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ESL Teachers' Self-efficacy toward Pedagogical Use of Digital Technologies: An Exploratory Case Study in the Ontario Context

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Abstract

Digital technologies have been intertwined with English language education globally and have yielded ever-emerging opportunities and challenges. This research aims to explore ESL teacher participants' perceived abilities to use digital technologies for pedagogical purposes, their implemented integration of technology in classrooms, as well as possible solutions to some of the technology-related difficulties they have experienced throughout their teaching practice. This qualitatively-driven mix-methods study utilizes a constructivist theoretical framework and involves multiple bodies of literature such as digital literacy and teacher self-efficacy. Surveys and semi-structured interviews have been used for data collection. The findings show that teacher self-efficacy beliefs are shaped by ones' lived experiences and are fluid in nature. Additionally, while it appears preferable to look at digital competencies and technologies using a non-essentialist lens, being able to meaningfully integrate technology with classroom activities and learner assignments merits English language instructors' critical attention. Wider implications and future directions have been discussed as well.

Keywords: Digital Technology, Digital Literacy, Teacher Self-efficacy, Technological Pedagogical Content Knowledge, ESL, EAP

Summary for Lay Audience

This study explores how English language teachers in Ontario view their abilities to use digital technologies in and outside the classroom. There are eight survey participants and two interview participants. They have to answer questions about their teaching background, classroom practices related to digital technologies, barriers they may have encountered and possible solutions, as well as needs of training. The findings suggest that their perceptions vary from one another and can change over time. In addition, many of them have experienced difficulties, such as technical issues, plagiarism, student disengagement, in technology-assisted language teaching. The majority of them would like to learn how to integrate technology with classroom activities and student assignments in future training.

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Chapter 1

1 Introduction

Digital technology and education seem to be unprecedentedly interwoven these days. Drawing upon a wide range of data sources (e.g., search engines, education websites, social media) from western publications, Teach Thought (2018), an American organization that aims to innovate K-12 educational practices, reports that the top 20 most recognized educational topics in the year of 2018 have widely involved technological elements. For instance, digital citizenship/literacy, blended learning, pushing back on education technology, gamification, adaptive learning algorithms, game based learning, and mobile learning are ranked in fourth, eighth, eleventh, seventeenth, eighteenth, nineteenth, twentieth place on the list, respectively.

Referring to the field of English as a Second Language (ESL) teaching and learning, the past few decades have witnessed an explosive increase in the number of newly developed digital technologies and relevant theories, such as synchronous chat, augmented reality gaming, the interactionist theory (Chapelle, 1998), and new literacies theories (New London Group, 1996; Gee, 2004). These digital technologies and theories have significantly shaped ESL curriculum planning, implementation, and change on both local and international levels (Blake, 2013). Empirical evidence shows that if employed wisely, digital technologies can not only facilitate learners' development of language proficiency, but also sharpen their abilities to work in teams, think critically, solve problems effectively (Blake, 2013), as well as positively reinforce their cultural capital and identities (Cummins, Brown, & Sayers, 2007).

1.1 Research Problems

While these potential benefits exist, digital gaps, also known as the digital divide, remain at policy, practical and theoretical levels. For example, Howell and O'Donnell (2017) report that not every province in Canada has made its policies and guidelines of

educational technology available, and that there is also an imbalance in the access to digital content and devices in K-12 education across different regions in Canada (e.g., school, district, province). At the practical level, many teachers are unwilling or unprepared to integrate technology into teaching and learning for a variety of reasons such as the lack of access, time, and skills (Tondeur et al., 2011; Martinovic & Zhang, 2012). A Canadian-specific study by Shapson (2007) reveals that due to the limited access to ICT and training, most Canadian teacher respondents across disciplines are holding a generally vague idea of what it really means by technology-mediated teaching, thus negatively affecting their self-efficacy and teaching practice in this regard. Last but not least, most studies under review in efforts to develop teacher self-efficacy theories have examined students' and/or pre-service teachers' self-efficacy toward pedagogical use of digital technologies in non-Canadian contexts, which leaves the perspectives of in-service ESL teachers (those with teaching experiences) in Canada relatively unexplored. Therefore, this research study seeks to shed more light upon in-service ESL teachers' self-efficacy and their pedagogical use of digital technologies.

1.2 Significance

In response to these problems, the significance of conducting my research is also tri-fold. First and foremost, this study is intended to fill in the aforementioned theoretical gaps by studying my interested population of ESL teachers who teach English for Academic Purposes (EAP) to prospective university students in Ontario. In addition, throughout participating in this research, the target teacher participants may gain insights into their perceived technological and teaching abilities, practices and needs, thus casting light on their professional development in terms of the integration of teaching and digital technologies. Also perhaps advantageously, teacher participants' responses in this study could potentially serve as a valuable asset for the programmatic or even provincial policy makers to draw upon when updating relevant policies to foster curriculum changes in the

field of ESL and beyond.

1.3 Purpose of the Research

To provide an overview, the purpose of this qualitative research is to explore in-service ESL teachers' self-efficacy towards the pedagogical use of digital technologies. Using a constructivist lens, this study utilizes a research tradition of an exploratory case study. The sources of data consist of surveys and interviews. The main research sites are adult EAP programs affiliated to universities in Ontario, Canada, and each participant have at least one year of experience in English language teaching.

1.4 Research Questions

My research questions thus include:

- (a) How do in-service ESL teachers perceive their technological competencies in general and technological competencies for pedagogical purposes?
- (b) How do in-service ESL teachers integrate (or not) technology in class and for assignments?
- (c) What may be some of the possible solutions to the respondents' difficulties of using technology in their teaching practice?

1.5 Thesis Structure

This thesis has four remaining chapters. Chapter Two will look at relevant literature on digital literacy, task-based language teaching, EAP technologies, and teacher self-efficacy. Chapter Three will introduce the researcher's positioning, the present study's methodological framing, the participants' background, data collection and analysis, trustworthiness, and ethical considerations. Chapter Four will present data collected from the survey and interviews, separately. Finally, Chapter Five will make connections between the data results, research questions, and relevant literature, and will discuss additional implications, limitations, and future directions of this research. Final

conclusions will be reached at the end of Chapter Five.

Chapter 2

2 Literature Review

This chapter looks at the existing literature regarding digital literacies' historical conceptualizations and presence in Canadian curriculum, task-based language teaching (TBLT) as a pedagogy in English language education, the affordances of certain digital technologies, as well as teacher self-efficacy as an aspect of teacher cognition. As Figure 1 shows, the three labeled circles represent three major aspects of review concerning technology, pedagogy, and teacher cognition, with each of them focusing on digital literacy and specific educational technologies, TBLT, and teacher self-efficacy, respectively. The center of gravity, which is the commonly overlapped area, points to how English language teachers make sense of their abilities to incorporate (or to not incorporate) digital technologies in classrooms.

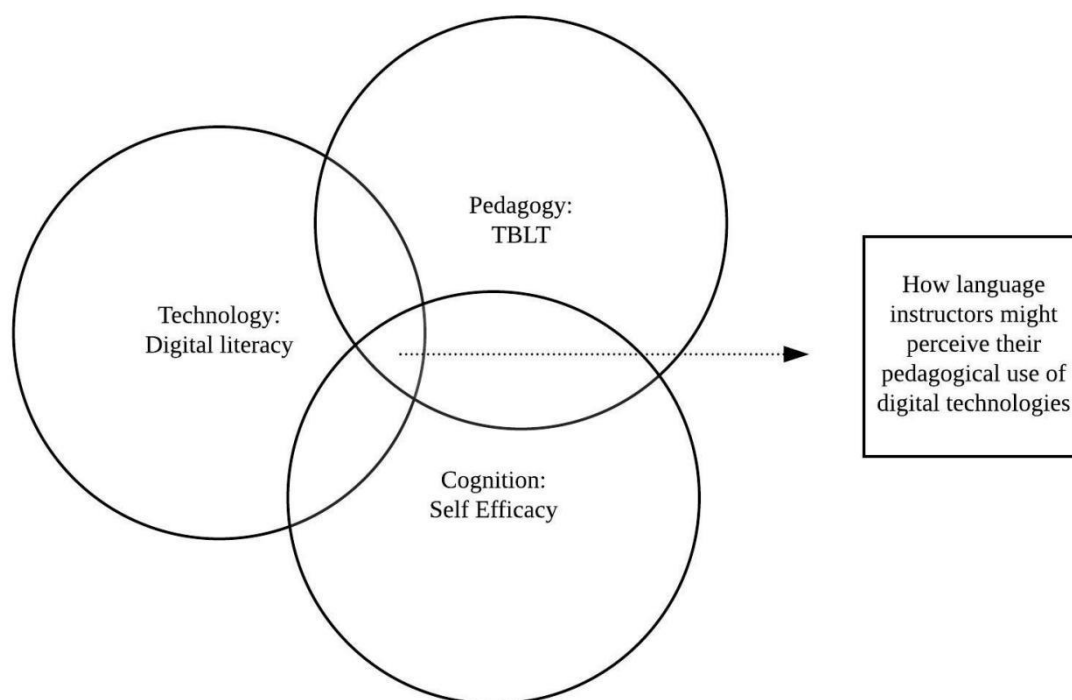


Figure 1. Situating the literature.

2.1 Digital Literacy

Digital literacy represents one of the most important components in new literacies and/or multiliteracies theories. Several alternate terms are sometimes used interchangeably, including but not limited to media literacy (Buckingham, 2006), digital scholarship (Pearce et al., 2010), digital competence (Vuorikari, 2016), and multiple technoliteracy (Kahn & Kellner, 2005).

In order to understand what digital literacy is, it is necessary to look at the notions of traditional literacy throughout historical contexts. Before the 1970s, within the United States and other major English speaking countries, literacy as basic abilities to read and write was barely stressed in schooling settings and it was closely connected with disciplining problematic learners of illiteracy, particularly including youth and adults who were unemployed, imprisoned, pregnant, mentally damaged, or substance-abusive (Lankshear & Knobel, 2006). In other words, teaching literacy in the given time and space almost equated to a type of social or even medical intervention to normalize the behaviors of the illiterate.

After this period of time, literacy gradually came into play in formal curriculum settings and eventually became wide spread for political, social, and academic reasons (Lankshear & Knobel, 2006). Politically, Paulo Freire was one of the key contributors to this literacy aspect of curriculum change. For the oppressed, marginalized groups of people who were most likely to be illiterate to (re)gain power and achieve social justice, Freire developed the framework of critical pedagogy in which literacy as ‘reading the word and the world’ (Freire & Macedo, 1987) was an identical part of the problem-posing model of education and it was purposefully emphasized as a means of promoting reflexivity as a form of critical awareness (Byrd Clark & Dervin, 2014; Freire, 1972).

The change of perspectives to literacy also occurred at the societal level, which was rooted in the failure of previous curriculum in producing literate citizens (Lankshear

& Knobel, 2006). Specifically, the populations educated by those First World schools were found not literate enough to cope with the needs of rapidly changing postindustrial world because they were not sufficiently trained to do so. As a result, to maintain the *status quo* (i.e., public order and economic growth), governments of the First World countries (e.g., the United States) exerted pressure on schools and the schools were thus pushed to make curriculum change by incorporating literacy elements to better produce literate members of society (Lankshear & Knobel, 2006).

There was also a paradigm shift in academia. In the 80s and 90s, a large number of experts across social and humanities disciplines (e.g., applied linguistics, psychology, sociology) were starting to move away from behaviorism and structuralism to socio-cultural theories in an attempt to solve the aforementioned literacy crisis unaddressed by prior paradigms (Gee, 1996). For example, "powerful literacies", "higher order literacies", "new literacies" and 'multiliteracies' were developed in succession. These are typical representations of how the understanding of literacy is extended from traditional print literacy to something that is conceptually broader, more semiotic and inclusive (Gee, 2004) such as "text as social practice" (Garcia, et al., 2018, p. 74). Digital literacy, as part of new literacies, has also evolved from an initial view of technology-centeredness to a new one that engages the use of information by assimilating, evaluating, and reintegrating it (Gilster, 1997). On top of these skills, according to Jenkins (2009), being digitally literate also means that one is able to disseminate knowledge, take risks to solve problems, multitask, collaborate with others, and respect multiple perspectives.

As new literacy studies develop, criticisms follow. One of the most voiced perspectives against digital literacy is regarding its potential for increasing oppression and social injustice (Mills, 2010; Mansell, 2010). Because it is developed and/or shaped with political, economic or socio-cultural purposes, technology itself is never neutral (Hinrichsen & Coombs, 2013) in a way that inherently contains power imbalance among

the producers, consumers, and other stakeholders. In addition, Edwards (2015) has discovered that technology users in curriculum settings, especially learners, oftentimes take technologies for granted in terms of how the information is pedagogically chosen, planned, and implemented, which could reinforce students' role as passive receivers. In fact, with or without the digital dimensions, novice teachers or traditionally-minded teachers affected by teacher-centered apprenticeship of observation might consciously or unconsciously reproduce obedient learners who lack critical thinking or meaning negotiation skills (Lam, 2006; Kramsch & Thorne, 2002). For these reasons, digital literacy-related practices in reality are not necessarily empowering to learners, teachers, let alone to a potentially broader population.

In light of theorizing digital literacy in the Canadian context, Hadziristic (2017) finds that the definition of digital literacy varies among individuals and proposes to deconstruct the umbrella term of digital literacy into 3 skills which are technical skills, cognitive skills, and critical thinking skills. An alternative framework titled *Use, Understand & Create: A Digital Literacy Framework for Canadian Schools* by Media Smarts (2019) emphasizes one's abilities to use, understand, and create digital literacy and highlights 7 criteria (i.e., ethics and empathy, privacy and security, community engagement, digital health, consumer awareness, finding and verifying, making and remixing) for evaluating Canadian K-12 students' digital literacy (Media Smarts, 2019). The practicality or usefulness of the proposed definitions is yet to be examined.

Canadian-specific research has also identified some of the variables that shape one's engagement with digital literacy, ranging from age, attitude, class, language, and geography (Media Awareness Network, 2010), to gender (Information and Communications Technology Council, 2016), and to access to technological services (Howard, Busch, & Sheets, 2010). While older generations are less likely to be engaged with digital technology compared with younger generations commonly known as "digital natives" (Olphert & Damodaran, 2013), Francophone and Indigenous Canadians are

overall underrepresented online compared with their English-speaking counterparts (Media Awareness Network, 2010). Gender-wise, only around 1 out of 4 workers in the Canadian technology industry are female, a comparatively low representation in contrast to the situation in other major developed countries such as the United States (ICTC, 2016). As for rural and remote areas of Canada, a lack of broadband infrastructure and relevant content services would require further funding (Howard, Busch, & Sheets, 2010). Addressing these inequalities matters not only to the marginalized people, but also to the country of Canada as a whole in the face of knowledge economy (Hadziristic, 2017).

2.2 Task-Based Language Teaching

Similar to the theoretical development of digital literacy, TBLT has been gaining increased attention in the field of Second Language Acquisition (SLA) since the 80s, and such attention can be categorized with primarily three perspectives which are interactionist, socio-cultural, and ecological (Ortega, 2009). While an interactionist view places its psycholinguistic emphasis on comprehensible input (Krashen, 1984) and pushed output (Swain & Lapkin, 1995), a socio-cultural view looks at how different types of scaffolding can be achieved through authentic, collaborative negotiation of meaning (Lantolf & Beckett, 2009). Differently, an ecological approach moves beyond the scope of humans and integrates environmental elements (e.g., place, nature) in language learning (Kramsch & Steffensen, 2008). In spite of their differences, it is well-documented that an SLA task should be communicative, meaning-focused, and student-centered (Ellis, 2003).

Prior to the onset of TBLT studies, early curriculum theorists have also touched upon some of the principles that are TBLT-compatible, such as the idea of “integral education” (Doughty & Long, 2003, p. 58). For example, Dewey (1938) suggests that one learns best through active experience and transaction with guiding purposes, rather than through isolated learning as being locked up in a ‘water-tight compartment’ (p. 48),

which ignores the fact of knowledge mobility and fluidity. This is later on mirrored by Bruner's (1960) stance of promoting discovery learning that is situated in real-life communities and problems, as well as Vygotsky's (1978) constructivist views of knowledge construction and learner agency. In short, these works' shared emphases on participatory learning and interactions have shaped the development of TBLT theories to some degree (Feryok, 2017).

There are many ways of categorizing tasks as well. According to Ellis (2009), depending on whether or not linguistic items are specified to be used in communicative activities, tasks can be focused or unfocused. It is noteworthy that even though certain language use is expected in focused tasks, focused tasks are still different from exercises. This is because language use is explicitly required as the goal in exercises, whereas it remains a means rather than an outcome in tasks (Ellis, 2009). An additional influential strategy of grouping tasks is gap-based. Gap, in this case, refers to the information or meaning needed to be conveyed from one learner to another. In detail, a task may have information gap (e.g., jigsaw reading, matching activities), reasoning gap (e.g., puzzles, problem solving), or opinion gap (e.g., discussion, role play, storytelling) (Prabhu, 1987).

Until now, pedagogically, there are at least three ways of implementing TBLT, including the needs-based approach, three-phase approach, and discovery-based approach. While the needs-based approach in SLA employs needs analysis to identify tasks and task sequence appropriate to learners' levels and needs (e.g., learning styles, target language items and skills), it does not respond to the questions of how the analysis results can be utilized or connected with the actual part of teaching (Bygate, 2016). To compensate this, teaching practitioners can take into account both of the two remaining approaches. For instance, the well-known three-phase approach proposed by Willis (1996) structures a well-designed task of language learning with three phases which are pre-task (i.e., teacher introduction and preparation), during-task (i.e., learners engage in tasks monitored and facilitated by the teacher), and post-task (i.e., language focus and feedback). In

comparison to Willis' task-as-work-plan model, a discovery-based approach is more task-as-process (Ellis, 2003). Although a discovery-based approach still holds on to the organization of the three steps, it replaces teacher-given model introduction with learners' own exploration of meaning since the very beginning of a pre-task (Bygate, 2016).

Granted, TBLT is not without criticism given a number of limitations. For example, Widdowson (2003) discusses that conceptually, tasks are loosely defined, and that pedagogically, TBLT's overemphasis on authentic meaning negotiation and fluency can sacrifice learners' attention toward language accuracy. Other pedagogical concerns are related to teacher's potentially reduced control over a wide range of matters in and outside the classroom such as learning materials beyond textbooks, learners' linguistic progress in tasks, as well as lesson planning (Seedhouse, 2005). Moreover, the practicality of implementing TBLT for English in some parts of the world such as Asia is also questioned based on the local norms of large class sizes, overall population's inadequate English language proficiency, and cultural beliefs of teaching which altogether can be very different from western contexts in which TBLT is nurtured (Butler, 2011).

On a further note, within the recent two decades, the connections between TBLT and technological applications (e.g., Web 2.0 and Web 3.0 tools) have been largely strengthened. In this regard, integrating technologies in TBLT has been found to be able to overcome the constraints of time and individual learning pace (Blake, 2013), and facilitate positive L2 identity construction (Thorne, Sauro, & Smith, 2015), stronger motivation and creative skills (González-Lloret & Ortega, 2014), and higher quality of written production (Woo, Chu, Ho, & Li, 2011). Blending TBLT with technologies, on the other hand, also makes it possible that those technological applications can be operated in a pedagogically principled way to essentially benefit learners' language development. For example, compared with totally unstructured online discussions, the ones structured with TBLT are more likely to produce linguistically accurate and

sophisticated turn taking (Smith, 2003).

2.3 Digital Tools for Teaching EAP

In relation to EAP teaching, there is a broad array of technologies that can be used. Because of the space limit, this section will only address some of the frequently used ones, including blogs, wikis, Google Docs, as well as the integration of writing-focused tools. A more comprehensive, detailed review of the given and other tools can be retrieved from the edited book by Chapelle and Sauro (2017).

Blogging has been proved to be a useful tool for developing ESL learners' individual writing meta-cognition regarding cognitive autonomy (Alm, 2009), decision making (Bhattacharya & Chauhan, 2010) and reflective self-monitoring and self-evaluation (Murray & Hourigan, 2008). However, given individual learning preferences and styles, some learners might not find this web-based application desirable for the reasons of the lack of interests in prescribed topics (Vurdién, 2013) and the fear of being criticized (Alm, 2009).

A second asynchronous tool is wikis, which allows multiple learners, whether in pairs or groups, to collaboratively produce and modify text-based content and track the documented history of every editor's modifications. What differs wikis from blogging is that wikis focuses more on team effort and the process of rhetorical construction of writing (Cress & Kimmerle, 2008). It is commonplace that a wikis product can be rather rich in content (e.g., history, culture) and can take various forms such as argumentative essays or multimodal representations just as what blogging is capable of (Bryant, 2006). Nevertheless, ineffective or even disturbing circumstances can happen when learners overemphasize and spend too much time on making corrections on peers' wording or grammar mistakes (Lee, 2010).

One of the technologically more advanced versions of wikis is Google Docs. Being synchronous is something that makes Google Docs stand out from previously

discussed tools. With authorized access, learners are able to modify the shared document in real time. During this process, learners can be exposed to each other's representations of digital literacy (e.g., techniques of content and format organization, visual and audio use) and notice diverse linguistic and interpersonal exchanges through the output constantly modified by one another (Schenker, 2016). However, students who strongly value authorship may be unwilling to share works with others (Kessler, 2009). Another concern regarding the use of Google Docs is that whether or not successful collaborative writing is achieved can be in part dependent on team formation and particularly the selection of group leader (Li & Zhu, 2017). To that end, Li and Zhu suggest that each group should have mixed learners with different linguistic and cultural backgrounds, so that the target language as a shared means will be frequently used throughout group interactions.

Two additional points are worth mentioning regarding pedagogical use of technology. First, it is important for teachers to train learners to use technologies for learning purposes even though learners are personally familiar with such technologies (Pritchard, 2013). This is for addressing the possible mismatch between learners' personal use and the principled use of technology for learning (Reinders & Hubbard, 2013). Second, technology can be integrated into teachers' assessment practices in a variety of ways. For example, automated writing evaluation (AWE) tools can help improve learners' research writing by providing immediate and useful feedback (Cotos, 2011). In order for teachers to evaluate the effectiveness of their chosen technologies for language teaching purposes, Jamieson and Chapelle (2010) have proposed a six-criteria framework that takes into account language learning potential, meaning focus, learner fit, authenticity, positive impact, and practicality.

2.4 Teacher Self-efficacy

Based on Bandura's (1994) social cognitive theory, self-efficacy can be defined as

people's beliefs of the extent to which they are able to accomplish certain behaviors. One's self-efficacy can be established by a handful of contextual factors, including mastery experiences, social modelling, social persuasion, as well as physiological states (Bandura, 2006). In addition to these factors, self-efficacy can also be shaped by whether or not the measuring tools are valid, and whether or not self-evaluation is accurate (Bandura, 2012).

To teachers, such beliefs can be very impactful not only to their life in general (Bandura, 1994), but also to their job satisfaction (Klassen & Chiu, 2010), teaching philosophy and practices (Wolters & Daugherty, 2007), thus eventually influencing learner affect (e.g., motivation, anxiety) and academic achievement (Deemer, 2008). Some research finds that teachers' self-efficacy is positively correlated with learners' academic achievement (Khan, 2012; Shahzad & Naureen, 2017), while other evidence identifies no significant relationship between the two variables (Mahler, Großschedl, & Harms, 2018).

There is also a difference in one's general self-efficacy and specified self-efficacy. For instance, Sharma, Forlin and Loreman (2012) argue that teachers who have a high level of general self-efficacy do not necessarily mean that their self-efficacy in specific aspects such as the abilities to teach inclusively is strong. Because of this, self-efficacy beliefs need to be specified. The categorized self-efficacy for this study includes teacher self-efficacy of digital literacy and teacher self-efficacy of technological pedagogical content knowledge. While the former stresses one's overall competencies of technological use and meaning making, the latter focuses more on technology-mediated teaching.

A variety of studies indicate that teacher self-efficacy of their own digital literacy can be used to predict whether or not a teacher will be able to use digital technologies in general settings which are not necessarily educational (Oliver & Shapiro, 1993; Milbrath & Kinzie, 2000). Specific aspects of such self-efficacy involve a teacher's attitudes,

anxiety, behaviors, and skills concerning digital technologies (Compeau & Higgins, 1995), and all of these aspects can be greatly shaped by one's experiences of prior education and training (Montgomery & Miranda, 2014). In the educational setting, after assessing the relationships between computer self-efficacy and technological practices, Ahmad and others (2010) maintain that teacher computer self-efficacy plays an important, if not decisive, role in their computer practices in classrooms.

Another focus of self-efficacy directly related to education settings, however, is on teachers' perceived technological pedagogical content knowledge (TPCK), which is a relatively new concept that refers to how teachers view their abilities to use technologies to facilitate teaching and learning in a specific subject domain (Harris, Mishra, & Koehler, 2009). Because this is an emerging area, the number of research directed at teacher candidates and in-service teachers has been limited. With regard to in-service teachers, shared findings from available literature express that teachers with strong abilities to use technologies are not necessarily able to conduct technology-enhanced teaching effectively, and that experienced teachers tend to report higher level of TPCK, and that one's age can be negatively related to his/her TPCK self-efficacy (Kavanoz, Yuksel, & Ozcan, 2015; Lee & Tsai, 2010).

Nevertheless, even though one's success in many cases can be more reasonably predicted by one's perceived self-efficacy than by one's prior accomplishments (Bandura, 1994), in reality one's self-efficacy is not always consistent with his/her actual behaviors and practices (Liu, 2011; Lim & Chai, 2008). This is because self-perceived efficacy can change over time or be inaccurate (Bong, 2006). For instance, in a study grounded under inclusive education for children with learning disabilities, western (e.g., Australian, Canadian) and eastern (e.g., Indian, Chinese) teachers' self-rated efficacy scores were both high, which should mean similar inclusive practices but the assumption was not confirmed by evidence (Sharma & George, 2016). Therefore, if a qualitative research methodology is adopted, strong approaches to triangulation are needed to strengthen data

trustworthiness. It would be preferable to take more than one type of triangulation into account, including methods triangulation, data source triangulation, analyst triangulation, and theoretical triangulation (Pandey & Patnaik, 2014).

To date, teacher self-efficacy has been predominantly measured by quantitative research methodologies. A review of those studies published between 1998 to 2009 on the very topic shows that 76.7% (i.e., 167 out of 218 studies) of them were quantitative, in contrast to the figures for the qualitative (8.7%) and mixed-methods (14.7%) (Klassen, Tze, Betts, & Gordon, 2011). This indicates huge potential for qualitative methods in the given area. In fact, Klassen and others (2011) have urged more in-depth qualitative exploration to showcase the operation of teacher self-efficacy. Widely used quantitative scales for measuring self-efficacy include the Teacher Efficacy Scale (TES) (Gibson & Dembo, 1987) and the Teacher Sense of Efficacy Scale (TSES) (Tschannen-Moron & Woolfolk Hoy, 2001), but they and many other scales adapted from them have been found failing to strike a balance between generalization and specificity (Bandura, 2006). Because of these, the present study takes qualitatively-driven approaches to measurement and develop most questions in a case-sensitive manner.

At last, identical gaps exist within this body of literature. For example, recent reviews show that in-service teachers' perspectives toward pedagogical use of technology are tremendously less researched compared with pre-service teachers' (Liu & Kleinsasser, 2015). Limited research findings directed at in-service teaching practitioners suggest that a teacher's potential access to digital devices and services is positively correlated with his/her digital self-efficacy (Lee & Tsai, 2010), which means that the more access a teacher gains, the more likely a teacher can foster a strong level of digital self-efficacy. However, Lee and Tsai's study (2010) was conducted in the context of Taiwan, with a focus on primary to high school teachers. Their findings might be greatly different from the proposed context of this study, that is, ESL practitioners teaching adult learners in Ontario, Canada.

Chapter 3

3 Methodology

3.1 Researcher Positioning and Biases

My personal experiences in digital technology use can date back to around two decades ago. One of the most impactful examples was that I started to be engaged in digital gaming since elementary school. Although the main purpose of such use at the time was mainly for excitement and entertainment and it seemed far from educational, I did learn teamwork, problem solving, and pragmatics in my mother tongue (i.e., Mandarin) incidentally through the play. Shortly after this, there was a boom in the use of mobile phones, search engines, and online shopping in my surrounding areas. These were representative in my earlier exposure to digital technologies, which to a large extent enabled me to stand ready and be open for trying out new technologies, but it was not until the past five years that I began to notice the availability of many educational digital technologies and how effective these technologies can be in second language education.

I must admit that my professional experiences have greatly shaped the start of this study and my understanding of the relationships between language teaching and digital technologies. I have been an occasional second language teacher over the years (e.g., teaching English and Mandarin to Korean middle school students in China, teaching academic English to Chinese learners of English). In addition, I was trained in technological integration in a graduate program of Teaching English to Speakers of Other Languages (TESOL) in the Ontario province of Canada. From such professional experiences I have been able to develop my digital competencies for second language teaching purposes while having also identified a broad array of potential benefits and risks of educational technologies. Therefore, conducting this study can be a golden opportunity for me to combine the two matters of great interest to me (i.e., digital technology and language teaching) and gain language teachers' insights into their

perceived pedagogical use of technology.

As a native Mandarin speaker and an advanced English speaker, my linguistic positionality has influenced this study's many phases such as choosing research questions, sampling, and data analysis. As Byrd Clark (2009) has argued, there is nothing neutral about research, research is always situated. So, I wanted to 'come clean' and be up front about my biases and experiences, as I understand and am aware of how they have shaped the ways in which I have gone about doing this particular kind of research. Being a linguistic insider researcher, which means I share "common languages, themes and experiences" (Kim, 2012, p. 264) with my respondents, has made it advantageous for me to be able to identify and respond to linguistic and contextual cues (Blackledge & Creese, 2010), access respondents and local contexts easily (Hult, 2014), gain informed consent (Kim, 2012), and emphasize with respondents' positioning and feelings (Perryman, 2011). However, being an insider may also play a role in causing biases (Bilecen, 2013). An example can be that respondents "may not give a detailed answer especially if they feel the researcher knows what they mean" (p. 330). This actually happened during my interview with Jo¹. Because Jo and I share the same mother tongue and TESOL training background, there were times in the interview that she was inclined to give short rather than detailed responses. In order to not compromise data richness, I intentionally asked for clarification under several interview questions (e.g., asking her to elaborate on the learning management system she was using).

An additional biggest researcher bias of mine about technology lies in the formation of my research questions, survey questions, and interview questions. For example, most of the survey questions in section three and section four (see Appendix B: Survey) were developed drawing upon my previous teaching, learning, and observation experience as well as my beliefs toward pedagogical use of technology. A design of survey based on my own untested perspective can be very biased as participants may had

¹ Please note this is a pseudonym.

encountered a wider range of technologies, barriers, or needs of training that I could not think of. To manage such bias, I provided open-ended options under these questions in the form of “Others (specify...)”, so that participants’ responses can remain as close as possible to their ‘real’ practices or what they feel is real in that moment.

3.2 Rationale

As concerns my theoretical framing, I used a constructivist worldview and a qualitatively-driven mixed-methods exploratory case study design because the central phenomenon of this study is how ESL teachers perceive their abilities to use technologies for pedagogical purposes. Methodologically, this research study is intended to achieve an in-depth exploration of how certain groups of people make sense of "a bounded phenomenon such as a program, an institution, a person, a process, or a social unit" (Merriam, 1998, p. xiii), which is epistemologically qualitative, believing that “there is no ‘objective’ social reality ‘out there’” (Hesse-Biber, 2010, p. 455). The constructivist worldview believes that reality is socially constructed, multidimensional, and fluid. So is one’s self-efficacy, as part of human identity.

Meanwhile, this study chooses an exploratory case study over other qualitative research styles such as grounded theory and ethnography because the intent is to stress “[the] episodes of nuance, the sequentiality of happenings, [and] the wholeness of the individual” (Stake, 1995, p. xii) rather than to develop theories or identify cultural patterns (Creswell, 2014). Exploratory case study aims to “define research questions of a subsequent study or to determine the feasibility of research procedures” (p. 37) and is oftentimes “a prelude to additional research efforts” (Hancock & Algozzine, 2011, p. 37).

Although this study is largely qualitative, there exists room for using quantitative components. In fact, qualitative approaches to mixed methods practice do not have to be anti-positivistic especially in inquiries such as qualitative inquiry (Lincoln & Guba, 1985). Including the quantitative survey method in this “survey-and-interview” sequential mixed

methods design (see Figure 2) is “to target a specific population of interest that may be hard to locate” (Hesse-Biber, 2010, p. 465). As a result, it is possible to sub-sample interviewees for more in-depth exploration.

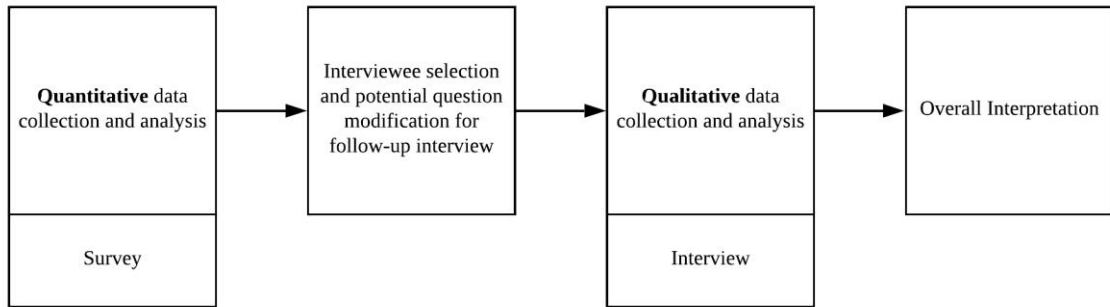


Figure 2. The sequential exploratory mixed-methods design.

With the methodology being selected, it is also necessary to examine whether my research questions are answerable with the chosen methods. This can be achieved by looking at my research questions which are: (a) How do in-service ESL teachers perceive their technological competencies in general and technological competencies for pedagogical purposes? (b) How do in-service ESL teachers integrate (or not) technology in class and for assignments? and (c) What are the solutions to the respondents’ difficulties of using technology in their teaching practices? Potentially, all of the three questions can be addressed with the methods of qualitative case study such as individual surveys and semi-structured interviews. There is no predetermined way of using a single method to answer a particular question; instead, each question can and should be investigated through multiple means of triangulation to increase trustworthiness.

The key aspect of my study is teachers' self-efficacy toward the pedagogical use of digital technologies. To gain a holistic understanding of how in-service ESL teachers perceive and cope with the integration of technology and teaching, an exploratory case study was carried out to ESL teachers who might teach English for different purposes (e.g., EAP/English for Academic Purposes, language test tutoring, etc.) in different settings (e.g., university-affiliated English language institutes, language tutoring

companies, freelance English language teachers). This indicates the means of maximum variation sampling for conformability and richness purposes (Patton, 1990).

3.3 Participants

Ten in-service teachers had originally been planned to be recruited for this study; however, only eight successfully participated in the study. Among the participants, two were trainee teachers enrolled in two different graduate programs at South University² in Ontario, while the other six were all in working conditions (e.g., at language institutes affiliated to universities, language tutoring companies). One of the participants' biggest commonalities was that all of them had at least one year of experience in teaching English as an additional language, including the two trainee teachers. However, the participants' focuses of teaching varied. As shown in Table 1, most of them (N=5) were teaching EAP courses, whereas some of them (N=3) were mainly teaching test preparation language courses (e.g., IELTS, TOEFL). The two interviewees, Anna from North University with 34 years of experience and Jo from South University with 10 years of experience, were both experienced teachers; yet they were at very different points in their careers, and in age, which might play a part in their use of digital technologies as well. All participants' specific job titles, working locations, and names of institutions were not collected for ethical reasons.

3.4 Data Collection Methods

This study's data collection was carried out in the forms of survey and interview after the approval of the ethics application. The entire data collection process spanned over two months, and the overall sequence started with the survey and then the interview.

Collecting survey data before conducting interviews allowed survey results to help locate

² Please note that "South University" and "North University" in this study are pseudonyms used to uphold the confidentiality and privacy of the participants and the institution.

interviewees, and allowed that part of the survey results could be used to form targeted and in-depth inquiries in semi-structured individual interviews. Due to time constraints, only two out of the eight survey participants were chosen and invited to participate in the individual interviews. The interviewees were also selected in part for their dramatically different self-rated results and their longer years of teaching experience compared with others survey participants’.

Considering that most of the participants (N=7) were bilingual speakers of English and Mandarin, the survey and the corresponding Letter of Information and Written Consent were designed initially in English and translated into Mandarin. The accuracy of the translation was verified by a person who is both a native Mandarin speaker and an advanced English language speaker out of the research team to prevent a conflict of interest. Similarly, the interview guide and the corresponding Letter of Information and Written Consent were also prepared in bilingual manners. This effort was to accommodate participants’ needs in case they found themselves more comfortable with filling out a survey or being interviewed in Mandarin.

3.4.1 Survey

There were four sections of questions, and 14 questions in total (see Appendix B: Survey). The first set of questions aimed to investigate background information about participants’ years of experience in teaching English language in current institute and throughout their entire career, course types that they had taught, typical numbers of students in their classrooms, and self-identified gender and age.

The second section had two questions to ask participants to rate their self-perceived technological abilities in daily life and for pedagogical purposes. A five-point Likert scale, including the options of “strongly disagree”, “disagree”, “neutral”, “agree”, and “strongly agree”, was used to directly connect with the first research question to find out their self-rated comfortable levels regarding using technology in

general and pedagogical settings. The reason for using a Likert scale is that such a scale has been found useful in exploring human characteristics such as beliefs, perceptions, or feelings by asking participants to respond to a set of statements (Fraenkel & Wallen, 1996). Moreover, the use of five points from “strongly disagree” to “strongly agree” represents ample variances and helps increase internal consistency reliability (Comery, 1988).

The third section contained two questions aimed at discovering participants’ specified teaching practices related to technology. Specifically, participants had to mark the frequency of technology use according to technology types and according to pedagogical purposes under two separate tables. They were also allowed to specify any types of technologies or purposes unmentioned but that did occur in their practices. These two questions were intended to gain a basic understanding of the extent to which technologies might actually be used, thus essentially addressing the second research question.

The fourth section focused on their needs for professional training, including their possible barriers of using educational technology effectively, preferred sources of training, specified content of training, as well as any further comments they may have. In addition to the available options in the given questions, participants can provide open-ended insights wherever they feel necessary.

With regards to procedure, participants were recruited individually and they were approached using the verbal recruitment script in a face-to-face manner. I met each of them on workdays after they finished teaching or studying on campus. To be eligible to participate in this study, they had to confirm that they had at least one year of experience in English language teaching. After they read the Letter of Information, asked questions related to the study, and signed the written consent, they started to complete the survey. They were also able to ask questions when doing the survey for clarification purposes. The duration lasted from 13 minutes to 20 minutes, depending on participants’ individual

familiarity with the topical content and their understanding of the language used in survey questions.

3.4.2 Interview

The survey alone tends to provide data limited in sophistication and scope (Clough, & Nutbrown, 2012), lack internal validity due to design errors, and may require a relatively large sample size to make sure that bias is neglectable (Mathiyazhagan & Nandan, 2010). Therefore, the interviews were carried out to compensate what the survey data might lack in depth, which means to explore more fully the perceptions of the teachers and the questions under investigation.

The interview guide had 13 questions (see Appendix C: Semi-structured Interview Questions). While the first three questions were more concerned about how comfortable the participants felt with using technologies in daily life, the rest of the questions were related to their perceptions toward the role and use of technology in classroom settings. Participants were told before the interviews that improvised questions could also occur and that they were able to decide whether to answer, what to answer, and how to answer questions.

In light of the participants' recruitment, because of the time constraint of the study, not all survey participants were able to be interviewed. Therefore, two participants were selected to be interviewees primarily because they were both teaching EAP in university-affiliated English language institutes in the context of Ontario (though from different institutes). A second reason for choosing them was that their entire span of teaching as indicated in the survey were the most representative in length, while a third reason was that they demonstrated very different or contrasting levels of self-efficacy in survey results.

Two semi-structured interviews were conducted separately. For Anna, she signed the two written consent forms (for survey and interview), completed the survey, and then

rescheduled an interview date on the day she met with the researcher on the campus of North University. On a later date, the second key stage of data collection (i.e., the interview) took place over the phone and lasted 30 minutes, the content of which was documented in a note-taking manner. Given Anna's self-identified native English speaker's identity, English versions of survey and interview questions were used for the data collection. As for Jo, the interview lasted around 15 minutes in a face-to-face and bilingual manner on South University campus and was audio-recorded. The interviewees' names and university names are all pseudonyms for identification protection.

3.5 Data Analysis

Regarding data analysis, "consolidating, reducing, and interpreting" (Merriam, 1998, p. 178), rather than merely intuitive affective feelings, played an important role in making sense of the data. The entire data analysis process, assisted by the software tool Microsoft Excel, took place as the survey data was collected. Findings from the analyzed survey results were also used to create additional questions to be asked in interviews such as the question for Anna, "*Have you always felt less comfortable with technology use in education?*". The original and newly formed interview questions and improvised interactions altogether shaped how an interview proceeded, representing constructivism's nonlinear, dynamic construction of meaning-making (Merriam, 1998).

Specifically, with the survey data collected, I transcribed and visualized them using one table and six figures. While Table 1 compiled teacher participants' profiles based on the survey responses from question one to question six, Figure 3 to Figure 8 presented information in the order of the remaining survey questions, including teacher participants' self-efficacy levels, types of technology use in classrooms, served purposes of technology use in classrooms, barriers for effective technology use in classrooms, sources of technological pedagogical training, and aspects of technological pedagogical training. Then I paid special attention to data distribution and summarized some

noteworthy points for each graph including the central tendency, the most and least chosen options, and some additional comments. Next, the interviewees were chosen for the reasons aforementioned and topics such as “teacher education” and “plagiarism prevention” which emerged from the survey data, were marked to be asked in interviews.

As for the analysis of interview data, I transcribed all the interview data into texts with complete sentences using the notes taken from the interview with Anna and the audio recording of the interview with Jo. Then I tried to identify patterns or themes of comparative value as shown in Table 2 such as general digital technologies, pedagogical digital technologies, perceived factors for shaping digital competencies, describing being competent in technologies, describing perceived self-efficacy and rationale, solutions to pedagogical difficulties, and digital educational technology’s transformative potential. Minimum interpretation was involved in Chapter 4 to clarify what the participants meant.

Afterwards, I started to see more connections between the collected survey and interview data, literature and research questions (Peshkin, 2000). In fact, compared with the previous two steps, this phase became more cognitively challenging as more in-depth interpretations were required, just as Merriam (1998) asserts that “analysis becomes more intensive as the study progresses, and once all the data are in” (p. 155). Only content that might help in answering the research questions were presented in Chapter Five and in an effort to establish robust discussions and conclusions. In short, data analysis was an ongoing process throughout the writing of the last two chapters of this thesis.

3.6 Ethical Considerations

Informed consent was given, signed, and returned before the start of the survey and/or the interview. There were no known risks to participants’ health, career, and/or study, and there was also no known conflict of interests between the researcher and the participants or between the research team and the participants. Further, no compensation was given to participants so as to avoid incentive-caused bias.

Participating in this study was voluntary. If participants felt at any time uncomfortable with participating in the survey and/or the interview, they were informed by the researcher and the Letter of Information that they could withdraw their participation without any negative effects on their career or study. In a similar vein, they could choose to withdraw the collected data from the survey and/or interview at any stages of the study. However, if this study was published, it could be potentially difficult to achieve a successful data removal.

Each survey participant could create a pseudonym and provide an email if they were willing to be reached by the researcher via email for a follow-up interview. Because of this, the surveys were not fully unidentifiable to the researcher, as participants' email addresses could be used by the researcher in order to identify possible interviewees. Only two participants were recruited for the interviews. All email addresses provided by the survey participants would be protected, and thus their identifications were theoretically safe with the research team and committee.

As for interview participants, all interview data was transcribed by note-taking or from the audio-recording following the protocols of confidentiality and anonymity, which meant that the identities of each participant would not be known to a third party other than the researcher, researcher supervisor, as well as research committee. Only pseudonyms (e.g., Anna, Jo) were used in the writing of this thesis.

3.7 Trustworthiness of Data

In terms of trustworthiness in qualitative research, in addition to credibility and conformability which have been discussed, transferability and dependability warrant equally close attention (Lincoln & Guba, 1985). For transferability, even though qualitative case study is so context-specific that they are less likely to be directly applied to other contexts or population, techniques such as "thick descriptions" can contribute to an increased external validity that can extend the findings from one case to other similar

cases (Lincoln & Guba, 1985). To ensure dependability, which refers to whether a study's findings are reliable or replicable, Merriam (1995) suggests an "audit trail" technique that allows outsiders (preferably with research background in shared areas) to question the research process and findings after understanding detailed descriptions of the study provided by the researcher. As a result, this thesis was proofread by several researchers with different areas of expertise from a university in Ontario.

Triangulation also helped the increase of research trustworthiness. The main types of triangulation used in this study were methods triangulation and theoretical triangulation (Pandey & Patnaik, 2014). I used two methods, which were survey and interview, when exploring the research questions. In addition, I combined a social constructivist framework with varied aspects of literature, including but not limited to digital literacy, task-based language teaching, some of the widely used EAP tools, and teacher self-efficacy.

3.8 Summary

In this chapter, I began with discussing my researcher positionality and biases, and then elaborated on the present study's rationale that was situated in a constructivist lens and a design of an exploratory qualitatively-driven mixed-methods case study. I also showed background information of the participants, the methods and procedures of data collection, detailed approaches to data analysis, ethical considerations, as well as data trustworthiness. The next chapter will introduce the findings from the survey and interview.

Chapter 4

4 Results

4.1 Survey Results

The collected survey results are shown below following a sequence based on the four sections of the survey.

4.1.1 Demographic Information of the Participants

Table 1

Teacher Participants' Profiles

Pseudonyms	Language Teaching Experience (current institute; entire career)	Subject Taught	Typical Number of Students per Class
Mr. Hu	3 months; 1 year	EAP	1-15
Mr. Jason	N/A; 10 years	IELTS, TOEFL, K-12	1-60
Ms. Alyssa	N/A; 3 years	EAP	35-38
Ms. Anna	20 years; 34 years (on and off)	EAP	12 to 15
Mr. Brad	7 months; 2 years	IELTS	6
Ms. Deng	6 months; 1 year	EAP	40
Ms. CS	13 months; 2 years	IELTS	3 to 8
Ms. Jo	2 years; 10 years	EAP	20-35

The mean years of teaching English language was 7.9 years. While the longest time was 34 years, the minimum was one year, all of which matched the participant selection criterion of one year teaching experience. There were two of them not in a teaching status at the time when they completed the survey due to the fact that they enrolled in graduate programs at South University. Moreover, five participants taught EAP courses, and the other three had taught IELTS preparation courses. Their class size varied from 1 to 60 students.

4.1.2 Self-Perceived Teacher Efficacy

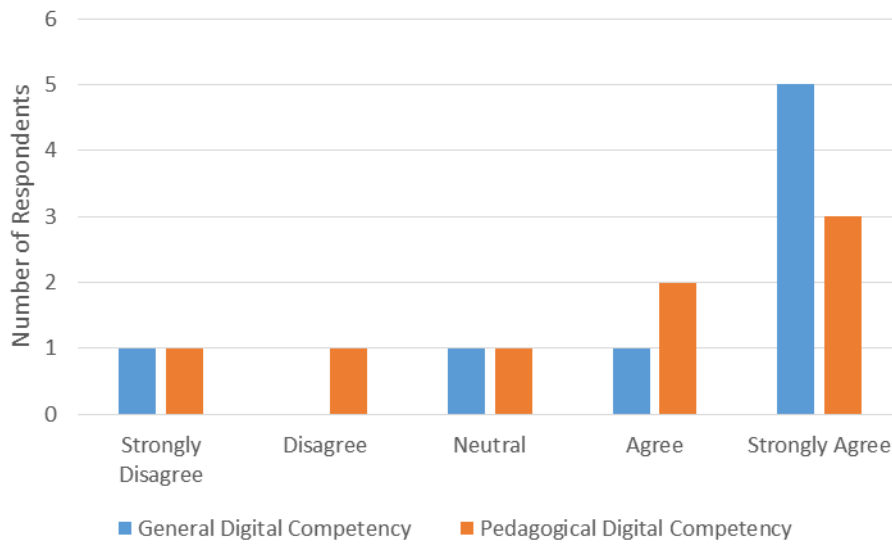


Figure 3. Teacher participants’ self-efficacy levels.

Figure 3 showed how the participants rated their teacher self-efficacy in using technology for general and for pedagogical purposes. Most participants (N=5) strongly agreed that they felt comfortable with using technologies in daily life; the other three participants self-rated as “agree”, “neutral”, “strongly disagree”, respectively. In contrast, when it comes to pedagogical digital competency, fewer participants (N=3) marked the “strongly agree” option, while there were two people expressing “agree” and one marking “disagree”.

4.1.3 Self-reported Teaching Practices regarding Technologies

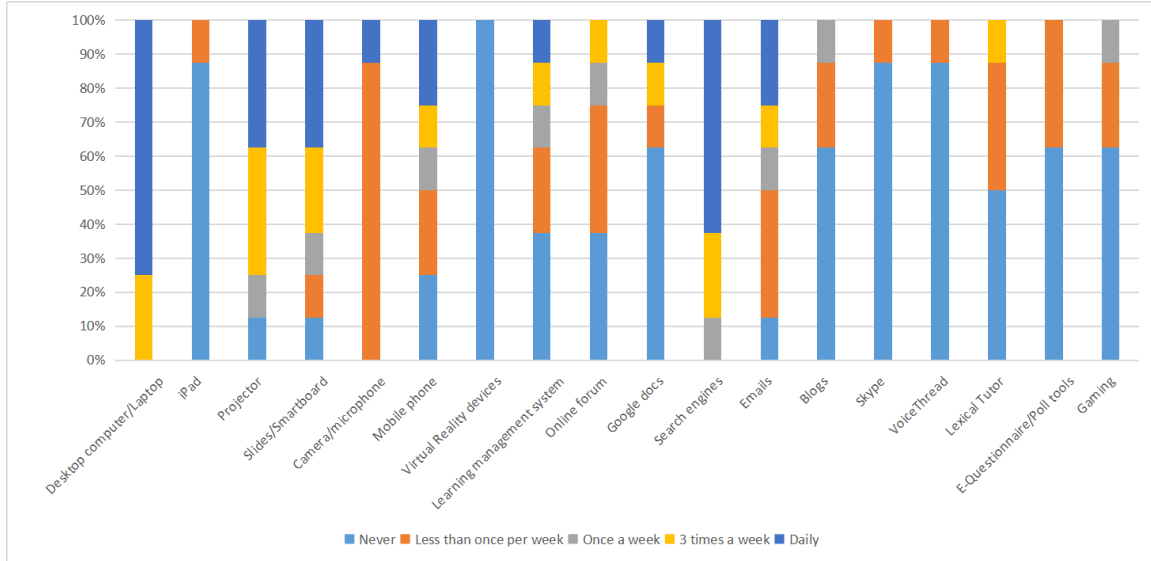


Figure 4. Types of technology use in classrooms.

Figure 4 presented information about how frequent certain technologies were used in participants' language classrooms. The most commonly used ones were (1) desktops computer/laptops, (2) search engines, (3) projector, (4) slides/smartboard, (5) emails, (6) mobile phone. In comparison, the less frequently used included (7) learning management system, (8) online forum, (9) Lexical Tutor, (10) Google docs, (11) blogs, (12) gaming, (13) e-questionnaire/poll tools, (14) iPad, (15) Skype, (16) VoiceThread, and (17) camera/microphone. None of the participants had encountered virtual reality devices in language classrooms. An additional comment indicated Zoom, an equivalent (even more advanced) to Skype.

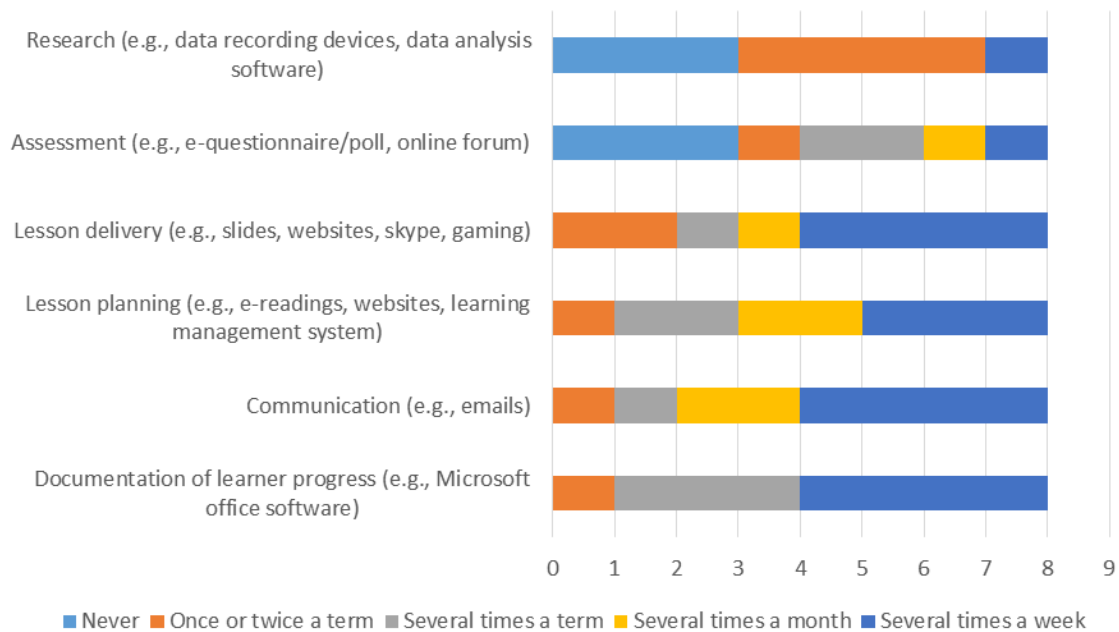


Figure 5. Served purposes of technology use in classrooms.

Figure 5 demonstrated participants' self-reported frequency of technology use for certain purposes. The more frequently to less frequently served purposes consisted of communication, lesson delivery, lesson planning, documentation of learner progress, assessment, and research.

4.1.4 Barriers and Desired Training

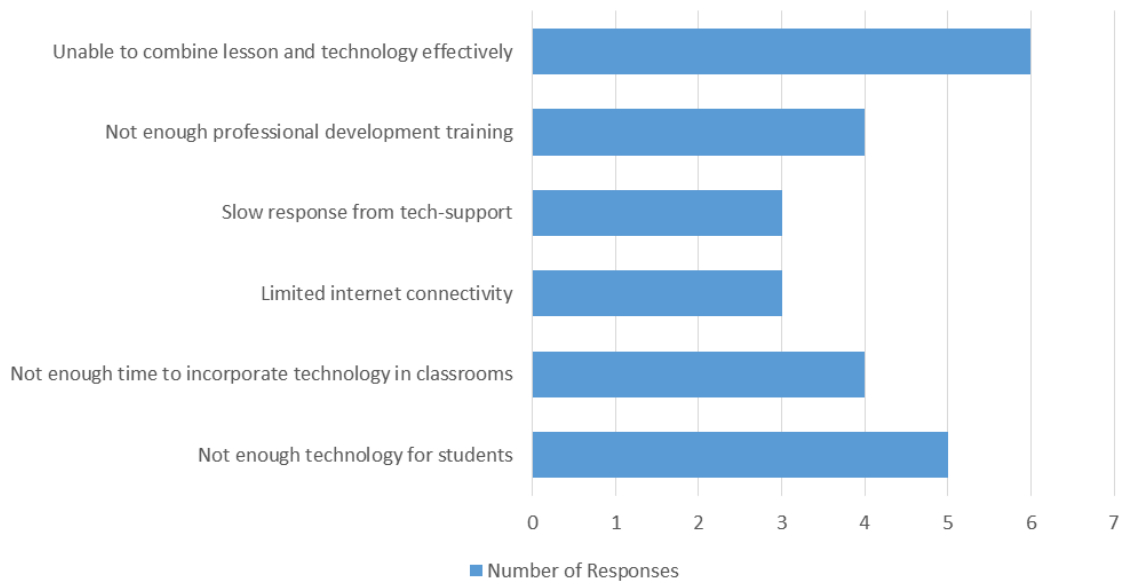


Figure 6. Barriers for effective technology use in classrooms.

Figure 6 focused on the main self-reported barriers of effective use of technology in classrooms. The biggest reported barrier was that participants found it challenging to integrate technologies with their lessons. A second barrier was the availability of technologies for L2 students. Classroom time pressure and a lack of professional training were also playing the role of obstacles, while slow response from the tech-support team and limited internet connectivity were minor issues that sometimes negatively impacted participants’ teaching practices.

On an additional note, two of the survey participants expressed that “the students were not encouraged to use phones/tablets at school at all”, and that “personal skepticism about the effectiveness of many technologies and insufficient to make sound judgments (although I read a lot in the area)”.

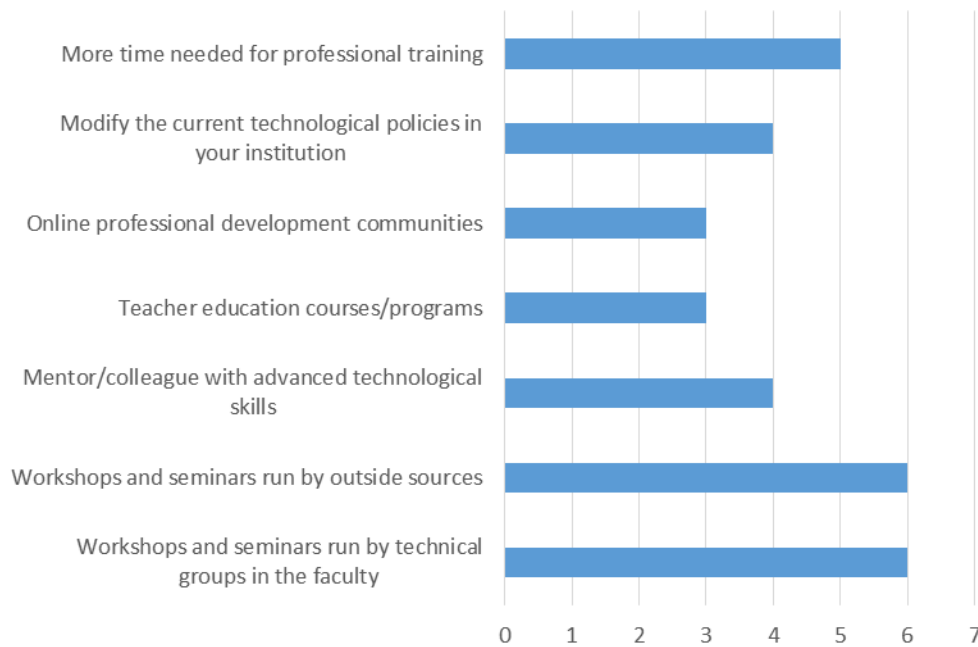


Figure 7. Sources of technological pedagogical training.

Figure 7 reported the types of potential training the participants would like to access. An equal number of responses (N=6) indicated needs for workshops and seminars run by both outside sources and technical groups within the faculty. Five participants also found a lack of time for their professional training. In addition, changes in technological policies and the assistance of technologically advanced mentors/colleagues were also considered to be necessary. The options of online professional development communities and teacher education courses/programs were the least marked.

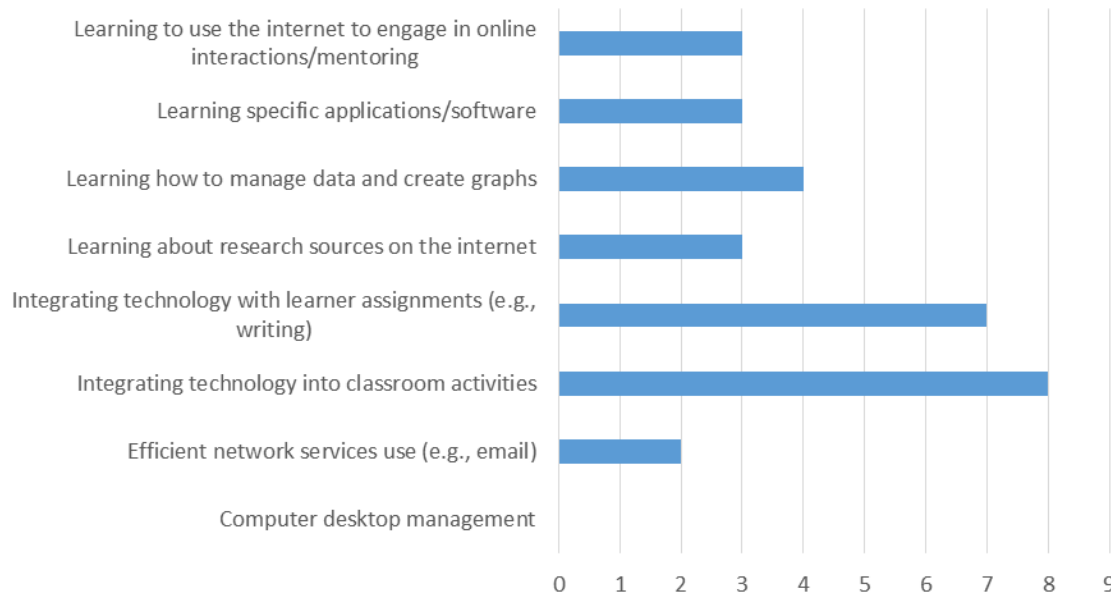


Figure 8. Aspects of technological pedagogical training.

Figure 8 looked at what the participants would like to learn in their future training. The two most wanted were to integrate technology with learner assignments and to integrate technology into classroom activities. A relatively less chosen area is to learn how to manage data and create graphs. Learning to use communication tools effectively was less stressed compared with learning to use the internet to engage in online interactions/mentoring, to use specific applications/software, and to research via the internet. None of them found it necessary to learn how to manage a computer desktop.

Additional comments from the survey reported the common use of technology in language classroom and a risk. While the former addressed the importance of using slide shows, the latter reported an “Increased risk for plagiarism as extensive resources are available online that can be accessed with the development of computerized technology”.

4.2 Interview Results

Table 2

Interview Results Overview

Key Inquiries	Anna's Responses	Jo's Responses
A. General digital technologies	A cell phone, a laptop at home, a desktop at work, email, residence recently connected to the internet for an online teacher training course	Email and other communication tools, entertainment software and memberships
B. Pedagogical digital technologies	Learning management system, videos (TedTalks), grammar quizzes websites, doc cam	Learning management system, VoiceThread,
C. Perceived factors for shaping digital competencies	Professional training, help from family, friends and colleagues, lived experiences (e.g., WebCT)	TESOL program, interests and needs, lived experiences (e.g., one's specialization)
D. Describing being tech-competent	"That's the future", important	Trend, convenience
E. Describing perceived self-efficacy and reasons	"Not that comfortable" Reasons: 1. Operational difficulties 2. Technical issues 3. Time-consuming 4. Unsuccessful personal and colleagues' experiences 5. "Printing things out gets a better result" for reading; Good for teaching listening but students may plagiarize	"Very comfortable" Reasons: 1. Convenience 2. Knowing how to use them 3. Customizing lessons for different age groups and levels 4. Manageable technical issues
F. Solutions	1. Managing technical issues: students fix problems, tech support, students email to themselves or use a USB key 2. Plagiarism prevention: Teacher-recorded listening materials, or added components for assignments (e.g., listening followed by a presentation)	1. Managing technical issues: Handle by herself, tech support 2. Plagiarism prevention: Teaching policies and strategies early on; Online plagiarism check software
G. Transformative potential	Adding more variety to classrooms	Enhanced technological presence compared to the past

Table 2 gives an overview of the interview results. Specific responses collected from the participants Anna and Jo were presented following the order of main interview questions. An additional topic-relevant improvised question and answers for Anna (not for Jo as she needed to leave) were attached after the question 13.

Q1: Can you tell me how comfortable you feel with using certain technologies? Which technologies would you say you use the most? In your daily life?

Anna had a cell phone which was not a smart phone and was not connected to the Internet. She just used it for texting and talking. She also had an old laptop and a very old desktop at home and a desktop at work. Moreover, she used email almost everyday.

In contrast, Jo used a wider range of technologies in daily life, including but not limited to communication and social networking tools (e.g., email, WeChat), online music players, and online services such as Netflix.

Q2: What do you think (what kinds of experiences) contributed to your overall competence in using these technologies?

Anna attributed her overall digital competencies to training at work and some help from others. For example, a long time ago, she received training on how to use Microsoft Word and she got trained on how to enter student attendance and grades into the database. She found those training sessions overall useful. Anna added that she also got help from friends and family and colleagues at work and sometimes students too.

Jo also mentioned her rewarding professional training (e.g., a graduate TESOL program) from which she learned how and why to use certain technologies for L2 classrooms. An example she noted was the poll tool for collecting student feedback, especially in the conditions where students wanted to make comments anonymously. Jo also pointed out the important role played by personal interests in finding out useful technologies to address real-life needs.

Q3: How do you feel about being competent in technologies? Do you think that your students are technologically competent? Why?

Anna acknowledged the importance of being competent in technologies because “that is the future”. She believed that her students were to some degree competent in this regard because they were able to help her with the classroom technologies when necessary. However, Anna drew upon one of her technologically very competent colleague’s experience to argue that although many students had one of the most powerful devices (e.g., smart phone) in their hands, they did not really know how to make use of all of that possibility.

Jo also felt that “being technologically competent is a trend which definitely brings a lot of convenience to our daily life and teaching practices”. She believed that “students are stronger than us in terms of technology use because they are more likely to keep up with the updated information out there”. In addition, she mentioned her EAP students’ different specializations of study which may also have an impact on their technological competencies, especially for “those majored in computer science or engineering”.

Q4: Do you feel comfortable using technologies in the classroom, while you’re teaching? Why or why not?

Anna admitted that she was “not that comfortable” for several reasons. One of the reasons was that she often touched things on the keyboard accidentally. As a consequence, she hit something by mistake and then the screen showed her something she did not need. Another reason was that if she had not used something for a long time then she could forget how to use it. For instance, she used the smart board a few times but she had not used that for years. Consequently, picking it up can be difficult. Moreover, technical issues can happen, such as glitches in the computer or something does not work. And also

she found technology use sometimes a waste of classroom time. An additional reason can be that “it puts like a barrier between me and students because students will pay attention to the screen over me”.

In comparison, Jo felt “very comfortable” with technology use in classrooms. She mentioned the trend of global technological advancement and its impact on education. For example, she said that “online platforms are being built whether it is in Canada or in China”. She specified that the EAP program she worked for “requires students to complete online modules related to the four skills per week, and students practices will be graded”, which can be very time-saving for her monitoring as a teacher.

Q5: If yes to question #4, In what ways do you use technologies in your teaching? Which ones do you use?

Among several technologies available, Jo chose to elaborate on the learning management system by stating that,

it is an all-in-one system that includes functions such as announcement, homework, forums, and gradebook. The system is very user-friendly and students are, very quickly, able to use its basic functions. This is also of course very convenient to teachers too. Besides, the system represents a sort of official symbolic identity for a school with the school’s logo on it.

Q6: If no to question #4, What do you think would need to happen for you to feel more comfortable with using technologies? Can you think of other technologies that you use in your daily life, that have not been used in the classroom, for example?

Anna wanted to receive more training and more ideas concerning how to use technologies efficiently. She would like to know more about “if it really works or is just more for entertainment”.

She did not give her own examples but she mentioned some other colleagues’

experience in using Zoom nearly every week and sometimes more than once a week.

Regarding Zoom, she explained,

it is an online course platform, but the teacher can see the students. So I guess it's like Skype. I think they do things like tell the students to turn to a page in their textbook and look at this graph and ask students what it means, then students have to answer questions.

Q7: Could you give me an example of how you use technologies or incorporate them in your teaching?

Anna gave several examples including the Moodle, TED Talks and other videos, a grammar quiz website and a doc cam. She said she sometimes used the Moodle to do some quizzes, or surveys online, or taught students to use the university's online library to teach research skills. Sometimes she also used it to find reading homework for students. Although other teachers used that a lot, she however stopped doing that because,

I just find that printing things out gets a better result. And I've had students especially for reading. I've had students say that printing things out is better for their reading. If it's like an article or chapter from a textbook or something.

But for teaching listening, Anna used lots of videos including TED Talks and other videos that she made questions too. As for teaching grammar, she used a website where students can do grammar quizzes, but she did not use it very often and she would usually do it once or twice as modelling. Then she would tell the students they can do it for homework if they want for extra practice. She also used the doc cam (i.e., document camera) that she can just put a piece of paper on it and project it on screen. She also used the smart board a little bit, "But again not that much".

Jo mentioned the use of Voicethread for students to improve EAP presentation skills. Her students were expected to run the software, audio-record themselves, and upload the audio onto the software. As a result, students can give and receive peer

feedback. Such use can save a lot of time for teachers. Jo expressed that “because of time constraint, teachers will normally not be able to give customized feedback that much. So this is very time saving and efficient”.

Q8: Do you use technologies for your students’ assignments? Which ones?

Anna noted that her students sometimes had “listening homework to do like a video to watch. And if they want to do practice grammar quizzes. Or they have to listen to something and write a summary. Or they have to find a video and do a presentation about it.”

Jo said she did not use technologies for student assignments very often, but her students did as “many of them are used to reading the assigned articles online and take notes electronically”.

Q9: Do you feel that using technologies is an advantage for your students’ learning or a hindrance? What do you think? And how about for yourself? Do you think technologies enhance your daily life, or hinder you?

Anna responded that sometimes it's an advantage but sometimes it's a hindrance, given the fact that “it can be an advantage for listening, but it can be a hindrance for listening too because lots of times when they are supposed to do a summary of what they listen to, they just plagiarize.” She continued to explain that her students were very competent at “finding stuff on the Internet that they can plagiarize”. To prevent plagiarism, Anna said “the teachers are starting to record the texts so that they [the listening materials] are not on the Internet, or the students can't find them.” An alternative strategy was to require them to write a summary and present it.

When asked whether or not technology has enhanced her life, Anna commented, yes and no. Like it's nice to be able to look things up on the Internet but on the other hand..., I can spend a whole night watching music videos and I don't even

know that the time has passed. I think it must be like students say they play video games and they don't even realize the whole night is over.

In stark contrast, Jo believed “it is not a hindrance” as she and her students had been greatly empowered by the pedagogical technologies in and outside the classroom, let alone the ones for daily use. She recognized digital technologies’ limitations but she did not consider those as a hindrance to teaching and learning as they can be avoided or managed in multiple ways in the classroom.

Q10: Does incorporating technologies have an impact on your teaching overall?

Anna expressed that,

if I were more comfortable and more confident maybe I could add more variety of things to do, like, to learn the Zoom program. And I would like to learn how to do more things online because I think that's going to be important for all our jobs in the future to be able to teach courses online.

Jo stated that “the role of technology in my classroom has been mainly positive”. While it is time saving, it can also be customized for different age groups and levels.

Q11: Can you tell me about any difficulties you’ve encountered when trying to use technologies for your teaching/in the classroom?

Anna restated some of the technical issues. For example, “sometimes the Internet has just not been available, or there's been a power outage and then suddenly the internet goes down. So that's always a problem”. She was also worried about the risk of plagiarism and whether or not the students would pay more attention to the screen to her.

When asked whether or not she felt resistant towards technology, Anna responded “a little bit”. She explained “it is like the same answer before. If I know that it really has a very good effect then it's no problem. But I just don't know enough if it's just kind of entertainment and not really education.”

Jo mentioned similar technical difficulties such as the loss of internet connectivity, which can pose threats to classroom time and lesson implementation. Given that, she said,

teachers should have backup plans, even for presentations. It requires abilities to improvise. It may be unfair to say that technology itself poses this challenge. The actualized technology use is dependent on how flexible we are. You need to be able to develop your skills and make wise use of it.

She also mentioned how she might deal with students' potential plagiarism related to technology. She said she would use plagiarism check software and use a wider range of evaluation tools to students so that the assessment results of student performance are more accurate. Another example she gave was regarding whether or not mobile phones would distract students in L2 classrooms. Jo felt very comfortable with managing her classrooms by, for instance, assigning appropriate tasks to learners of different age and levels.

Q12: And with these difficulties, how did you resolve some of the issues? Did you find any possible solutions?

Anna said "sometimes students know how to fix things which is great". Alternatively she can "reach out to tech department and they're very helpful". In case that students forget to bring their USP for presentations, she would remind students to make sure they email the files to themselves as a backup plan.

Jo said she would try to handle minor issues by herself. But she stressed that this might pose bigger challenges to "those who are not tech persons or less competent at using technologies effectively such as senior teachers or novice teachers". She also considered the help from technical support group to be necessary. She also mentioned that "there was a very simple and superficial training provided prior to our use of the learning management system. But it was too simple that you have to practice at your own

pace”.

Regarding plagiarism prevention, she said, especially for international students who are used to a different culture or system of academic integrity, the teachers will explain relevant policies and strategies such as citation and paraphrasing on the very first day. This can raise their awareness to avoid plagiarism. And we also have online software for plagiarism check. Assignments that do not pass the check will be returned.

Q13: And, finally, do you feel that technologies can be transformative? If so, how, in what ways?

Anna expressed skepticism toward technology use in language classrooms, as indicated in her survey, when stating,

transformative is a really big word. I don't know. Don't know that it can be transformative in the way like saying literature can be transformative. Like I don't know if it can really change people's attitudes. But maybe it can be transformative like putting more variety in the class. Maybe.

She was unsure whether or not technological integration can tremendously change people's attitudes as some literature can, but she seemed to believe that technology use can be transformative in a way that diversifies classroom activities when teaching the four skills (i.e., listening, reading, writing, speaking).

In terms of possible policy changes, she commented,

I'd like people to have more knowledge before they just introduce technologies just because they are very fashionable. I just think there needs to be a lot more knowledge about how really useful these technologies are.

In contrast, Jo believed that technologies have transformative potential. She explained, when I was studying English language earlier, I did not even take notes using laptops or any other technologies. Technology has definitely improved my

learning and teaching in many ways. Again, one's age or personal skills may limit its potential. But I think with proper training, this can be solved and teachers will accept this trend.

Improvised Question for Anna:

Q14: Would you mind elaborating on some of your training experiences that may involve online components?

Anna replied that she has been taking an online course because "I know I might have to switch programs... so I want to be able to do some more preparation for that."

When asked the objectives of the course she has been taking, Anna said,

It's a writing course. So the program it's Blackboard. And we use the program mostly for answering questions that the teacher gives us about readings. And there are online discussion forums so she'll give us a question we all have to answer it. In that course, however, almost nobody was engaged in communication with each other on the forums because, as she put, "you really don't know what is appropriate to say and what's not appropriate, and you don't want to make people feel bad or uncomfortable". She was worried that when one compliments another student's ideas and thoughts, the rest of the students may feel uncomfortable. This was also why her teacher switched the use of forum to that of email for communication with students. Anna was thinking that creating a private place may encourage people to communicate with each other but gossips can also occur in private groups, so she did not know how to fix that.

Another experience Anna shared was that even though Anna did not have any computer science background, she helped build the very first WebCT (Course Tools), as an old version of Moodle, in the language institute she was in. Also, when she was a graduate student at a time when the Internet was first being introduced at Canadian universities around the 1990s, she was already able to use a computer like a typewriter. These to a large extent supported her closing remarks of the interview that "It's not that I

am against technology. It hasn't been something that I've had time to really pursue. And as I said, I just have my doubts about in a language classroom how effective it really is”.

4.3 Summary

This chapter has presented the results from survey and interviews. Teacher participants reported complex beliefs and practices based on their lived experiences related to technology use for general and pedagogical purposes. The next chapter will aim to make connections between the collected data, research questions, and literature before presenting implications, limitations, future directions, and conclusions.

Chapter 5

5 Discussions and Conclusions

5.1 Discussions

5.1.1 How do in-service ESL teachers perceive their technological competencies in general and technological competencies for pedagogical purposes?

Participants' self-reported data indicated that most of them were highly self-efficacious in using technology in daily life and slightly less self-efficacious in using technology for pedagogical purposes. This meant that the majority of them had been exposed to general and pedagogical technologies from previous experience, and that they felt comfortable with technology use in the given settings. For those who selected "strongly agreed" in either or both of the question seven and question eight in the survey, they are likely to hold a generally non-resistant, if not strongly accepting, attitude toward digital technology use. For instance, one of the interviewees Jo considered herself highly self-efficacious in technology use across different settings. According to her interview responses, she overall held a very positive belief toward digital technology and mentioned a number of effective practices she had personally experienced or observed.

Despite the overall high self-reported efficacy levels, individual differences existed among the participants' responses. Two participants reported a relatively low level of self-efficacy to both questions. For example, Anna expressed "neutral" to question seven and "disagree" to question eight. She confirmed her choice in the later part of the survey (i.e., question eleven) and in the interview, and explained in detail why she felt that way when being interviewed. One of the main reasons for her skepticism toward digital technology was her concern that blindly pushing for technology use may threaten pedagogical effectiveness especially when teaching reading skills. For instance, she and her students both found the use of e-readings less effective than that of readings in print.

Age

The role of age was explicitly discussed during the interview with Jo. She maintained that age could be a predictor for low self efficacy regarding pedagogical use of technology, considering that many senior teaching practitioners in her department had expressed relevant resistance at some point. This might be true in this case. However, being less self-efficacious might not necessarily result from that one's older age because this can be caused by one's lack of technological exposure and experience in the time and space they are situated in. A counterexample can be that if two teachers who are both "digital natives" born and raised after the 1990s, their age may not be a determining factor for justifying the potential differences in their self-efficacy toward pedagogical use technology.

Sociocultural aspects

Instead, socio-cultural experiences tend to play an important role in shaping one's technology-related self-efficacy. The present study reveals that one's educational experience, work experience, and professional training may together construct such self-efficacy beliefs, especially given the findings from the interviews with Anna and Jo. According to Schunk and Pajares (2009), there are four main sources of self-efficacy, namely actual performances, vicarious experiences, social persuasion, and affective states. The findings confirm that self efficacy can be influenced at least by actual performances and vicarious experiences. While the former means their teaching practices in language classrooms, the latter refers to observation practices, for instance, from previous teachers and current colleagues. Their self-efficacy beliefs tend to be reinforced through such experiences positively or negatively. For example, Anna spoke to one of her colleague's prior complaint about how the students were always on their phones and were unable to make the most of the potential of technology-enhanced language learning. This to some extent influenced her understanding as to the effectiveness of technological presence in

language classrooms.

Time

Another finding is that one's self efficacy can change over time. This is in line with the research finding that self-efficacy beliefs are subject to change and are time- and space-situated (Dellinger, Bobbett, Oliver, & Ellett, 2008). For example, when Jo was a learner of English at a young age, there was not much of technology for facilitating her learning and thus her digital technology-related self-efficacy level was correspondingly low. With time and technological advancement, she has gained exposure to technology-assisted education and training, increasingly developed needs and interests, and become much more capable in using digital technologies. This can be viewed as a rise of Jo's self-efficacy level. In contrast, Anna's narrative is also an example for explaining the fluid nature of one's self-efficacy, but in a different manner. She was engaged in the design of certain web tools for curriculum development purposes several decades ago. But over time, her self-efficacy level regarding digital technology has in fact fluctuated, if not decreased, at certain points of time.

5.1.2 How do in-service ESL teachers integrate (or not) technology in class and for assignments?

Participants reported varied types of technology use in their language teaching practices. Some of the technologies such as desktops/laptops, search engines, projector, slides/smartboard were frequently used. Their presence can be potentially linked with multiple (e.g., linguistic, visual, audio, spatial, gestural) modes of representation, thus enhancing L2 learners' working memory of the language items and skills being taught (Jewitt & Kress, 2003). Incorporating them for student presentations can be a common practice, as mentioned by Anna, for meaning-focused language learning. However, they can also be used in a traditional, grammar-translation-oriented manner such as carrying

out grammar quizzes. Therefore, contextualizing technology use is necessary for achieving effective English language teaching.

Other technologies, however, were less used, including but not limited to gaming, iPad, Skype, Voicethread, Google Docs, camera/microphone, and virtual reality devices. Many of these have been researched as tools aimed at implementing task-based language teaching and facilitating meaning negotiation among L2 learners. Combining what the survey and interview data suggested, the possible reasons for not using them in the classrooms could be that the teacher participants had not encountered them through previous training, observation, or personal experiences, or that they might considered using them for L2 pedagogy to be irrelevant, or that there was a lack of evidence proving that these tools can be effectively utilized in EAP programs, or that it was unrealistic to use them in classrooms due to time, technical, or institutional constraints. Nevertheless, the role of the widely unwanted technologies might be underestimated, especially given the forthcoming era that consists of 5th generation mobile networks (5G) and Artificial Intelligence (AI). This has been confirmed by research, for example, that good games, such as *World of WarCraft*, can improve learner engagement and enable learners to authentically use language through the play and social practices (Gee & Hayes, 2011).

Data also showed that technologies mainly served the purposes of communication, lesson delivery, lesson planning, documentation of learner progress, and that technologies were almost absent from the research purpose. The latter absence seems understandable because language instructors' role is primarily to teach rather than to research. But interestingly, technological presence for assessment was also less reported in the survey. Unfortunately, no detailed assessment-focused explanation was brought about in the findings. A potential cause for this might be that the participants themselves only had limited assessment practices compared with other practices and thus fewer opportunities for technological presence in pedagogy. An additional reason might be that they did not need frequent use of digital technologies for assessing student performance. A third

explanation could be that when filling out the survey, they unconsciously omitted some of the technologies that were explicitly or implicitly used in their assessment practices.

Teacher participants also reported barriers in and outside the classroom. All six barriers in the survey received moderate to close attention, with the difficulty of effective integration between technology and lessons highlighted as a biggest shared concern. As experienced English language teachers, Anna and Jo had both come across technical issues such as software malfunctions and internet disconnection from their lived teaching experiences. Additionally, the two interview participants had both encountered classroom management issues where students paid more attention to cellphones or tablets over the teacher. They also noted the problem of technology-related plagiarism among students, which mirrored another survey participant's comment that "[there is an] increased risk for plagiarism as extensive resources are available online that can be accessed with the development of computerized technology".

In this case, teacher self-efficacy was related to but did not necessarily predict the implemented teaching practices above. Having a high level of self-efficacy toward pedagogical use of technology does not mean that one is able to use, or will use, certain technologies. Even Jo with a high level of self-perceived efficacy encountered technical issues that she could not handle on her own. In contrast, low self-reported efficacy levels can indicate that participants are not confident and comfortable using digital technology, but do not mean that they would avoid using it, especially when external factors such as mandatory policies are taken into consideration. For instance, Anna was required by the institute's policy to use Moodle to enter student attendance and grades. This is consistent with the existing finding that self-efficacy beliefs cannot always predict actual behaviors (Schunk & Pajares, 2009; Lim & Chai, 2008; Liu, 2011). In reality, there are many dynamic and unpredictable factors that can affect one's teaching practices, including but not limited to programmatic policies, classroom time, personal knowledge base, and student reaction. Even if one is very competent in educational technology, it is just

impractical to achieve a successful technology-assisted language teaching without appropriate infrastructure, internet connectivity, pre-purchased commercialized digital applications, and so forth.

5.1.3 What may be some of the possible solutions to the respondents' difficulties of using technology in their teaching practice?

Both the survey data and interview data reflected the extent to which teacher training might solve the barriers. Some of the most wanted sources of training were identified, including workshops and seminars run by both outside sources and technical groups within the faculty. Meanwhile, five participants found a lack of time for their professional training. Possible considerations can be taken regarding teacher participants' teaching burden, administrative workload, and personal ability to manage time in a well-balanced manner. In addition, the needs of policy change and increased peer mentoring between technologically more capable and less capable colleagues were considered to be necessary. Most of these efforts can be managed and improved at the programmatic or institutional level, and teacher participants seemed to be disengaged with the sources of training from online professional development communities and teacher education courses/programs probably due to their already-intensive workload.

Aspects of training were also specified by the participants to meet their teaching needs. There were two options widely check-marked, namely to integrate technology with classroom activities and with learner assignments. This showed that participants did not want to merely gain operational knowledge of technologies, but want to increase Technological Pedagogical Content Knowledge by combining technological tools with pedagogy in meaningful and effective ways (Harris, Mishra, & Koehler, 2009). Such criticality was mirrored in the interview with Anna who cautioned that "we need to carefully plan technology-enhanced teaching practices rather than just using them for the sake of being fashionable". Adding to that, Koehler and Mishra's (2005) comment

confirms that “It is becoming increasingly clear that merely introducing technology to the educational process is not enough to ensure technology integration, since technology alone does not lead to change” (p. 132).

To cope with technical issues, student plagiarism, and student disengagement in classrooms, which can be regarded as critical incidents in language classrooms that are unplanned, urgent circumstances (Farrell, 2008), situated solutions should be introduced. For addressing technical issues, Jo said that she would first of all try to handle by herself, with, of course, alternative solutions prepared such as reaching out to the tech group and receiving more training in this regard. Anna also added that her students were sometimes able to help. To prevent technology-involved plagiarism, Jo mentioned explicit education to students on their first class, with focuses on the gravity of anti-plagiarism and relevant teaching of citing, quoting, and paraphrasing skills, while Anna mentioned the importance of in-class assignments through which teachers can monitor and assess students’ “real” performance. Effective practices for promoting student engagement, however, were not discussed.

5.2 Implications

According to Doyle (1992), there are three levels of curriculum which are institutional curriculum, programmatic curriculum, and classroom curriculum. While institutional curriculum links schooling with the outside world in the forms such as policy development, programmatic curriculum has to do with how subjects, courses, and programs are planned in the forms of document- and material-writing. Classroom curriculum, on the other hand, clearly refers to actualized curriculum planning in classrooms. None of the three levels should be absent in consideration of significant curriculum change (Deng, 2010), and ESL curriculum in the context of Ontario is no exception.

For the context of this case, it is the provincial government of Ontario that

shoulders the responsibility of decision making about institutional curriculum in the ways of “soliciting the opinions and suggestions from various representative groups – including policy advisory bodies, employment agencies, educational specialists, heads of schools, and various civic and special interest groups.” (Deng, 2010, p. 384). Even though no specific policy was pinpointed by the participants, suggestively, effective communication between institutional decision makers and the leaders of language institutions is needed to address the reported needs of barriers and training in relation to technology-enhanced language teaching at a policy level.

At a programmatic level, the importance of teacher reflexivity should be highlighted especially through continuing teacher training sessions as the majority of the teacher respondents did not merely want to gain operational knowledge of educational technologies in potential training but want to learn to achieve meaningful and critical technological integration. According to Byrd Clark and Dervin (2014), reflexivity can be understood as one’s “willingness to go and sit with the uncomfortableness and messiness of one’s own ideological attachments, ways of representing, and... to flexibly engage and negotiate meanings with one another” (p. 25). This is applicable to technology-enhanced language education settings as language instructors should not be “empty vessels waiting to be filled with theoretical and practical knowledge” (Freeman & Johnson, 1998, p. 401); instead, they should be able to understand how and why educational technologies could be integrated in classrooms, develop willingness to test technological applications’ potential for optimal teaching and learning outcomes.

Classroom-wise, technologies could be incorporated in a situated, case-specific manner. Teachers should realize that there is no one-size-fits-all method for teaching all skills to all students, and that different classroom needs would require different teaching techniques. It is also imperative for teachers to be able to carefully evaluate educational technologies and activities, preferably with the help of curriculum developers and sometimes even software designers. Needs analysis should be done to students both at the

very beginning of the program and periodically. In addition, while Jamieson and Chapelle's (2010) six-criteria framework can be used to identify whether or not technologies fit language teaching realities, Involvement Load Hypothesis (Laufer & Hulstijn, 2001) or Technical Feature Analysis (Nation & Webb, 2011) can also be used to examine activity effectiveness. With proper training, teachers should also be able to raise students' operational and critical knowledge of certain technology use in and outside the classroom. This is particularly important as the digital revolution is also a cultural revolution, whereby language has acquired a whole new value. Students and teachers need to be able to discern between referential (objective) truth and multiple subjective truths, and to continually question realities (especially digital or virtual ones) that appear objective, normal, natural, neutral, and legitimate.

5.3 Limitations

The present study is not without limitations. Due to time constraints, there is only a limited number of participants who were able to be recruited. The small sample size means that the findings are highly case-sensitive and may only be transferable to contexts with "proximal similarity" (Campbell, 1986) or "fittingness" (Lincoln & Guba, 1985) which can be understood as the highest extent to which two contexts are similar. If future studies aim for statistical or analytical generalization, more participants should be involved and should probably be recruited in a more efficient way such as disseminating recruitment emails to a large number of applicable language institutes. This would also help address the risk of some potential participants' refusal for participation.

A second limitation is that more types of triangulation could have been designed, such as face-construct validity. Future studies may take into account methods triangulation, data source triangulation, analyst triangulation, and theoretical triangulation (Pandey & Patnaik, 2014) for boosting research trustworthiness. For example, classroom observation and documents analysis could be implemented to reduce potential biases

caused by self-reportedness, thus improving methods triangulation. In addition, learner perspectives could be involved in exploration to find out whether or not teacher self-efficacy is consistent with how it is perceived by their students.

5.4 Future Directions

Given that the present study is an exploratory case study, explanatory case studies can be conducted in the future to gain deeper insights into the interrelationships between the contributing factors to teacher self-efficacy.

Research could also be carried out to investigate language teachers' physiological states such as teacher anxiety regarding technologies, which has not been specifically touched upon in the present study. Additional areas of investigation can include the effects of certain teacher education programs on teacher self-efficacy, or the effects of teacher self-efficacy on learner L2 achievement in comparative contexts (e.g., an instructor teaching both ESL and EFL contexts).

Methodologically, attention can be focused on adapting previously developed measurement tools such as the Teacher Sense of Efficacy Scale (TSES) (Tschannen-Moran & Woolfolk Hoy, 2001) to meet the needs to explore teacher self-efficacy toward pedagogical use of digital technologies.

5.5 Conclusions

In conclusion, the present study unveils that teacher participants hold different beliefs about their digital competencies for general and pedagogical purposes. While most of them have self-reported to be moderately to highly self-efficacious, two have reported to have relatively low self-efficacy levels. Actual performances and vicarious experiences have been found to play a role in the shaping of their efficacy beliefs.

This study confirmed the previous research finding that teacher self-efficacy is related to but may not necessarily predict the actual technology-assisted teaching

practices as the teaching practices are affected by many situated factors. In other words, there may be a gap between ones' perceived self-efficacy and real practices. Also the context of the teaching and learning environment need to be taken into account, as well as the students' needs which can change from year to year (even daily).

Findings have also rejected an essentialist view and recognized the fluidity of one's self-efficacy beliefs, just as the complex nature of languages and cultures, since "we live in an ever-changing, evolving, constantly shifting world, where socially construed boundaries are becoming more obscured while simultaneously making visible the spaces, dimensions, and strategies of being and becoming multiple people in multiple places" (Byrd Clark, 2009, p. 1).

This applies to technology's transformative potential as well. The findings suggest that digital technologies in education may or may not be transformative in ways that promote educational equality and equity. This is because technology cannot make a transformative difference alone. In fact, whether or not its transformative potential can be reached largely depends on user beliefs, actions, and socio-cultural environment. When properly integrated, technology was reported to help conveniently access a broad range of tailored materials and form democratic teacher-student and student-student relationships, which can be transformative in essence. However, on the non-transformative side, even teacher participants did not share the same-level access to quality internet connectivity, powerful commercialized technologies, or useful technology-focused teacher education, let alone their learners. In addition, technologies were at times misused or overused, which mismatched students' learning needs and styles and could lead to inequity in the classroom. Further to this, we need to be aware of the symbolic power that digital technologies, such as the internet, have particularly in shaping one's beliefs and for communication, in general.

Possible solutions to the reported barriers have placed emphasis on running inner and external workshops and seminars, and learning to integrate educational technologies

with classroom activities and learner assignments. With time and appropriate training, teachers may increase Technological Pedagogical Content Knowledge and eventually become highly self-efficacious and able to tailor lessons with technologies and approach critical incidents differently in technology-enhanced language classrooms.

References

- Ahmad, T. B. T., Basha, K. M., Marzuki, A. M., Hisham, N. A., & Sahari, M. (2010). Faculty's acceptance of computer-based technology: Cross-validation of an extended model. *Australian Journal of Educational Technology*, 26(2), 268–279.
- Alm, A. (2009). Blogging for self-determination with L2 learner journals. In M. Thomas (Ed.), *Handbook of research on Web 2.0 and second language learning* (pp. 202–222). Hershey, PA: Information Science Reference.
- Bandura, A. (1994). Self-efficacy. In V. S. Ramachandran (Ed.), *Encyclopedia of human behavior* (pp. 71–81): New York, NY: Academic Press.
- Bandura, A. (2006). On integrating social cognitive and social diffusion theories. In A. Singhal & J. Dearing (Eds.), *Communication of innovations: A journey with Ev Rogers*, (pp. 111-135). Beverley Hills, CA; Sage Publications.
- Bandura, A. (2012). On the functional properties of perceived self-efficacy revisited. *Journal of Management*, 38, 9–44.
- Bhattacharya, A., & Chauhan, K. (2010). Augmenting learner autonomy through blogging. *ELT Journal*, 64(4), 376–384.
- Bilecen, B. (2013). On the tide between being an insider and outsider: Experiences from research on international student mobility in Germany. In L. Kirpitchenko & L. Voloder (Eds.), *Insider research on migration and mobility: International perspectives on researcher positioning* (53–68). Surrey, Canada: Ashgate.
- Blackledge, A., & Creese, A. (2010). *Multilingualism: A critical perspective*. London, England: Continuum.
- Blake, R. J. (2013). *Brave new digital classroom: Technology and foreign language learning*. Washington, DC: Georgetown University Press.
- Bong, M. (2006). Asking the right question: How confident are you that you could successfully perform these tasks? In F. Pajares & T. Urdan (Eds.), *Self-efficacy beliefs of adolescents* (pp. 287–305). Greenwich, CT: Information Age.

- Bruner, J. S. (1960). *The process of education*. Cambridge, MA: Harvard University Press.
- Bryant, T. (2006). Social software in academia. *Educause Quarterly*, 29(2), 61-64.
- Buckingham, D. (2006). Defining digital literacy: What do young people need to know about digital media? *Nordic Journal of Digital Literacy*, 4, 263-276.
- Butler, Y. (2011). The implementation of communicative and task-based language teaching in the Asia-Pacific region. *Annual Review of Applied Linguistics*, 31, 36-57.
- Bygate, M. (2016). Sources, developments and directions of task-based language teaching. *The Language Learning Journal*, 44(4), 381-400.
- Byrd Clark, J. (2009). *Multilingualism, citizenship, and identity: Voices of youth and symbolic investments in an urban, globalized world*. London, England: Continuum.
- Byrd Clark, J. & Dervin, F. (2014). *Reflexivity in language and intercultural education: Rethinking multilingualism and interculturality*. New York, NY: Routledge.
- Campbell, D. T. (1986). Relabeling internal and external validity for the applied social sciences. In W. Trochim. (Ed.), *Advances in Quasi Experimental Design and Analysis* (pp. 67-77). San Francisco, CA: Jossey-Bass.
- Chapelle, C. A. (1998). Multimedia CALL: Lessons to be learned from research on instructed SLA. *Language Learning*, 2(1), 22-34.
- Chapelle, C. A., & Sauro, S. (2017). *The handbook of technology and second language teaching and learning*. Hoboken, NJ: Wiley-Blackwell.
- Clough, P., & Nutbrown, C. (2012). *A student's guide to methodology: Justifying enquiry* (3rd ed.). London, England: Sage.
- Compeau, D. R. & Higgins, C. A. (1995). Computer self-efficacy: Development of a measure and initial test, *MIS Quarterly*, 19(2), 189-211.
- Comrey, A. L. (1988). Factor-analytic methods of scale development in personality and

- clinical psychology. *Journal of Consulting and Clinical Psychology*, 56, 754-761.
- Cotos, E. (2011). Potential of automated writing evaluation feedback. *CALICO Journal*, 28(2), 420-459.
- Cress, U., & Kimmerle, J. (2008). A systemic and cognitive view on collaborative knowledge building with wikis. *International Journal of Computer-Supported Collaborative Learning*, 3(2), 105-122.
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, CA: Sage.
- Cummins, J., Brown, K., & Sayers, D. (2007). *Literacy, technology, and diversity: Teaching for success in changing times*. Boston, MA: Allyn & Bacon.
- Deemer, S. A. (2008). Review of teaching and learning outside the box: Inspiring imagination across the curriculum. *Journal of Educational Research*, 101(3), 190–191.
- Deng, Z. (2010). Curriculum planning and systems change. *International Encyclopedia of Education*, 1, 384-389.
- Dellinger, A. B., Bobbett, J. J., Oliver, D. F., & Ellett, C. D. (2008). Measuring teachers' self-efficacy beliefs: Development and use of the TEBS-Self. *Teaching and Teacher Education*, 24(3), 751-766.
- Deng, Z. (2010). Curriculum planning and systems change. *International Encyclopedia of Education*, 1, 384-389.
- Dewey, J. (1938). *Experience and education*. New York, NY: Collier Books.
- Doughty, C. J., & Long, M. H. (2003). Optimal psycholinguistic environments for distance foreign language learning. *Language Learning & Technology*, 7(3), 50–80.
- Edwards, R. (2015). Software and the hidden curriculum in digital education. *Pedagogy, culture and society*, 23(2), 265-279.
- Ellis, R. (2003). *Task-based language learning and teaching*. Oxford, England: Oxford

- University Press.
- Ellis, R. (2009). Task-based language teaching: Sorting out the misunderstandings. *International Journal of Applied Linguistics*, 19(3), 221-246.
- Farrell, T. (2008). Critical incidents in ELT initial teacher training. *ELT Journal*, 62(1), 3-10.
- Feryok, A. (2017). Sociocultural theory and task-based language teaching: The role of praxis. *TESOL Quaterly*, 51(3), 716-727.
- Fraenkel, J. R., & Wallen, N. E. (1996). *How to Design and Evaluate Research in Education*. New York, NY: McGraw-Hill.
- Freire, P. (1972). *Pedagogy of the oppressed*. Harmondsworth, London: Penguin.
- Freire, P., & Macedo, D. (1987). *Literacy: Reading the word and the world*. South Hadley, MA: Bergin and Garvey.
- Garcia, A., Luke, A., & Seglem, R. (2018). Looking at the next twenty years of multiliteracies: A discussion with Allan Luke. *Theory Into Practice*, 57(1), 72-78.
- Gee, J. P. (1996). *Social linguistics and literacies: Ideology in discourses* (2nd ed.). London, England: Falmer.
- Gee, J. P. (2004). *Situated language and learning: A critique of traditional schooling*. London, England: Routledge.
- Gee, J. P., & Hayes, E. (2011). Nurturing affinity spaces and game-based learning. *Cadernos de Letras*, 28, 19-38.
- Gibson, S., & Dembo, M. (1984). Teacher efficacy: A construct validation. *Journal of Educational Psychology*, 76(4): 569–582.
- Gilster, P. (1997). *Digital literacy*. New York, NY: John Wiley and Sons Inc.
- González-Lloret, M., & Ortega, L. (2014). Towards technology-mediated TBLT: An introduction. In M. González-Lloret & L. Ortega (Eds.), *Technology-mediated TBLT: Researching technology and tasks* (pp. 1–22). Amsterdam, the Netherlands: John Benjamins.

- Hadziristic, T. (2017). *The state of digital literacy in Canada: A literature review*. Retrieved from Brookfield Institute website: https://brookfieldinstitute.ca/wp-content/uploads/BrookfieldInstitute_State-of-Digital-Literacy-in-Canada_Literature_WorkingPaper.pdf
- Hancock, D., & Algozzine, B. (2011). *Designing case study research: A practical guide for beginning researchers* (2nd ed.). New York, NY: Teachers College Press.
- Harris, J. B., Mishra, P., & Koehler, M. (2009). Teachers' technological pedagogical content knowledge: Curriculum-based technology integration reframed. *Journal of Research on Technology in Education*, 41(4), 393–416.
- Hesse-Biber, S. (2010). Qualitative approaches to mixed method practice. *Qualitative Inquiry*, 16(6), 455-468.
- Hinrichsen, J., & Coombs, A. (2013). The five resources of critical digital literacy: A framework for curriculum integration. *Research in Learning Technology*, 21, 1-16.
- Howard, P., Busch, L., & Sheets, P. (2010). Comparing digital divides: Internet access and social inequality in Canada and the United States. *Canadian Journal of Communications*, 35, 109-128.
- Howell, S., & O'Donnell, B. (2017). *Digital trends and initiatives in education: The changing landscape for Canadian content*. Retrieved from <http://www.omdc.on.ca/Assets/Research/Research+Reports/Digital+Trends+and+Initiatives+in+Education/Digital+Trends+and+Initiatives+in+Education.pdf>
- Hult, F. M. (2014). Covert bilingualism and symbolic competence: Analytical reflections on negotiating insider/outsider positionality in Swedish speech situations. *Applied Linguistics*, 35(1): 63–81.
- Information and Communications Technology Council (2016). *Digital Talent Road To 2020 and Beyond: A National Strategy To Develop Canada's Talent in a Global Digital Economy*. Retrieved from <http://www.ictc-ctic.ca/wpcontent/>

- uploads/2016/03/ICTC_DigitalTalent2020_ENGLISH_FINAL_March2016.pdf
- Jamieson, J., & Chapelle, C. A. (2010). Evaluating CALL use across multiple contexts. *System*, 38(3), 357–369.
- Jenkins, H. (2009). *Confronting the challenges of participatory culture: Media education for the 21st century*. Cambridge, MA: The MIT Press.
- Jewitt, C., & Kress, G. (2003). *Multimodal Literacy*. New York: Peter Lang.
- Kahn, R., & Kellner, D. (2005). Reconstructing technoliteracy: A multiple literacies approach. *E-Learning and Digital Media*, 2(3), 238-251.
- Kavanoz, S., Yuksel, H. G., & Ozcan, E. (2015). Pre-service teachers' self-efficacy perceptions on web pedagogical content knowledge. *Computer & Education*, 85, 94-101.
- Kessler, G. (2009). Student-initiated attention to form in wiki-based collaborative writing. *Language Learning & Technology*, 13(1), 79–95.
- Khan, S. A. (2012). The relationship between teachers' self-efficacy and students academic achievement at secondary level. *Language In India*, 12(10), 436-449.
- Kim, H. W. (2012). Research with children: Challenges and dilemmas as an insider researcher. *Early Child Development and Care*, 182(2), 263–276.
- Klassen, R. M., & Chiu, M. M. (2011). The occupational commitment and intention to quit of practicing and pre-service teachers: Influence of self-efficacy, job stress, and teaching context. *Contemporary Educational Psychology*, 36, 114–129.
- Klassen, R. M., Tze, V., Betts, S. M., & Gordon, K. A. (2011). Teacher efficacy research 1998-2009: Signs of progress or unfulfilled promise? *Educational Psychology Review*, 23(1), 21-43.
- Kramsch, C., & Steffensen, S. V. (2008). Ecological perspectives on second language acquisition and socialization. In P. A. Duff & N. H. Hornberger (Eds.), *Encyclopedia of language and education, volume 8, Language socialization* (pp. 17-28). Heidelberg, Germany: Springer Verlag.

- Kramsch, C., & Thorne, S. (2002). Foreign language learning as global communicative practice. In D. Block & D. Cameron (Eds.), *Globalization and language teaching* (pp. 83–100). London, England: Routledge.
- Krashen, S. (1984). *The input hypothesis: Issues and implications*. London, England: Longman.
- Lam, W. S. E. (2006). Re-envisioning language, literacy and the immigrant subject in new mediascapes. *Pedagogies: An International Journal*, 1(3), 171–195.
- Lankshear, C., & Knobel, M. (2006). *New literacies: Everyday practices and classroom learning* (2nd ed.). London, England: Open University Press.
- Lantolf, J., & Beckett, T. (2009). Timeline: Sociocultural theory and second language learning. *Language Teaching*, 42(4), 1-19.
- Laufer, B., & Hulstijn, J. (2001). Incidental vocabular acquisition in a second language: The construct of task-induced involvement. *Applied Linguistics*, 22(1), 1-26.
- Lee, L. (2010). Fostering reflective writing and interactive exchange through blogging in an advanced language course. *ReCALL*, 22(2), 212–227.
- Lee, M. -H., & Tsai, C.-C. (2010). Exploring teachers' perceived self-efficacy and technological pedagogical content knowledge with respect to educational use of the world wide web. *Instructional Science: An International Journal of the Learning Sciences*, 38(1), 1–21.
- Li, M., & Zhu, W. (2017). Explaining dynamic interactions in wiki-based collaborative writing. *Language Learning & Technology*, 21(2), 96–120.
- Lim, C. P., & Chai, C. S. (2008). Teachers' pedagogical beliefs and their planning an conduct of computer mediated classroom lessons. *British Journal of Educational Technology*, 39(5), 807–828.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage Publications.
- Liu, S. H. (2011). Factors related to pedagogical beliefs of teachers and technology

- integration. *Computers and Education*, 56(4), 1012–1022.
- Liu, M., & Kleinsasser, R. C. (2015). Exploring EFL teachers' CALL knowledge and competencies: In-service program perspectives. *Language Learning & Technology*, 19(1), 119-138.
- Mahler, D., Großschedl, J., & Harms, U. (2018). Does motivation matter?-The relationship between teachers' self-efficacy and enthusiasm and students' performance. *Plos one*, 13(11), 1-18.
- Mathiyazhagan, T., & Nandan, D. (2010). *Survey research method*. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.464.5585&rep=rep1&type=pdf>
- Mansell, R. (2010). The information society and ICT policy: A critique of the mainstream vision and an alternative research framework. *Journal of Information, Communication and Ethics in Society*, 8(1), 22-41.
- Martinovic, D., & Zhang, Z. (2012). Situating ICT in the teacher education program: Overcoming challenges, fulfilling expectations. *Teachers and Teacher Education*, 28(3), 461-469.
- Media Awareness Network. (2010, July 7). *Digital literacy in Canada: From inclusion to transformation*. Retrieved from <http://mediasmarts.ca/sites/mediasmarts/files/pdfs/publication-report/full/digitalalliteracypaper.pdf>
- Media Smarts. (2019). *Use, understand & create: A digital literacy framework for Canadian schools*. Retrieved from Media Smarts website: <http://mediasmarts.ca/sites/mediasmarts/files/pdfs/digital-literacy-framework.pdf>
- Merriam, S. B. (1995). What can you tell from an N of 1?: Issues of validity and reliability in qualitative research. *PAACE Journal of Lifelong Learning*, 4, 50-60.
- Merriam, S. B. (1998). *Qualitative research and case study applications in education*. San Francisco, CA: Jossey-Bass.

- Milbrath, Y. L., & Kinzie, M. B. (2000). Computer technology training for prospective teachers: Computer attitudes and perceived self-efficacy. *Journal of Technology and Teacher Education*, 8(4), 373.
- Mills, K. A. (2010). A review of the “digital turn” in the new literacy studies. *Review of Educational Research*, 80(2), 246-271.
- Montgomery, A., & Mirenda, P. (2014). Teachers’ self-efficacy, sentiments, attitudes, and concerns about the inclusion of students with developmental disabilities. *Exceptionality Education International*, 24, 18–32.
- Murray, L., & Hourigan, T. (2008). Blogs for specific purposes: Expressivist or socio-cognitivist approach? *ReCALL*, 20(1), 82–97.
- Nation, I. S. P. & Webb, S. (2011). *Researching and Analyzing Vocabulary*. Boston, MA: Heinle Cengage Learning.
- Oliver, T. A. & Shapiro, F. (1993). Self-efficacy and computers, *Journal of Computer Based Instruction*, 20(3), 81-85.
- Olphert, W., & Damodaran, L. (2013). Older people and digital disengagement: A fourth digital divide? *Gerontology*, 59(6), 564-570.
- Ortega, L. (2009, September 13-16). *Task and technology in language learning: Elective affinities and (dis)encounters*. Plenary delivered at the 3rd International Task-Based Language Teaching Conference. Lancaster, England.
- Pandey, S. C., & Patnaik, S. (2014). Establishing reliability and validity in qualitative inquiry: A critical examination. *Jharkhand Journal of Development and Management Studies*, 12(1), 5743-5753.
- Patton, M. Q. (1990). *Qualitative Evaluation and Research Methods* (2th ed.). Newbury Park, CA: Sage.
- Pearce, N., Weller, M., Scanlon, E., & Ashleigh, M. (2010). Digital scholarship considered: How new technologies could transform academic work. *In Education*, 16(1), 33-44.

- Perryman, J. (2011). The return of the native: The blurred boundaries of insider/outsider research in an English secondary school. *International Journal of Qualitative Studies in Education*, 24(7): 857–874.
- Peshkin, A. (2000). The nature of qualitative inquiry. *Educational Researcher*, 29(9), 5–9.
- Prabhu, N. (1987). *Second language pedagogy: a perspective*. Oxford, England: Oxford University Press.
- Pritchard, C. (2013). Training L2 Learners to use Facebook Appropriately and Effectively. *CALICO Journal*, 30(2), 204–225.
- Reinders, H., & Philip H. (2013). CALL and Learner Autonomy: Affordance and Constraints. In M. Thomas, H. Reinders, & M. Warschauer (Eds.), *Contemporary Computer-Assisted Language Learning* (pp. 359–376). London, England: Bloomsbury Academic.
- Schenker, T. (2016). Syntactic complexity in a cross-cultural e-mail exchange. *System*, 63, 40–50.
- Schunk, D. H., & Pajares, F. (2009). Self-efficacy theory. In K. R. Wenzel & A. Wigfield (Eds.), *Educational psychology handbook series. Handbook of motivation at school* (pp. 35-53). New York, NY: Routledge.
- Scribner, S., & Cole, M. (1981). *The psychology of literacy*. Cambridge, MA: Harvard University Press.
- Seedhouse, P. (2005). ‘Task’ as research construct. *Language Learning*, 55(3): 533–70.
- Shahzad, K., & Naureen, S. (2017). Impact of teacher self-efficacy on secondary school students’ academic achievement. *Journal of Education and Educational Development*, 4(1), 48-72.
- Sharma, U., & George, S. (2016). Understanding teacher self-efficacy to teach in inclusive classrooms. In S. Garvis & D. Penderqast (Eds.), *Asia-Pacific perspectives on teacher self-efficacy* (pp. 37-52). Rotterdam, The Netherlands: Sense Publishers.

- Sharma, U., Loreman, T., & Forlin, C. (2012). Measuring teacher efficacy to implement inclusive practices. *Journal of Research in Special Educational Needs*, 12(1), 12–21.
- Shapson, S. (2007). Bridging policy gaps between teaching and technology. In J. Jenson, L. Brian, S. Richard, & B. R. Chloe (Eds.), *Policy unplugged: Dis/connections between technology policy and practices in Canadian schools* (pp. 122-137). Montreal, Canada: McGill-Queen's University Press.
- Smith, B. (2003). Computer-mediated negotiated interaction: An expanded model. *Modern Language Journal*, 87, 38-57.
- Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: SAGE Publications.
- Stickler, U., & Shi, L. (2016). TELL us about CALL: An introduction to the Virtual Special Issue (VSI) on the development of technology enhanced and computer assisted language learning published in the System Journal. *System*, 56, 119-126.
- Swain, M., & Lapkin, S. (1995). Problems in output and the cognitive processes they generate: A step toward language learning. *Applied Linguistics*, 16: 371-391.
- Teach Taught (2018, August 12). *30 of the most popular trends in education*. Retrieved from <https://www.teachthought.com/the-future-of-learning/most-popular-trends-in-education/>
- Thorne, S., Sauro, S., & Smith, B. (2015). Technologies, identities, and expressive activity. *Annual Review of Applied Linguistics*, 35, 215–233.
- Tondeur, J. et al. (2011). Preparing pre-service teachers to integrate technology in education: A synthesis of qualitative evidence. *Computers & Education*, 1-11.
- Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education*, 17, 783–805.
- Widdowson, H. (1993). *Pedagogic design*. Oxford, England: Oxford University Press.

- Willis, J. (1996). *A framework for task-based learning*. Essex, England: Addison Wesley Longman Limited.
- Wolters, C. A., & Daugherty, S. G. (2007). Goal structures and teachers' sense of self-efficacy: Their relation and association to teaching experience and academic level. *Journal of Educational Psychology*, *99*(1), 181–193.
- Woo, M., Chu, S., Ho, A., & Li, X. (2011). Using a wiki to scaffold primary-school students' collaborative writing. *Educational Technology & Society*, *14*(1), 43-54.
- Vuorikari, R., Punie, Y., Carretero, S., & Van den Brande, L. (2016). *DigComp 2.0: The digital competence framework for citizens*. Retrieved from http://publications.jrc.ec.europa.eu/repository/bitstream/JRC101254/jrc101254_digcomp%202.0%20the%20digital%20competence%20framework%20for%20citizens.%20update%20phase%201.pdf
- Vurdien, R. (2013). Enhancing writing skills through blogging in an advanced English as a foreign language class in Spain. *Computer Assisted Language Learning*, *26*(2), 126–143.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

Appendices

Appendix A: Ethics Approval Notice



Date: 4 April 2019

To: Dr. Julie Byrd Clark

Project ID: 113519

Study Title: ESL Teachers' Self-efficacy toward the Pedagogical Use of Digital Technologies
— A Qualitative Case Study in the Ontario Context

Short Title: ESL teacher self-efficacy towards pedagogical use of technology

Application Type: NMREB Initial Application

Review Type: Delegated

Full Board Reporting Date: May 3 2019

Date Approval Issued: 04/Apr/2019

REB Approval Expiry Date: 04/Apr/2020

Dear Dr. Julie Byrd Clark

The Western University Non-Medical Research Ethics Board (NMREB) has reviewed and approved the WREM application form for the above mentioned study, as of the date noted above. NMREB approval for this study remains valid until the expiry date noted above, conditional to timely submission and acceptance of NMREB Continuing Ethics Review.

This research study is to be conducted by the investigator noted above. All other required institutional approvals must also be obtained prior to the conduct of the study.

Documents Approved:

Document Name	Document Type	Document Date	Document Version
Clean copy Interview Guide	Interview Guide	18/Feb/2019	1
Clean copy LOI & Written Consent (Interview Participants)_revised JBC 2-20-19	Written Consent/Assent	20/Feb/2019	1
Clean copy Survey LOI & Written Consent_3-25-19_JBC	Written Consent/Assent	25/Mar/2019	1
Clean copy verbal recruitment script_Feb 17 2019	Oral Script	18/Feb/2019	1
Clean copy, Paper survey	Paper Survey	25/Mar/2019	1

Documents Acknowledged:

Document Name	Document Type	Document Date	Document Version
Timeline table	Supplementary Tables/Figures		

No deviations from, or changes to the protocol should be initiated without prior written approval from the NMREB, except when necessary to eliminate immediate hazard(s) to study participants or when the change(s) involves only administrative or logistical aspects of the trial.

The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario. Members of the NMREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB. The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

Please do not hesitate to contact us if you have any questions.

Sincerely,

Kelly Patterson, Research Ethics Officer on behalf of Dr. Randal Graham, NMREB Chair

Note: This correspondence includes an electronic signature (validation and approval via an online system that is compliant with all regulations).



Appendix B: Survey

This survey asks questions regarding participants' perceptions and practices of digital technology in English language education. All responses are anonymous and confidential. If you have any questions, please feel free to contact Dr. Julie Byrd Clark, Principal Investigator by [REDACTED], or Aide Chen, student researcher by [REDACTED]. Thank you for your participation!

Your pseudonym: _____

Your email address: _____

I. Personal Information

1. Are you an in-service English language teacher? _____
2. How many years have you been teaching at your current institution? _____
3. How many years have you taught throughout your career? _____
4. Which course(s) do you teach? _____
5. How many students do you generally have per class? _____
6. Please list how you self identify:
Gender? _____
Age? _____

II. Perceived Technological Abilities

7. You feel comfortable and competent with digital technology in general. _____
A. Strongly disagree B. Disagree C. Neutral D. Agree E. Strongly agree
8. You feel comfortable and competent to use technology for pedagogical purposes (e.g., Lexical Tutor for lesson planning, poll tool for assessment). _____
A. Strongly disagree B. Disagree C. Neutral D. Agree E. Strongly agree

III. Specified Technological Practices

9. Please mark the frequency of your technology use for pedagogical purposes.

	Never	Less than once per week	Once a week	3 times a week	Daily
Desktop computer/Laptop					
iPad					
Projector					
Slides/Smartboard					
Camera/microphone					
Mobile phone					
Virtual Reality devices					
Learning management system					
Online forum					
Google docs					
Search engines					
Emails					
Blogs					
Skype					
VoiceThread					
Lexical Tutor					
E-Questionnaire/Poll tools					
Gaming					
Others (specify: _____)					

10. How often did you use technology for the following teaching-related purposes?

	Never	Once or twice a term	Several times a term	Several times a month	Several times a week
Documentation of learner progress (e.g., Microsoft office software)					
Communication (e.g., emails)					
Lesson planning (e.g., e-readings, websites, learning management system)					
Lesson delivery (e.g., slides, websites, skype,					

gaming)					
Assessment (e.g., e-questionnaire/poll, online forum)					
Research (e.g., data recording devices, data analysis software)					
Others (specify: _____)					

IV. Further Needs and Training

11. Check mark all that apply regarding your main barriers of using technology effectively?

Not enough technology for students _____

Not enough time to incorporate technology with students _____

Limited internet connectivity _____

Slow response from tech-support _____

Not enough professional development training _____

Poor integration between lesson and technology _____

Others (specify: _____)

12. Check mark all that apply according to what you need:

Workshops and seminars run by technical groups in the faculty _____

Workshops and seminars run by outside sources _____

Mentor/colleague with advanced technological skills _____

Teacher education courses/programs _____

Online professional development community _____

Modify the current policies of technology in your institution _____

More time needed for professional training _____

Others (specify: _____)

13. Check mark all that apply based on what you expect to learn if technology training is given to you:

Computer desktop management _____

Efficient network services use (e.g., email) _____

Integrating technology into classroom activities _____

Integrating technology with learner assignments (e.g., writing) _____

Learning about research sources on the internet _____

Learning how to manage data and create graphs _____

Learning specific applications/software _____

Learning to use the internet to engage in online interactions/mentoring _____

Others (specify: _____)

14. Please feel free to share any additional comments here:

Thank you for your time!



Survey (Mandarin)

该问卷询问问卷填写者对英语语言教学中电子科技的认知和实践等问题。所有的回答将匿名且保密。如果您有任何问题，请联系主研究者Julie Byrd Clark博士的邮箱：[REDACTED]，或学

生研究者Aide Chen的邮箱：[REDACTED]。感谢您的参与！

您的假名：_____

您的电子邮箱地址：_____

I. 个人信息

1. 您是在职还是职前英语语言教师？ _____

2. 您在当前所在任教机构几年了？ _____

3. 您的任教生涯总计几年？ _____

4. 您教学的具体课程类型是？ _____

5. 您的每个班级里通常有几个学生？ _____

6. 您如何定义：

您的性别？ _____

您的年龄？ _____

II. 对科技能力的自我认识

7. 您对使用科技感到适应且自信 _____

A. 非常不同意 B. 不同意 C. 一般 D. 同意 E. 非常同意

8. 您对出于教学目的使用科技感到适应且自信（比如用Lexical Tutor规划课程，用poll tool评价学生）。 _____

A. 非常不同意 B. 不同意 C. 一般 D. 同意 E. 非常同意

III. 具体科技实践

9. 请根据您在教学中运用科技的频率打勾：

	从不	少于一周一次	一周一次	一周三次	每天
台式电脑/笔记本电脑					
iPad平板电脑					
投影仪					
幻灯片/智能白板					
相机/麦克风					
手机					
虚拟现实设备					
学习管理系统					
网上论坛					
谷歌文件					
搜索引擎					
邮件					
博客					
Skype通信					
VoiceThread音频软件					
Lexical Tutor词汇分析网页					
网上调查问卷/投票工具					
游戏					
其他（具体为：_____）					

10. 您使用科技是出于什么样的教学目的？频率如何？

	从不	一学期一两次	一学期几次	一月几次	一周几次
记录学生学习(比如微软办公软件)					
交流（比如邮件）					
课程规划（比如电子阅读材料，学习管理系统）					
课程实施(比如幻灯片，网页，skype视频软件，游戏)					
评测（比如在线问卷，投票，网上论坛）					
研究（比如数据记录设备，数据分析软件）					
其他（具体为：_____）					

V. 未来需求和培训

11. 请在影响您高效使用科技的障碍选项后打勾：

学生所能使用的科技产品数量种类不足 _____

没有时间在教学中运用科技 _____

网速太慢 _____

技术人员反馈迟缓 _____

职业培训不足 _____

课程和科技的融合程度低 _____

其他（具体为：_____）

12. 请根据您需要的培训资源种类打勾：

内部科技人员承办的研讨会 _____

外部承办的研讨会 _____

有科技能力强的导师或同事帮助自己 _____

教师教育课程/项目 _____

在线职业发展社区 _____

改变当前任职机构的科技政策 _____

更多时间来职业培训 _____

其他（具体为：_____）

13. 请根据您具体想学习的内容打勾：

电脑桌面管理 _____

高效人际交流（比如电子邮件） _____

把科技融入课堂活动 _____

把科技融入学生作业（比如学生写作） _____

学习获取网上研究资料 _____

学习数据管理和图表创建 _____

学习具体应用/软件 _____

学习使用互联网进行网上交流辅导 _____

其他（具体为:_____）

14. 请分享其他意见建议:

感谢您的时间!



Appendix C: Semi-Structured Interview Questions

Technological Competencies

1. Can you tell me how comfortable you feel with using certain technologies? Which technologies would you say you use the most? In your daily life?
2. What do you think (what kinds of experiences) contributed to your overall competence in using these technologies?
3. How do you feel about being competent in technologies? Do you think that your students are technologically competent? Why?

Perceptions of Digital Technologies

4. Do you feel comfortable using technologies in the classroom, while you're teaching? Why or why not?
5. If yes to question #4, In what ways do you use technologies in your teaching? Which ones do you use?
6. If no to question #4, What do you think would need to happen for you to feel more comfortable with using technologies? Can you think of other technologies that you use in your daily life, that have not been used in the classroom, for example?
7. Could you give me an example of how you use technologies or incorporate them in your teaching?
8. Do you use technologies for your students' assignments? Which ones?
9. Do you feel that using technologies is an advantage for your students' learning or a hindrance? What do you think? And how about for yourself? Do you think technologies enhance your daily life, or hinder you?
10. Does incorporating technologies have an impact on your teaching overall?
11. Can you tell me about any difficulties you've encountered when trying to use technologies for your teaching/in the classroom?

12. And with these difficulties, how did you resolve some of the issues? Did you find any possible solutions?

13. And, finally, do you feel that technologies can be transformative? If so, how, in what ways?



Semi-Structured Interview Questions (Mandarin)

科技使用能力

1. 您对使用特定的科技应用感到适应吗？在您的日常生活中，最经常使用哪些科技应用？
2. 您认为是什么（什么样的经历）塑造了您使用这些科技的能力？
3. 您对有能力使用这些科技有什么看法？你认为你的学生具备这样的能力吗？为什么？

关于电子科技的认知

4. 在教学过程中，您习惯在教室中使用科技应用吗？为什么或为什么不？
5. 如果对第4题的回答是“是”，您在教学中是怎样使用这些科技的？使用了哪些科技？
6. 如果对第4题的回答是“否”，您认为怎样才能使您对科技在教学中的运用感到更适应？您能想到其他在你日常生活中接触过，但还没在课堂中使用过的科技吗，能否举例？
7. 您是否能举一个把科技成功融入教学的例子？
8. 您是否针对学生作业使用过电子科技？使用过哪些？
9. 您认为使用科技对学生的学习是个优势还是阻碍？您怎么看待这个问题？对于您自己呢？您认为科技提升还是阻碍了你的日常生活？
10. 在教学中融入科技对您的总体教学有影响吗？
11. 您在教学中尝试使用科技遇到过困难吗？
12. 面对这些问题，您是如何解决的？您找到了解决之道了吗？
13. 最后，您认为科技是否具有变革性？如果您的回答是“是”，以何种方式体现？

Appendix D: Letter of Information and Written Consent for Survey Participants



ESL Teachers' Self-efficacy toward the Pedagogical Use of Digital Technologies-A Qualitative Case Study in the Ontario Context

LETTER OF INFORMATION (for Survey Participants)

Introduction

My name is Dr. Julie Byrd Clark and I am Professor at the Faculty of Education at The University of Western Ontario. My graduate student, Aide Chen and I are currently conducting a research study on in-service ESL teachers' self-efficacy toward the pedagogical use of technology. As such, I would like to invite you to participate in this study.

Purpose of the study

This exploratory case study aims to explore how in-service ESL teachers perceive their technological competences in relation to teaching English as a second language in higher education settings in the context of Ontario, Canada. A second aim is to inform policies and pedagogy regarding technology use in English language education and English language communities.

If you agree to participate

If you agree to participate in this study, you are providing consent for:

A paper survey. You will be asked to meet with me at a convenient time and place to answer some questions about this topic. The survey contains 16 questions and can be completed typically within 30 minutes. The questions investigate your demographic information, self-perceived technological abilities, specified technology-related teaching practices, as well as needs and training. Survey responses may be directly quoted in my research report, but these quotes WILL NOT include identifying (i.e. names or locations) information.

Confidentiality

The information collected will be used for research purposes only, and neither your name nor information, which could identify you, will be used in any publication or presentation of the study results. All information collected for the study will be kept confidential. You will choose a pseudonym (an alias) and I will use this pseudonym throughout any and all of my analyses. You will also be asked to provide an email address in the survey so that the researcher may contact you for a potential interview. No real names or names of locations or your email address will be used or identifiable in the report or future publications. Please note that if you do consent to this you may be recognizable to some viewers. Representatives of The University of Western Ontario Non-Medical Research Ethics Board may require access to your study-related records to monitor the conduct of the research. While we do our best to protect your information/confidentiality, there is no guarantee we will be able to do so. If there is information collected that is legally required to be reported, we have a duty to report this.

To protect your privacy, all digital data will be stored on a password protected USB in the researcher's office. All digital and print data will be stored in a locked cabinet with all names removed from the data (replaced with a pseudonym). Seven years after completion of the study, all data will be shredded and destroyed.

Compensation

You will not be compensated for participating in this study.

Risks

There are no known risks to participating in this study.

Voluntary Participation

Participation in this study is voluntary. You may refuse to participate, refuse to answer any questions or withdraw from the study at any time with no effect on your employment status. If for any reason a participant feels that they would like to withdraw from participating in the study, any data collected to the point of withdrawal from the study would be removed and destroyed without any negative consequences for the participant. You do not waive any legal right by consenting to this study.

Questions

If you have any questions about the conduct of this study or your rights as a research participant you may contact the Director, The Office of Human Research Ethics, The University of Western Ontario at [REDACTED] or [REDACTED] or additionally, the toll-free long distance phone number for the Office of Human Research Ethics: [REDACTED].

If you have any questions about this study, please contact Mr. Aide Chen by e-mail: [REDACTED] and/or Dr. Julie Byrd Clark at [REDACTED] or by e-mail: [REDACTED]

This letter is yours to keep for future reference.

Sincerely,

Mr. Aide Chen (Student Investigator), and
Dr. Julie Byrd Clark (Principal Investigator)

Julie Byrd Clark, Ph.D.
Associate Professor
Faculty of Education
Western University

[REDACTED]

**ESL Teachers' Self-efficacy toward the Pedagogical Use of Digital Technologies—A
Qualitative Case Study in the Ontario Context**

*Dr. Julie Byrd Clark, The University of Western Ontario
Mr. Aide Chen, The University of Western Ontario*

CONSENT FORM (for Survey Participants)

I have read the Letter of Information, have had the nature of the study explained to me and I agree to participate. All questions have been answered to my satisfaction.

Please indicate with a check mark if you agree to the following:

I agree that the researcher may contact me via email for research purposes for this study.

I agree that the researcher may use portions of my survey responses in presentations of the research.

I agree that the researcher may use direct quotes in presentations of the research.
Note: direct quotes are unidentifiable.

Full Name (please print):

Signature:

Date:

Full Name of Person Obtaining Informed Consent:

"My signature means that I have explained the study to the participant named above. I have answered all questions."

Signature of Person Obtaining Informed Consent:

Date:



英语作为第二语言教学教师对于教学中电子科技的认知—以安大略省为例的定性案例研究

研究项目信息介绍函 (针对问卷受访者)

简介

我是 Julie Byrd Clark 博士，是加拿大西安大略大学教育学院的教授。我和我的硕士研究生陈蔼德先生当前正在进行一项关于英语作为第二语言教师对于对科技在教学中应用的认知的研究。由于您具有一年以上的教学经验，我邀请您参与此项研究。

研究目的

这项探索性案例研究主要探索英语作为第二语言教师如何看待自身在教学方面的科技使用能力。该项研究也将涉及对实际的英语语言教学和对相关政策的理解。

如果您同意参与研究

如果您同意参与此项研究，您将对以下一项提供授权：

纸质调查问卷。您将受邀在方便的时间地点与我会面，且对本研究主题回答一些问题。该问卷包括 16 个问题，正常情况下能在 30 分钟内完成。问题将涉及您的基本教学信息，对自我科技使用能力的认知，与科技相关的具体教学举措，以及相关需求和培训。问卷回答可能会被直接引用在我的研究报告中，但这些引用将不会包括任何能识别您身份的信息（例如名字和地点）。

隐私保密

研究中所收集的数据将只用于研究目的。您的名字或任何可识别您身份的信息将不会出现在任何有关此项研究的出版物中。一切收集的数据将完全保密。您可选择使用一个假名，我将在研究分析的所有阶段使用该假名来保护您的真实身份。您的真名或真实地点或电子邮箱地址将不会出现在研究报告或未来的出版物中。您将被询问是否愿意提供一个电子邮箱以便研究者后续联系您。请注意如果您同意参与此项研究，您的身份可能会被某些受众识别。某些西安大略大学非医学研究伦理协会的代表将有可能联系您，或要求查看您参与本项研究的相关记录，其目的是监控本项研究的实施。尽管我们将尽全力保护您的身份信息，但我们可能无法保证完全做到您的身份不被识别。如果所收集的数据中涉及需要上报的非法行为，我们有责任将其上报。

为了保护您的隐私，所有电子数据将存放在研究者办公室的一个加密的优盘中。所有电子和纸质数据将隐去真实姓名（替换成假名），存放在研究者办公室带锁的柜子中。所有数据将在研究完成的七年后粉碎且销毁。

补偿

您将不会通过参与此项研究获得补偿。

风险

参与此项研究没有已知风险。

自愿参与

参与此项研究是自愿的。您可在任何阶段拒绝参与，拒绝回答问题，或退出研究且不受对您事业无任何影响。如果因为任何原因研究参与者想退出研究，任何已获取的数据将被撤销且销毁，且不对研究参与者有任何负面影响。您将不会因为同意参与此项研究而放弃任何合法权利。

问题

如果您对该项研究的开展或您作为本项研究参与者的权利有任何问题，请联系西安大略大学研究伦理办公的电话：[REDACTED]，邮件：[REDACTED]，或者研究伦理办公室的受话方付费长途电话 [REDACTED]。如果您对于本项研究本身有任何问题，请您联系陈蔼德先生（邮件：[REDACTED]）以及/或 Julie Byrd Clark 博士（电话：[REDACTED]，或邮件：[REDACTED]）。

此致，
陈蔼德（学生研究者），和

Julie Byrd Clark 博士（主研究者）

Julie Byrd Clark 博士
助理教授
教育学院
西安大略大学

[REDACTED]

英语作为第二语言教学教师对于教学中电子科技的认知—以安大略省为例的定性
案例研究

Julie Byrd Clark 博士, 西安大略大学
陈蔼德, 西安大略大学

研究项目参与同意书 (针对问卷受访者)

我已阅读了研究项目信息介绍函, 已了解了此项研究的本质, 我同意参加此项研究。
我对研究团队的答疑表示满意。

请在以下您同意的空格处打勾:

____ 我同意研究者可出于针对该研究的科研目的通过电子邮件联系我。

____ 我同意研究者可在该研究的未来出版物中使用部分的问卷回答。

____ 我同意研究者可在该研究的未来出版物中使用直接引用。 *注意:* 直接引用将无法识别您的身份信息。

姓名 (请打印):

签字:

日期:

回收该研究项目参与同意书的研究人员姓名:

"我的签名意味着我已向上述参与者解释了此项研究。我已回答所有问题。"

回收该研究项目参与同意书的研究人员签名:

日期:

Appendix E: Letter of Information and Written Consent for Interview Participants



ESL Teachers' Self-efficacy toward the Pedagogical Use of Digital Technologies-A Qualitative Case Study in the Ontario Context

LETTER OF INFORMATION (for Interview Participants)

Introduction

My name is Dr. Julie Byrd Clark and I am Professor at the Faculty of Education at The University of Western Ontario. My graduate student, Mr. Aide Chen, and I are currently conducting a research study on in-service ESL teachers' self-efficacy toward the pedagogical use of technology. As such, I would like to invite you to participate in this study.

Purpose of the study

This exploratory case study aims to explore how in-service ESL teachers perceive their technological competences in relation to teaching English as a second language in higher education settings in the context of Ontario, Canada. A second aim is to inform policies and pedagogy regarding technology use in English language education and English language communities.

If you agree to participate

If you agree to participate in this study, you are providing consent for:

A semi-structured interview. You will be asked to meet with me at a convenient time and place to answer some questions about this topic. The interview would take about an hour. I will be asking you some specific questions related to your personal and educational background and about your teaching background. I will then ask you some questions related to technological competencies and perceptions of digital technologies. If you permit, interviews will be audio recorded and transcribed into written format. There may be some direct quotes used in my research report, but these quotes WILL NOT include identifying (i.e. names or locations) information. The interview will be conducted in English, Mandarin or both depending upon your own choices and comfort. There may be themes that come from your interview data that could bring up further inquiry. At that time, and if this is the case, we would ask you for your explicit consent and contact information.

Confidentiality

The information collected will be used for research purposes only, and neither your name nor information, which could identify you, will be used in any publication or presentation of the study results. All information collected for the study will be kept confidential. You will choose a pseudonym (an alias) and I will use this pseudonym throughout any and all of my analyses. No real names or names of locations will be used or identifiable in the report or future publications. You will also be asked if the researcher may use your audio-recorded data in presentations of this research. Please note that if you do consent to this you may be recognizable to some viewers. Representatives of The University of Western Ontario Non-Medical Research Ethics Board may require access to your

study-related records to monitor the conduct of the research. While we do our best to protect your information/confidentiality, there is no guarantee we will be able to do so. If there is information collected that is legally required to be reported, we have a duty to report this.

To protect your privacy, all digital data will be stored on a password protected USB in the researcher's office. The data will be stored in a locked cabinet with all names removed from the data (replaced with a pseudonym). Seven years after completion of the study, all data will be shredded and destroyed.

Compensation

There is no compensation for participating in this study.

Risks

There are no known risks to participating in this study.

Voluntary Participation

Participation in this study is voluntary. You may refuse to participate, refuse to answer any questions or withdraw from the study at any time with no effect on your employment status. If for any reason a participant feels that they would like to withdraw from participating in the study, any data collected to the point of withdrawal from the study would be removed and destroyed without any negative consequences for the participant. You do not waive any legal right by consenting to this study.

Questions

If you have any questions about the conduct of this study or your rights as a research participant you may contact the Director, The Office of Human Research Ethics, The University of Western Ontario at [REDACTED] or [REDACTED] or additionally, the toll-free long distance phone number for the Office of Human Research Ethics: [REDACTED].

If you have any questions about this study, please contact Mr. Aide Chen by e-mail: [REDACTED] and/or Dr. Julie Byrd Clark at [REDACTED] or by e-mail: [REDACTED]

This letter is yours to keep for future reference.

Sincerely,

Mr. Aide Chen (Student Investigator), and

Dr. Julie Byrd Clark (Principal Investigator)

Julie Byrd Clark, Ph.D.

Associate Professor

Faculty of Education

Western University

[REDACTED]

ESL Teachers' Self-efficacy toward the Pedagogical Use of Digital Technologies—A Qualitative Case Study in the Ontario Context

Dr. Julie Byrd Clark, The University of Western Ontario
Mr. Aide Chen, The University of Western Ontario

CONSENT FORM (for Interview Participants)

I have read the Letter of Information, have had the nature of the study explained to me and I agree to participate. All questions have been answered to my satisfaction.

Please indicate with a check mark if you agree to the following:

___ I agree that the researcher may audio-record my interview for this research.

___ I agree that the researcher may take notes of my interview for this research.

___ I agree that the researcher may use portions of my audio-recorded interviews in presentations of the research.

___ I agree that the researcher may use direct quotes in presentations of the research.

Notes: 1. Direct quotes are unidentifiable.

2. Any links that can be used to identify you as a participant of both the survey and interview will be excluded in presentations of the research.

Full Name (please print):

Signature:

Date:

Full Name of Person Obtaining Informed Consent:

"My signature means that I have explained the study to the participant named above. I have answered all questions."

Signature of Person Obtaining Informed Consent:

Date:



英语作为第二语言教学教师对于教学中电子科技的认知—以安大略省为例的定性案例研究

研究项目信息介绍函 (针对采访受访者)

简介

我是 Julie Byrd Clark 博士，是加拿大西安大略大学教育学院的教授。我和我的硕士研究生陈蔼德先生当前正在进行一项关于英语作为第二语言教师对于对科技在教学中应用的认知的研究。由于您具有一年以上的教学经验，我邀请您参与此项研究。

研究目的

这项探索性案例研究主要探索英语作为第二语言教师如何看待自身在教学方面的科技使用能力。该项研究也将涉及对实际的英语语言教学和对相关政策的理解。

如果您同意参与研究

如果您同意参与此项研究，您将对以下一项提供授权：

半结构化采访。 您将受邀在方便的时间地点与我会面，且对本研究主题回答一些问题。采访将大约持续 1 小时。首先我将问一些关于您个人背景，教学背景的问题。接着我会问一些您对科技使用能力和对电子科技的认知。如果您同意的话，采访将被声音录音，且转录成文字。我的研究报告中可能会使用一些直接引用，但这些引用将不会包括任何能识别您身份的信息（例如名字和地点）。取决于您的需求，采访将通过英语，或普通话，或二者混用来进行。某些采访结果可能引发进一步的探索。如果如此，到那时，我们将向您征询进一步的授权和联系方式。

隐私保密

研究中所收集的数据将只用于研究目的。您的名字或任何可识别您身份的信息将不会出现在任何有关此项研究的出版物中。一切收集的数据将完全保密。您可选择使用一个假名，我将在研究分析的所有阶段使用该假名来保护您的真实身份。您的真名或真实地点将不会出现在研究报告或未来的出版物中。您将被询问是否愿意研究者在任何研究发表中引用您的录音数据。请注意如果您同意参与此项研究，您的身份可能会被某些受众识别。某些西安大略大学非医学研究伦理协会的代表将有可能联系您，或要求查看您参与本项研究的相关记录，其目的是监控本项研究的实施。尽管我们将尽全力保护您的身份信息，但我们可能无法保证完全做到您的身份不被识别。如果所收集的数据中涉及需要上报的非法行为，我们有责任将其上报。

为了保护您的隐私，所有电子数据将存放在研究者办公室的一个加密的优盘中。所有数据将隐去真实姓名（替换成假名），存放在研究者办公室带锁的柜子中。所有数据将在研究完成的七年后粉碎且销毁。

补偿

您将不会通过参与此项研究获得补偿。

风险

参与此项研究没有已知风险。

自愿参与

参与此项研究是自愿的。您可在任何阶段拒绝参与，拒绝回答问题，或退出研究且不受对您事业无任何影响。如果因为任何原因研究参与者想退出研究，任何已获取的数据将被撤销且销毁，且不对研究参与者有任何负面影响。您将不会因为同意参与此项研究而放弃任何合法权利。

问题

如果您对该项研究的开展或您作为本项研究参与者的权利有任何问题，请联系西安大略大学研究伦理办公的电话：[REDACTED]，邮件：[REDACTED] 或者研究伦理办公室的受话方付费长途电话 [REDACTED]。如果您对于本项研究本身有任何问题，请您联系陈蔼德先生（邮件：[REDACTED]）以及/或 Julie Byrd Clark 博士（电话：[REDACTED]，或邮件：[REDACTED]）。
敬请惠存此函，以作日后参考。

此致，

陈蔼德（学生研究者），和

Julie Byrd Clark 博士（主研究者）

Julie Byrd Clark 博士

助理教授

教育学院

西安大略大学

[REDACTED]

英语作为第二语言教学教师对于教学中电子科技的认知—以安大略省为例的定性 案例研究

Julie Byrd Clark 博士, 西安大略大学
陈蔼德, 西安大略大学

研究项目参与同意书 (针对采访受访者)

我已阅读了研究项目信息介绍函, 已了解了此项研究的本质, 我同意参加此项研究。
我对研究团队的答疑表示满意。

请在以下您同意的空格处打勾:

____ 我同意研究者可对我的采访进行录音。

____ 我同意研究者使用笔记记录我对采访问题的回答。

____ 我同意研究者可在该研究的未来出版物中使用部分的采访录音。

____ 我同意研究者可在该研究的未来出版物中使用直接引用。

请注意: 1. 直接引用将无法识别您的身份信息。

2. 所有可能被用于识别您既是问卷受访者又是采访受访者身份的信息将不会在该研究的未来出版物中出现。

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Curriculum Vitae

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Post-secondary Education and Degrees

Zhejiang Normal University
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2011-2015 B.A.

Western University
London, Ontario, Canada
2016-2017 MPEd. (Master of Professional Education)

Western University
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2017-2019 M.A.

Honours and Awards

Entrance Scholarship for Applied Linguistics
2017-2019

Excellent Undergraduate Thesis
2015

Scholarship for Outstanding Academic Performance
2014

Additional Experience

Co-chair
The 11th Robert Macmillan Symposium in Education
2019-present

Associate Copyeditor
The Canadian Journal for New Scholars in Education
2019-present

Committee Member
TESL London Professional Development Committee
2018-2019

Poster Presenter & Committee Member
The 10th Robert Macmillan Symposium in Education
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Chinese & English Language Teacher
Ningbo Huamao Foreign Languages School, Ningbo, China
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