results that the level and available accessibility of the ICT infrastructure with particular attention to equipment, hardware, and software importantly affect the efficient and effective practice of ICT and CALL technology integration (Aşık et al., 2020; Tran et al., 2020; Valverde-Berrocoso et al., 2021; Vo et al., 2020). The current study argued that the EFL initial teacher education program focuses on the sufficient provision of resourceful opportunities for ICT integration and ongoing support in terms of technology and administration in an appropriate manner as the quality of equipment and infrastructure is also at the core of the support.

The results also noted an absence of policies on official requirements for and guidelines on the implementation of ICT and CALL technologies in the initial teacher education program. Many researchers have argued that the lack of consistent policies and concrete training content has been considered as key barriers influencing the practices of ICT and CALL integration and the consistency across educators' teaching (Peeraer & Van Petegem, 2012; Vo, 2019; Vo et al., 2020). The findings partially corroborate Hong's (2010) findings, sharing three factors, namely, individual educator factors, EFL pre-service teacher-related factors, and contextual factors. Interestingly, the current study further highlighted the factor of CALL integration policy. This distinction suggests that CALL practices and policy on EFL initial teacher education in the context of Vietnamese higher education need further investigation.

7. Conclusion

The study showed that EFL pre-service teachers perceived a high presence of opportunity to learn CALL-related knowledge in their initial education program, and several factors influencing ICT integration in the EFL initial teacher education were identified. These factors were related to the individual educator- and EFL pre-service teacher-related obstacles, the provision of infrastructure, and the policies regarding CALL technology integration. According to Hong (2010), CALL initial teacher education factors, individual educator factors, and contextual factors significantly impact the integration of ICT in the EFL pre-service teachers' initial education. We argued that the preparation of CALL-related knowledge for EFL pre-service teachers with a focus on their opportunity to learn and policies on the implementation

of technology pedagogies in the initial teacher education programs made a pivotal contribution to the practices of ICT or CALL technology integration into the EFL initial teacher education. The study suggests that these components are interdependent with an intertwined relationship across each of them.

It is to be noted from the study that EFL pre-service teachers could be helped to reflect critically on their initial education, which may provide more insights for them to take advantage of the opportunity to learn. Informed by the EFL pre-service teachers' voice, the educators may be able to better scaffold instruction and curriculum content to prepare the EFL pre-service teachers well for their needs with regard to the CALL-related knowledge preparation. The study further highlights the need for educators' continuing professional development in terms of better pedagogical and technical training as well as more administrative support, to propose official policy and explicit guidelines from the institution for the implementation of ICT or CALL technology integration into the ITE programs as the basis for educators' teaching practices.

The study, despite its contribution, has some limitations. For example, the number of participants in the current study was small, and the research site was a higher education institution in southern Vietnam. The findings of this study, therefore, are not meant to be generalised for all EFL pre-service teachers' and educators' views regarding the ICT integration in the initial teacher education in Vietnamese higher education and internationally. In addition, the study does not examine the educators' evaluation of integrating ICT into their pre-service teachers' CALL-related knowledge preparation. Future research may investigate the educators' assessments to gain more insight into their practices. Finally, the program curriculum is a factor impacting the knowledge preparation for EFL pre-service teachers. However, the current study has not explored how the institutions' program curriculum has affected the practices of ICT integration into the initial teacher education. Future studies could be conducted to investigate how the program curriculum influences the educators' practices.

References

- Afshari, M., Bakar, K. A., Luan, W. S., Samah, B. A., & Fooi, F. S. (2009). Factors affecting teachers' use of information and communication technology. *International Journal of Instruction*, 2(1), 77-104.
- Aşık, A., Köse, S., Yangın Ekşi, G., Seferoğlu, G., Pereira, R., & Ekiert, M. (2020). ICT integration in English language teacher education: Insights from Turkey, Portugal and Poland. *Computer Assisted Language Learning*, 33(7), 708-731. <https://doi.org/10.1080/09588221.2019.1588744>
- Blömeke, S., & Delaney, S. (2014). Assessment of teacher knowledge across countries: A review of the state of research. In S. Blömeke, F.-J. Hsieh, G. Kaiser, & W. H. Schmidt (Eds.), *International perspectives on*

- teacher knowledge, beliefs and opportunities to learn: TEDS-M results (pp. 541-585). Springer. https://doi.org/10.1007/978-94-007-6437-8_25
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). SAGE.
- Dang, X. T. (2013). *ICT in foreign language teaching in an innovative university in Vietnam: Current practices and factors affecting ICT use* [Doctoral thesis, La Trobe University, Australia].
- Dörnyei, Z., & Taguchi, T. (2010). *Questionnaires in second language research: Construction, administration, and processing*. Routledge.
- Ekrem, S., & Recep, Ç. (2014). Examining preservice EFL teachers' TPACK competencies in Turkey. *Journal of Educators Online*, 11(2), 1-22.
- Gillespie, J. (2020). CALL research: Where are we now? *ReCALL*, 32(2), 127-144. <https://doi.org/10.1017/S0958344020000051>
- Granston, C. (2003). Models for integrating technology into teacher training programs. *Florida Association of Teacher Educators Journal*, 1(3), 75-103.
- Gudmundsdottir, G. B., Gassó, H. H., Rubio, J. C. C., & Hatlevik, O. E. (2020). Student teachers' responsible use of ICT: Examining two samples in Spain and Norway. *Computers & Education*, 152, 103877. <https://doi.org/10.1016/j.compedu.2020.103877>
- Hong, K. H. (2010). CALL teacher education as an impetus for L2 teachers in integrating technology. *ReCALL*, 22(1), 53-69. <https://doi.org/10.1017/S095834400999019X>
- Hubbard, P. (2008). CALL and the future of language teacher education. *CALICO Journal*, 25(2), 175-188.
- Hubbard, P. (2019). Five keys from the past to the future of CALL. *International Journal of Computer-Assisted Language Learning and Teaching (IJCALLT)*, 9(3), 1-13. <https://doi.org/10.4018/IJCALLT.2019070101>
- Johnson, R. B., & Christensen, L. B. (2020). *Educational research: Quantitative, qualitative, and mixed approaches* (7th ed.). Sage Publications.
- Kayrooz, C., & Trevitt, C. (2005). *Research in organisations and communities: Tales from the real world*. Allen & Unwin.
- Le, T. H., Dinh, T. K. T., Vu, P. L., & Nguyen, T. P. V. (2022). ICT competence of pre-service teachers in Vietnam: Structure and impact model. *Journal of Educational and Social Research*, 12(3), 172. <https://doi.org/10.36941/jesr-2022-0076>
- Liamputtong, P. (2010). *Performing qualitative cross-cultural research*. Cambridge University Press.
- Mai, M. T., Nguyen, T. L., Tran, L. N. T., & Le, V. T. (2020). EFL teachers' Facebook groups as online communities of practice: Toward configurations for engagement and sustainability. *CALL-EJ*, 21(3), 140-158.
- Masoumi, D. (2021). Situating ICT in early childhood teacher education. *Education and Information Technologies*, 26(3), 3009-3026. <https://doi.org/10.1007/s10639-020-10399-7>
- McGarr, O., & McDonagh, A. (2021). Exploring the digital competence of pre-service teachers on entry onto an initial teacher education programme in Ireland. *Irish Educational Studies*, 40(1), 115-128. <https://doi.org/10.1080/03323315.2020.1800501>

- McGarr, O., & Ó Gallchóir, C. (2020). Exploring pre-service teachers' justifications for one-to-one technology use in schools: Implications for initial teacher education. *Technology, Pedagogy and Education*, 29(4), 477-490. <https://doi.org/10.1080/1475939X.2020.1784261>
- Meihami, H. (2021). A narrative inquiry into Iranian EFL teacher educators' voice about challenges of CALL teacher education. *Teaching English with Technology*, 21(2), 92-111.
- Mertens, D. M. (2014). *Research and Evaluation in Education and Psychology: Integrating Diversity With Quantitative, Qualitative, and Mixed Methods*. SAGE Publications.
- Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, 108(6), 1017-1054.
- Nguyen, T. H. N. (2019). Teachers' implementation of computer-assisted language learning in the context of educational change in Vietnam. In V. C. Le, T. M. H. Nguyen, T. T. M. Nguyen, & R. Barnard (Eds.), *Building teacher capacity in English language teaching in Vietnam* (pp. 133-149). Routledge. <https://doi.org/10.4324/9780429457371>
- Nguyen, T. L. (2021). *Investigating students' perceptions of Vietnamese tertiary English education* [Unpublished PhD thesis, The University of Newcastle]. Newcastle, Australia.
- Nguyen, V. T., Sit, H. H., & Chen, S. (2022). An exploration of developing ICT-related pedagogical strategies in the professional development of EFL teachers in Vietnam. In A. W. B. Tso, A. C.-k. Chan, W. W. L. Chan, P. E. Sidorko, & W. W. K. Ma (Eds.), *Digital communication and learning: Changes and challenges* (pp. 203-220). Springer Singapore. https://doi.org/10.1007/978-981-16-8329-9_11
- Peeraer, J., & Van Petegem, P. (2011). ICT in teacher education in an emerging developing country: Vietnam's baseline situation at the start of 'The year of ICT'. *Computers & Education*, 56(4), 974-982. <https://doi.org/10.1016/j.compedu.2010.11.015>
- Peeraer, J., & Van Petegem, P. (2012). Information and communication technology in teacher education in Vietnam: From policy to practice. *Educational Research for Policy and Practice*, 11(2), 89-103. <https://doi.org/10.1007/s10671-011-9106-9>
- Rana, K., & Rana, K. (2020). ICT integration in teaching and learning activities in higher education: A case study of Nepal's teacher education. *Malaysian Online Journal of Educational Technology*, 8(1), 36-47. <https://doi.org/10.17220/mojet.2020.01.003>
- Schmidt, D. A., Baran, E., Thompson, A. D., Mishra, P., Koehler, M. J., & Shin, T. S. (2009). Technological pedagogical content knowledge (TPACK): The development and validation of an assessment instrument for preservice teachers. *Journal of Research on Technology in Education*, 42(2), 123-149. <https://doi.org/10.1080/15391523.2009.10782544>
- Schmidt, W. H., Cogan, L., & Houang, R. (2011). The role of opportunity to learn in teacher preparation: An international context. *Journal of Teacher Education*, 62(2), 138-153. <https://doi.org/10.1177/0022487110391987>
- Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher*, 15(2), 4-14. <https://doi.org/10.2307/1175860>
- Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57(1), 1-23. <https://doi.org/10.17763/haer.57.1.j463w79r56455411>

- Son, J.-B., Robb, T., & Charismiadji, I. (2011). Computer literacy and competency: A survey of Indonesian teachers of English as a foreign language. *CALL-EJ*, 12(1), 26-42.
- Son, J. B. (2018). *Teacher development in technology-enhanced language teaching*. Palgrave Macmillan.
- Tafazoli, D. (2021a). Affordances of computer-assisted language learning in Iranian higher education: A qualitative inquiry. *Linguas Modernas*, 58, 55-70.
- Tafazoli, D. (2021b). CALL teachers' professional development amid the COVID-19 Outbreak: A qualitative study. *CALL-EJ*, 22(2), 4-13.
- Tran, T., Phan, H., Le, H., & Nguyen, H. (2020). ICT integration in developing competence for pre-service mathematics teachers: A case study from six universities in Vietnam. *International Journal of Emerging Technologies in Learning (IJET)*, 15(14), 19-34. <https://doi.org/10.3991/ijet.v15i14.14015>
- Valverde-Berrococo, J., Fernández-Sánchez, M. R., Revuelta Dominguez, F. I., & Sosa-Díaz, M. J. (2021). The educational integration of digital technologies preCovid-19: Lessons for teacher education. *PLOS ONE*, 16(8), e0256283. <https://doi.org/10.1371/journal.pone.0256283>
- Vo, P. T. N. (2019). *An investigation of ICT policy implementation in an EFL teacher education program in Vietnam*. Unpublished PhD thesis. Edith Cowan University.
- Vo, T. K. A., Pang, V., & Wah, L. K. (2020). Evaluating Vietnam's pre-service English teacher education program for technology integration in education. *CALL-EJ*, 21(3), 8-22.