Effectiveness of the mini-workshops in increasing in-service teachers' confidence and willingness in technology and computer assisted language learning (CALL) integration

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British Council's Master's Dissertation Awards 2024

Special Commendation

UNIVERSITY OF BATH

DEPARTMENT OF EDUCATION

EFFECTIVENESS OF THE MINI-WORKSHOPS IN INCREASING IN-SERVICE TEACHERS' CONFIDENCE AND WILLINGNESS IN TECHNOLOGY AND COMPUTER ASSISTED LANGUAGE LEARNING (CALL) INTEGRATION

This dissertation is submitted in accordance

With the requirements for the degree of

Master of Arts

TESOL (Teaching English to Speakers of Other Languages)

By completion of six taught units and dissertation

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September 2023

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1. The author has not been registered for any other academic award during the period of registration for this study.
2. The material included in this dissertation has not been submitted wholly or in part for any other academic award.
3. The program of advanced study of which this dissertation is part has included completion of following units.

- Research Methods for Second Language Education 1 (ED50492)
- Second Language Acquisition (ED50327)
- Language Awareness (ED50479)
- Research Methods for Second Language Education 2 (ED50493)
- Language Teaching Methodology and Curriculum (ED50317)
- Teaching and Assessing the English Language (ED50480)

Where any material has been previously submitted as part of an assignment within any of these units it is clearly identified.

Acknowledgements

I would first like to thank my supervisor Dr. Reka R. Jablonkai for guiding me to complete the study which I believe is novel and engaging to the CALL domain.

I would also like to thank all the participating teachers who have generously allocated their precious time and shared their lived-through insights.

Very special thank from me to the administration of the school who have enormously helped me to arrange and conduct the mini-workshops as part of this study.

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Abstract

This assignment reports on a study aiming to explore the effectiveness of the mini-workshops in increasing teachers' willingness and confidence in integrating technology and Computer Assisted Language Learning (CALL). The study entailed a role-based framework to design the content of the mini-workshops. The framework targets to develop technical and pedagogical knowledge and skills of various institutional roles in education. The study participants were 13 experienced English Language teachers and 7 out of them attended two mini-workshops each of which lasted 90 minutes. Data sources included a) a pre-workshop survey b) pre-workshop individual interviews c) post-workshop individual interviews d) post-workshop focus group discussions. Multiple forms of data allowed me to understand participants' perceptions and perspectives and compare the findings before and after the mini-workshops. Of the seven teachers who attended the workshops five participated in individual interviews. All seven teachers who participated in the mini-workshops attended the focus group discussions. This qualitative study used an interpretivist approach and case study design to closely examine the impact of the mini-workshops on English teachers. Thematic analysis was used to analyse the data. It was found that all participating teachers acknowledged that they benefited from the mini-workshops. The teachers articulated that the mini-workshops provided engagement and collaboration with peers, and they also noted that they gained new insights into the various approaches to the use of technology in English classes. Findings also revealed that participating teachers perceive three main barriers in integrating technology and CALL into their classes: (a) a lack of materials incorporating technology, (b) technology-based resources which do not align with curriculum (c) negative washback of national high-stake exams. This study builds upon the existing literature by illustrating the potential of mini-workshops with carefully planned frameworks, content, and activities that can aid teachers in integrating technology and CALL into English classes.

Chapter 1. Introduction

According to Ertmer and Ottenbright-Leftwich (2013), current reforms require teachers to use information and communication technologies (ICT) as a meaningful pedagogical tool to leverage student-centred learning. As stated by Kessler (2021), the realities, expectations, and potential of teachers' roles and responsibilities constantly change due to the dynamics of technological development and transformations in education and society. In the same vein, Yondler and Blau (2023) assert that due to the complex cognitive and social challenges learners confront in digital learning environments, teachers' roles have considerably altered. Today teachers are not merely responsible for rendering the learning content to students. They, now, play an important role in helping students develop skills to actively construct knowledge. Additionally, teachers are immersed in the available technology feeling unprepared to make informed decisions about the selection and use of technology-based resources (Kessler 2013). The growing development of technology necessitates teachers' professional development related to technology and computer-assisted language learning (CALL) systematically. The abundance of technology in education imposes the ability to make well-judged decisions about using technology and knowledgeable choices in the implementation of CALL upon teachers.

According to Hubbard and Levy (2006), English language teachers should be able to create good CALL tasks. The role of teachers' competence and attitude is salient in the implementation of technology and CALL in their classes. Teachers, now, need technology and CALL knowledge more than ever and should have the skills to adapt them to their lesson objectives. Burns and Richards (2009) argue that any innovation in education whether it is technology or not can be successful only when teachers feel comfortable about using it. According to Lam (2000), teachers who lack technology and CALL skills may be less willing to integrate them into their teaching.

With the advent of COVID-19, teachers had to shift from limited utilization of CALL or using it only for drilling factual knowledge to integrating more sophisticated CALL tools into

their classes (Hazaea et. al. 2021). Hence, courses, workshops and professional development programs to train teachers to implement various CALL tools frequently emerged. The salience of teachers' professional development in CALL necessitates an understanding of the effectiveness of CALL training courses, workshops, conferences, and formal programs. Hubbard and Kessler (2017) indicate that to understand the teacher training in CALL better there is a need to research the outcomes of CALL education. Kessler (2006) notes that research into teacher training programs in various contexts can provide a better understanding of their effectiveness and improve CALL teacher training practices. In order to address this request, this study aims to understand how teachers perceive mini-workshops as effective in increasing their confidence and how mini-workshops contribute to teachers' technical and pedagogical knowledge and skills.

In the extant literature, the effectiveness of courses, workshops, and professional development programs has not been studied sufficiently in the CALL domain. Furthermore, studies that examine teacher professional development programs that aim to teach CALL technical and pedagogical knowledge and skills (Hubbard and Levy 2006) are limited. Particularly, the mini-workshops that are designed to include broad content with a few technological tools for teachers are under researched. Very often teachers might not have sufficient time for their professional development and long and intensive programs to enhance technical and pedagogical knowledge and skills might not be an appropriate practice for them. To address this issue this study aimed to add to the limited literature as to how teachers perceive mini-workshops as effective to increase their confidence and willingness to integrate technology and CALL into their classes. Moreover, the study will shed light on how mini-workshops contribute to teachers' technical and pedagogical knowledge and skills. The framework of teachers' technical and pedagogical knowledge and skills was suggested by Hubbard and Levy (2006) as part of the role-based framework. This framework is further discussed in the Literature Review chapter.

Below the definitions of the terms' *technology, technology integration*, and *CALL* are provided based on the scholarly literature. The word "technology" in this study conveys the meaning defined by Hubbard and Levy (2006). Technology means any machines and software which can be used in English classes, and it is not limited to laptops and electronic whiteboards. It includes various products such as online language programs, tutors, and tools i.e., word processors, chats, emails, video conferencing programs, speech recognition applications, and audio-visual technologies reaching beyond classroom learning. Alternatively, the TESOL Technology Standards Framework (2008) defines "technology" as

systems that rely on computer chips, digital applications, and all forms of networks. This framework also notes that it is not limited only to computers or laptops. Many electronic devices i.e., DVD players, data projectors, electronic whiteboards, cell phones, and personal digital assistants are included. The definition of CALL was proposed by Levy (1997, p.1) as "the search for and study of applications of the computer in language teaching and learning". Torsani (2016) elaborates on this definition as applications of technology to language pedagogy, language testing, or content management. Egbert (2005, p.4) defines CALL as "learners learning a language in any context with, through and around computer technologies". Wilsons (2023) defines the term "technology integration" as classrooms that involve creating, using, and managing teaching and learning through technology. However, it should be noted that since technology integration is an ongoing process, the definitions of CALL, technology, and technology integration can change. Having said that, the above-mentioned definitions are contextually pertinent to this study.

My personal and professional incentives to study this topic are to expand the CALL domain in Azerbaijan, explore ways to enhance teachers' professional growth in the CALL domain, and gain further research opportunities in the integration of technology and CALL into education. The potential affordances of CALL and technology suggest that they are here to stay incessantly evolving and need to be understood for better integration. To conclude, it is salient to examine the CALL practices in various contexts to successfully integrate them into education.

The assignment incorporates six chapters, a reference list, and appendices. In Chapter 2, I discuss the existing literature on CALL teacher training, frameworks, approaches, studies on CALL professional development, the significant findings, limitations and the research gap, as well as the aim of this study. Chapter 3 includes the report of methodology, the research context, participants, data analysis, quality criteria, ethical considerations and the detailed description of the mini-workshops. In Chapter 4, I include findings and the results of the survey, interview and focus groups discussions. Chapter 5 entails overall discussion of the study and the synthesis of the findings of the study with the existing literature. Chapter 6 covers the conclusion, limitations of the study and implications. The recommendations stemming from the outcomes of the study are also included in Chapter 6.

Chapter 2. Literature Review

Fornara et. al. (2019) suggest that contemplating the history of CALL and reflecting on it can guide scholars in its prospective directions. Therefore, in this introductory paragraph of the literature review, I will briefly discuss the major milestones in teacher education and professional development in the history of the CALL domain.

The emergence of formal training of teachers pertinent to CALL and technology dates back to the early 1980s when CALL courses and workshops emerged, and a number of CALL enthusiasts formed CALL special interest groups. For instance, in 1983 a group of teachers in England founded Micro Users in ESL Institutions (MUESLI, later in 1984 IATEFL), and in the same year Ohio University formally began teaching Computational Linguistics: Applications of Computers to Linguistic Research and Teaching. In 1985, Curtin and Shinall suggested guidelines and rationales for CALL teacher workshops. The publication of a special issue of Language Learning and Technology in 2002 was an impetus for CALL teacher education. According to Hubbard (2023), technology as a sub-field in teacher education gained acknowledgment after this publication. In 2003, Bax introduced his renowned concept of "normalization", which describes the ideal future use of technology. According to Bax's normalization concept computers and technology should be as normal as pen and paper in class.

2.1. Models, frameworks, and theories in the CALL domain

With the development of technology and its integration into education, different models were introduced which were considered to highlight the factors impacting the adoption of technology. First, the Technology Acceptance Model 1 (TAM) was introduced by Davis (1989). This model posited that two factors determine the acceptance of technology by its users: perceived usefulness and perceived ease of use. Later, TAM 2 was suggested by Venkatesh and Davis (2000) which was the extension of the previous model, and it entailed

social forms and cognitive determinants of the acceptance of technology. Lastly, TAM 3 was developed by Venkatesh and Bala (2008) and this model recognized the interplay between individual perceptions as well as social, cognitive, and contextual factors. Additionally, TPACK appeared as a conceptual framework (Koehler & Mishra 2005) which was an extension of content pedagogical knowledge proposed by Schulman (1986). Nowadays, TPACK plays an essential role in the successful integration of technology. According to Koehler et. al. (2007), TPACK entails a set of knowledge and skills required from teachers to implement technology in a classroom effectively. In 2015 Knezek and Christensen introduced the expansion of the Will, Skill, Tool Model of Technology Integration. According to this model, all three i.e., will, skill, and tool are important contributors to the integration of technology. This model identifies "will" and "skill" as internal factors and "tool" is defined as an external factor to impact the successful integration of technology. Knezek and Christensen (ibid) claim that teachers who receive training and practice on technology are willing to use it with learners even in environments with limited technology. They define "skill" therein as the ability and experience to use the technology as well as self-perceived confidence and readiness to integrate technology. The rationale for providing this background is to draw attention that CALL teacher education is an ongoing and constantly changing issue. Therefore, research on CALL and technology integration from various perspectives is necessary to gain insight as to how it changes and how to keep aligned with these changes.

While there are a number of existing models and frameworks in technology integration, for this study I chose Hubbard and Levy's (2006) role-based framework. The reason why the role-based framework was chosen was because it provides a sound academic grounding for what technical and pedagogical knowledge and skills various institutional roles need to acquire. In the role-based framework, four institutional roles are included i.e., pre-service teachers, in-service teachers, CALL specialists, and CALL professionals. However, owing to doing a small-scale and short-term study I only focused on in-service teachers' roles proposed in the role-based framework the other three roles are out of the scope of this study. Below I provide a further discussion of the role-based framework. Initially, Hubbard (2004) classified four institutional roles and he divided CALL education based on the needs of these groups.

1. Pre-service teachers
2. In-service teachers
3. CALL specialists
4. CALL professionals

Subsequent to that, Hubbard and Levy (2006) elaborated on these institutional roles adding functional roles and they developed the role-based framework. According to Hubbard and Levy (ibid), the institutional roles in the framework are relatively stable. On the contrary, functional roles are adaptable and dependent on the individual's roles within institutions.

Table 1. *Hubbard &Levy (2006 pp. 11) A role-based framework for CALL education. X means both technical and pedagogical knowledge are required for these roles.*

Institutional roles	Functional roles			
	Practitioner	Developer	Researcher	Trainer
Pre-service classroom teachers	X	X	X	X
In-service classroom teachers	X	X	X	X
CALL specialist	X	X	X	X
CALL professionals	X	X	X	X

Hubbard and Levy (2006) define technical and pedagogical knowledge and skills as illustrated in the table below.

Table 2.

Knowledge and skills	Technical	Pedagogical
CALL knowledge	Systematic and incidental understanding of the computer system, including peripheral devices, in terms of hardware, software, and networking	Systematic and incidental understanding of ways of using the computer in language teaching
CALL skill	Ability to use technical knowledge and experience both for the operation of the computer system and relevant applications and dealing with various problems	Ability to use knowledge and experience to determine effective materials, content, and tasks and to monitor and assess results appropriately.

Hubbard & Levy (2006 pp. 16) Technical and pedagogical knowledge and skills for CALL

To the best of my knowledge, this framework has not been applied to any specific teacher professional development programs and understanding of its impact is limited. For this study, I referred to this framework to design the content of the mini-workshops and explored how technical and pedagogical knowledge and skills contributed to in-service teachers' willingness and confidence to integrate technology and CALL.

2.2. Teachers' Roles in CALL and Technology Integration

According to Blin, Jalkanen, and Taalas (2016) in order to bring sustainable integration of technology into education systematic and continuous professional development of teachers is crucial. Alternatively, Wilson (2023) argues that attitudes, beliefs, and knowledge to integrate technology which are dependent on teachers require personal changes from teachers. These changes can be achieved in teacher education courses. A few studies (An & Reigeluth 2011, Ritzhaup et. al. 2012, Liu et. al. 2016) have shown that teachers' attitudes, beliefs, and knowledge influence technology integration. Kessler (2007) notes that teachers' attitudes toward computer technology and their technology knowledge may determine how successfully CALL is integrated into education. A few studies which focused on the importance of teachers' beliefs and attitudes toward technology integration have confirmed their necessity. (Cheng et. al. 2020, Vongkullluksn 2018, Wozney et.al. 2016). According to Hong (2010), CALL teacher education should enable teachers to integrate technology into their classrooms with confidence as well as knowledge. In summary, the extant literature highlights the significant role of teachers' attitudes, beliefs, and abilities in technology integration.

Kessler (2007) argues that informal preparation might have a positive and crucial impact on teachers' professional development. However, conference presentations and workshops cannot be substituted. According to Motterram (2014), English language teachers should be trained for CALL urgently. In the same respect, Hubbard and Kessler (2017) note that although teachers' CALL practices can develop informally, formal education is more efficient for most teachers. Moreover, Xie et. al. (2023) add that effective professional development for teachers includes building a coherent technology integration vision and improving teachers' beliefs and attitudes toward technology. For many research studies teachers' attitudes, perceptions and beliefs have attracted attention with the rapid growth of technology (Hell & Sauro 2021, Liu et.al. 2017). However, research that studies how professional development and teacher education contribute to teachers' perceptions, beliefs,

and attitudes toward technology is limited. As regards this gap in the effectiveness of the professional development of teachers in increasing their confidence and willingness, this study aims to explore how mini-workshops contribute to them.

2.3. Challenges in technology and CALL integration

The scope of CALL teacher education and teacher professional development in the CALL domain have been discussed by Hubbard and Levy (2006), Kessler (2006, 2007), Torsani (2016), and Son (2019) to name but a few, and teacher education and teacher professional development are considered as essential to ensure the effective accommodation of CALL and technology integration. According to Nazari and Xodabende (2022) in order to improve the standards of education it is salient to understand how teachers conceive and consume technology-induced instruction and the potential of digital technologies. Similarly, according to Ertmer and Ottenbreit-Leftwich (2010), the integration of technology effectively begins with the change of teachers. Thus, professional development programs targeting to enhance the integration of technology should start with the factors related to teachers. According to Kessler and Hubbard (2017) owing to the rapid development of CALL it is now a requirement for English foreign language (EFL) teachers to be competent in using CALL in their classes.

In relation to teachers' roles in technology and CALL integration Hubbard (2008) listed seven possible reasons why teacher programs do not meet CALL needs. These reasons are discussed below.

1. Inertia - According to Hubbard (ibid), it is always easy to sustain the status quo. If teachers and institutions believe that they have been successful in their own way they are less likely to make changes. He called this issue "inertia". He believes that teachers' language teaching approach becomes fixed within years, and despite the opportunities to make in-service renewal, teachers do not change.
2. Ignorance - refers to the lack of specialists to train teachers. There is a shortage of expert educators in the CALL domain due to being a relatively new subfield. Teachers cannot get adequate training and it is sometimes believed that teaching how to consume technology is not the concern of institutions providing formal teacher training.
3. Insufficient time - due to the requirements of the domain curricula and heavy workload educators and institutions cannot invest sufficient time into their CALL professional development.

4. Insufficient infrastructure - it refers to the lack of or limited access to technology. This is one of the main reasons that deters educators from CALL professional development. When there is no adequate infrastructure and stable access to the Internet teachers do not feel they need to learn or adopt technological knowledge and skills.

5. Insufficient standards - Standards can assist teachers in identifying their and learners' needs. When they lack these standards, they cannot integrate technology into their classes systematically. Hubbard (ibid) argues that the existence of standards in the field can assist in dealing with problems, in particular, inertia and ignorance.

6. Lack of established methodology- it is mostly related to coursebooks and curricula. They lead teachers, to a large extent, to what to teach and how to teach. Thus, coursebooks and curricula lacking technology-induced instruction give rise to the slow integration of CALL and technology.

7. Lack of experienced and knowledgeable educators- mostly in the CALL domain knowledgeable experts are self-taught and even the number of those educators is not sufficient.

Although Hubbard's (2008) list was concluded more than a decade ago, in the CALL literature there has not been a renewal in the list of challenges that can inhibit CALL and technology integration.

As opposed to Hubbard (ibid) with regard to technology standards, Oxford & Yung (2007) note that, although there are technology standards provided in some countries such as the USA, they do not have much of an impact. Moreover, it should be noted that Hubbard's (ibid) above-mentioned challenges are highly context specific. For instance, the findings of this study suggested slightly different impediments in CALL integration. In the context of this study, the teachers mainly brought up insufficient time, insufficient standards, lack of established methodology, and the negative washback of exams. Further discussions of these findings are in the findings section.

Hew and Brush (2007) and Ritzhaupt et. al. (2012) note that although successful technology integration is highly dependent on the school resources and school culture it can be affected in classrooms by various factors in which teachers are central. Hew and Brush (ibid) alternately, suggest six categories of barriers that hinder technology integration. They identified resources, knowledge and skills, institutions, attitudes and beliefs, assessment, and subject culture as barriers. Previously, Ertmer (1999) classified two types of barrier "orders". While first-order barriers are extrinsic to teachers such as resources, second-order obstacles are internal such as teachers' attitudes and beliefs which might not be apparent. According to

McMeniman and Evans (1998) in order for language teachers to change their CALL practices and beliefs there should be evidence presented with positive effects of the methods. In addition, Arnold (2017) argue that teachers who have experience in working the computer-assisted language learning environment and reflect on this experience implement technology in their classes effectively.

Overall, the literature has suggested that teachers' perceptions and behaviours in the integration of technology can change and be improved. Considering the significance of teachers' attitudes towards technology and CALL integration it is crucial to design various forms of teacher professional development courses, workshops, mini-workshops, programs, and training and study their effectiveness to identify the best practices adequate for various conditions and contexts.

2.4. Research on the outcomes of teacher professional development in CALL

In this study, the term "teacher professional development programs" means courses, workshops, training, and seminars. According to Hubbard (2023) the term "professional development" is connected to in-service teacher education albeit the definition is not often clear. He notes that professional development can include courses, workshops, webinars, conference presentations, and independent learning.

According to Parsons et. al. (2019), global policy supports professional development programs as a means to facilitate the ongoing professional growth of teachers. Despite the growing popularity of the teacher professional development programs germane to technology and computer-assisted language learning their effectiveness is still under researched. According to Kessler (2021), CALL teacher preparation has been scarcely studied despite the CALL-related skill demand for language teachers. In the same vein, Torsani (2016) argues that most of the research on CALL teacher education are descriptive aiming to investigate teachers' attitude toward technology not the efficacy of a CALL course.

A previous review of the relevant literature on CALL teacher professional development discloses that various teacher CALL professional development programs have positive effects on teachers' perceptions and beliefs. For instance, Nazari and Xodabende's (2022) and Hafour's (2022) studies based on mobile-assisted language learning (MALL) teacher professional development training improved teachers' awareness of the exploitability of mobile phones and teachers' perception of the use of mobile technology. Nazari and Xodabende's (ibid) study which was conceptually informed by sociocultural theory (SCT) aimed to understand teachers' sense-making of mobile technology experience. They studied

the impact of a ten-week professional development initiative on Iranian EFL teachers and data collected before and after the initiative revealed that participating teachers' beliefs changed. In the same vein, Hafour's (ibid) study supported the improvement of the teachers' perception after mobile technology training and her findings corroborated that of Ekanayake and Wishart (2015) in the sense that teacher training workshops improved teachers' practical skills, knowledge, and attitudes towards technology. While Nazari & Xodabende's (ibid) study aimed to investigate teachers' beliefs and classroom practices after a course Hafour's (ibid) study explored teachers' perceptions based on self-reported surveys and open-ended questions. Although, both studies added to the existing literature with findings to corroborate the positive impact of courses on teachers' attitudes toward technology the periods of both courses are not sufficient to conclude the outcomes in teachers' classroom practices. Alternatively, Bai et. al. (2021) studied teachers' perception of integration technology into English language classes focusing on TAM after attending a professional development program. Their study findings elaborated on the effect of the professional development program in the sense that interest, facilitating conditions, perceived ease of use, and growth mindset have positive effects on technology acceptance while technology anxiety impacts it negatively. Their findings confirmed the importance of increasing teachers' confidence and decreasing their anxiety in order to successfully exploit information communication technologies (ICT) in the classroom. Analogously, Kic-Drgas et. al. (2023) researched teachers' perceptions of the use of Open Educational Resources (OER). Their study findings indicated that there is an association between the frequency of the use of mobile technologies and teacher training as well as institutions' support. They also found that providing incentives and support can increase teachers' familiarity with the OERs. That is, the teachers' familiarity with these technologies is closely linked to the frequency of their use of technology.

Other researchers have documented how virtual exchange (VE) programs contribute to teachers' professional development. For instance, Rienties et. al. (2022) in large-scale quasi-experimental research, and O'Dowd and Dooly (2022) in a qualitative study explored how VE affects teachers' TPACK. Whilst the former did not reveal significant growth in teachers' TPACK skills, the latter's findings suggest that VE projects contribute teachers to developing collaborative skills and innovative approaches. Nami et. al.'s (2016) study focusing on the effect of lesson study in fostering teachers' professional growth supported that practice and collaboration can enhance teachers' grasp of technological and pedagogical knowledge as well as bolster their confidence. Alternatively, Nguyen and Tran's (2022) research findings

showed that educators believe that official institutional guidelines or policy documents positively affect technology and CALL integration. According to their research outcomes inconsistency in policy documents gives rise to disparities in educators' practices and academic outcomes. Addressing another facet, Meihami's (2021) research underscored the importance of the motivation of teachers to participate in CALL teacher programs. He noted that inertia and insufficient infrastructure affected teachers' willingness negatively to integrate technology and CALL. His findings suggested that in order to achieve sustainable CALL integration challenges of CALL such as inertia, ignorance, insufficient time, insufficient infrastructure, and insufficient standards (Hubbard 2008) should be addressed. Moreover, Nami's (2022) case study exploring the effectiveness of CALL professional development based on Project-based Language learning (PBL) suggested that the opportunities for teachers to review, reflect, and discuss technology-induced instructions improved their technological knowledge, and enhanced their attention to the affordances and limitations of various technological tools and selection of materials. In summary, these studies underscored the critical role of collaboration, policy-making, and effective professional development in enhancing teachers' integration of technology and CALL.

Since the present study mini-workshops incorporated the use of corpus in the language classroom it is necessary to briefly review the literature about training teachers to integrate corpus linguistics. One of the latest articles germane to teachers' perception and intention to integrate corpora into their classes (Ma et.al. 2023) investigated the results of corpus training for teachers with a large number of participants. Their findings showed that teachers with high corpus literacy have stronger intentions to integrate corpora into the classes. Previously Ma et. al. (2022) studied the efficacy of two-stage corpus-based teacher training and their findings revealed that teachers obtained considerable levels of corpus literacy. Both studies highlight the scaffolding teachers to use corpora. Unlike studies including teacher development programs which are specifically designed to train corpus literacy, the present study only introduced two corpus-based tools: SKELL (https://skell.sketchengine.eu/#home?lang=en) and Corpus of Contemporary American English (COCA https://www.english-corpora.org/coca/) which were accessible to the study participants and available for free. Further details of these tools and the rationale behind selecting them are discussed in the Chapter 3 workshop section. There are a range of studies highlighting the value of the use of corpora in language teaching (Jablonkai and Cebron 2021, Chen and Flowerdew 2018a, Lee and Swales 2006). The core issues in enhancing the use of corpora in language classes are teachers' preparedness and competencies to implement

them in classes. With respect to teacher training on the use of corpora Lenko-Szymanska's (2017, 2015, 2014), studies indicated that for successful exploitation of corpora, teachers need extensive exposure to corpora as well as well-planned training. Her findings suggest that within short-term training teachers only develop basic skills to use corpora such as manipulating corpora. In that sense, it should be acknowledged that due to the limited period, the aim of introducing corpus tools to the participating teachers in this study was to get teachers acquainted with available tools but not train them in all necessary skills for the exploitation of corpora. Thus, introducing SKELL and COCA at the mini-workshops provided initial insights for participating teachers into how corpora can be implemented in the language class.

2.5. Various Approaches to Designing Teacher Professional Development Programs

Egbert et.al. (2002, p.109) argue that the content of the teacher professional development should be "readily transferable" to the classroom setting so teachers can practice what they learned in those programs. They (ibid) suggest that in order to help language teachers use technology effectively the following questions should be asked.

- How do teachers learn about CALL-based activities?
- How does what they learn in their coursework impact their current teaching contexts?
- What factors influence whether they use computers in their classrooms?
- How do participants continue to acquire and master new ideas in CALL after formal coursework ends?

To answer the first question Knezek, Christensen, and Rice (1997) and Lam (2000) note that teachers gain confidence to use technology through formal education and training. However, Kessler's (2007) study revealed that teachers obtain most of their CALL knowledge from personal experience and in informal ways rather than from formal preparation. Previously, Robb's (2006) study also supported that much of what teachers learn about using technology in the language classroom is from self-study not from formal instruction. Egbert et. al. (ibid) also note that educators acquire practical knowledge which they practically apply to their classes.

These questions helped me design the content of the mini-workshops, in the sense that, I included tools and approaches that are easily available for teachers in the study context and I anticipated those tools could enhance the language classes in that context.

In changing practices teachers' perceptions and beliefs are salient. According to Kubanyiova (2012, p.9), "Teacher change often requires a transformation of existing belief systems".

Although there has been an abundance of research based on teachers' perception on CALL and technology mainly studies focused on teachers' professional growth with long-term courses. For instance, Nami et. al. (2016) studied the impact of lesson study on teachers' perception of CALL professional growth. Their study included 13 sessions both face-to-face and distance. Lesson study is defined by Lewis (2002) as a group of teachers identifying learning goals, crafting detailed lesson plans, delivering the lessons, drawing conclusions, and teaching again. Their study supported the potential of lesson study as a professional growth strategy for teachers. However, it also revealed that not all teacher participants perceive lesson study practice uniformly. Vongkulluksn et. al. (2018) note that professional development should arm teachers with both the ability to integrate technology in a meaningful way and the belief that technology can make a positive impact on student learning. According to Bowman et. al. (2022) even though access to technology is improved, there are still other teacher-related challenges to hinder the integration of technology. Building on a similar point, Zou et. al. (2018) note that having access to technological affordances does not necessarily mean that learners and instructors have the necessary skills to integrate them in pedagogically informed ways. This coincides with Hubbard's (2008), and Ertmer et. al.'s (2012) approaches. Additionally, Hubbard (2008) argues that teacher training programs are important not only for the present technology but also for the unknown technological future. Bowman et.al. (ibid) suggest that professional development programs should help teachers improve their abilities as well as change their value beliefs about the use of technology. Similarly, Hubbard and Levi (2006) argue that teachers need to be privy and critical about the use of technology and their intention of using technology should be pedagogically well-considered and appropriate for the aim of the task.

Egbert et.al. (2002) argue that since in technology preparation programs, teachers tend to use outdated technology these programs are usually disserved. Regarding this issue, it is significant that teachers have regular, continuous, and updated technology preparation which can help them learn newly released technology, embrace a variety of approaches, and develop criticality about the technology. According to Wilson (2023) in order to support technology integration academics and practitioners in teacher education and educational technology should identify the best practices. In that sense, it is salient to measure the effectiveness of teacher education courses for technology integration (TECTI). Furthermore, Bowman (2022) et. al. note that in order to design more effective and targeted professional development for teachers more evidence is needed to understand their outcomes. Given the criticality of the teacher's professional development in technology and CALL integration, there is a need to

study teacher professional development programs and their effectiveness in various contexts for various purposes.

2.6. Research gap and the Aim of this Research

To date, much of the teacher professional development in CALL and technology integration has been conducted to examine teachers' perceptions and attitudes (Hellmich 2019, Liu et.al 2017, Kaplan-Rakowski et.al. 2023) teachers' knowledge and literacies and skills (Dashtestani 2014) and CALL affordances and constraints (Gelan et.al. 2018, Shin 2017). This study specifically focused on how the mini-workshops contribute to teachers' confidence and willingness to integrate technology and CALL.

Overall, the review of the extant literature disclosed that most, studies that focused on teacher professional development incorporated specific approaches or tools in the training i.e., they chose one technological tool throughout the study and examined its impact. There is a dearth of research that included a broad training of teachers incorporating a few different tools and their potential usage in the language class and targeted to develop teachers' technical and pedagogical knowledge and skills.

In response to the aforementioned needs such as teachers' familiarity with tools, their value belief of CALL and technology, increasing their confidence and willingness, and critical evaluation of technology while implementation in the class, two mini-workshops were developed for in-service teachers. Teachers with heavy teaching workloads often do not receive adequate professional preparation due to insufficient time and find it rather challenging to keep up with the development of technology in education. (Hubbard 2008). In that respect, the present study aimed to provide more time-efficient and practical mini-workshops which included both technical and pedagogical knowledge and skills based on Hubbard's (2008) role-based framework and investigated how effective the mini-workshops were in increasing teachers' confidence and willingness to integrate CALL into their classes.

One way to support the integration of technology and CALL is through professional development which deepens teachers' technical and pedagogical knowledge and skills and increases their confidence and willingness to use technology. Mini-workshops if planned and conducted according to the needs of institutions and teachers can help to deal with some of the aforementioned problems. For instance, teachers' attendance in mini-workshops can eliminate inertia through collaboration and engagement. It could increase their confidence and willingness to integrate CALL and technology as they become more familiar with the new tools. Mini-workshops, as they are short, are more time-efficient for teachers with heavy

teaching loads. According to Bowman et.al. (2022), teacher professional development should include teachers' perceived ability and attitudes as well as their strategic and instructional knowledge. Therefore mini-workshops included content to bolster teacher technical and pedagogical knowledge and skills and also discussions of the potential benefits of technology and CALL in language teaching.

There is a robust body of work to explore how teachers benefit from developing TPACK (Kristiawan et. al. 2022, Shi and Jiang 2022, Chai et. al. 2013). Yet, little is known about the role-based framework which incorporates the development of teachers' technical and pedagogical knowledge and skills, and its effectiveness in increasing teachers' confidence and willingness to integrate technology and CALL due primarily to a lack of research. As a result, in order to connect the dots if technical and pedagogical knowledge and skills are sufficient to encourage teachers in technology and CALL integration, this needs to be studied. According to Gillespie (2020), teachers' attitudes towards CALL integration programs are scarcely researched topics in CALL literature between the years 2006-2016.

The increasing presence of language teaching and learning technologies in education in the last decade has introduced novel models in the instruction of English language teaching. In order to address this requirement, CALL professional development courses and initiatives are increasing exponentially. However, despite this expansion, the research on how professional development contributes to teacher willingness and confidence in CALL integration is limited. Reviewing the extant literature in the main journals related to CALL and technology such as ReCALL, CALL, CALICO, Language Learning and Technology, International Journal of Computer Assisted Language Learning and Teaching, and Journal of Research on Technology in Education of the latest 10 years publications, has revealed that there is a dearth of research focusing on the effectiveness of CALL teacher professional development programs. There have been large-scale survey studies to understand how various teacher professional development programs affect teachers' performance. However, very little qualitative research has been done to gain an in-depth understanding of the effectiveness and no research has been done to explore its effect on teachers' confidence and willingness. The predominant data collection methods in the existing literature have been surveys and questionnaires with some interviews. However, only a handful of case studies have been done to look at the effectiveness of teacher professional development programs. Adopting the role-based framework for CALL teacher education the aim of this case study is to explore the effectiveness of the mini-workshops related to CALL and technology for in-service English language teachers in increasing teachers' willingness and confidence in the integration of

technology into their classes. The reason for choosing mini-workshops is that in-service teachers with heavy teaching workloads do not usually have time for long and intensive teacher professional development courses and programs. Thus, mini-workshops can help teachers to gain technical and pedagogical knowledge and skills. Furthermore, there is not much research that has been done from my context and this research can reveal new insights from Azerbaijani English language teachers. The study will also add to the limited existing research examining the effectiveness of teacher professional development programs. Considering the methodological and content gap in research related to the effectiveness of teacher professional development in particular that of mini-workshops for teachers in the CALL domain this study aims to answer the following questions.

1. How do in-service teachers perceive mini-workshops as effective for increasing their willingness and confidence to integrate technology and CALL?
2. How do mini-workshops contribute to developing English language teachers' technological and pedagogical knowledge and skills?

Chapter 3. Methodology

A qualitative case study was applied to explore the effectiveness of the two 90-minute mini-workshops. Levy and Moore (2018) classify two pervasive aims of qualitative research in the CALL domain: to clarify and to detail the contextual aspects from macro to micro that impact the success of the implementation of CALL. Shakir (2002) suggests that case study research is considered suitable when the proposed research is quite exploratory and addresses "how" and "why" questions. Dornyei (2007) noted that a case study can provide an in-depth description and insights. Cohen et. al. (2018) assert that one of the strengths that case studies have is they observe effects in real contexts acknowledging that context is a significant determinant of the effect. Cohen et. al. (ibid) note that case studies can allow the researcher to identify significant *few* rather than insignificant *many* as well as it can provide insights into the dynamics of situations and people. In that sense, in order to gain an in-depth understanding of how mini-workshops contribute to teachers' confidence and willingness to integrate CALL and their technical and pedagogical knowledge and skills a case study was an appropriate choice. Moreover, due to the difficulty of recruiting participants for the study, the case study was also efficient in collecting insightful data with a small number of participants.

Bell (1991) advises that researchers need to gain permission with fully informed consent and indicate to the participants the benefit of the study. In the same vein, first, I contacted the school principal with an email describing all the stages of the research and how this research could contribute to the integration of technology and CALL at school and the professional growth of schools' English language teaching staff. After receiving the formal consent of the school administration English language teachers were emailed and informed thoroughly about the research. The email contained information about the steps of the research process, the aim of the study, and how much time teachers were expected to invest to participate in the study. Participating teachers also gave written informed consent.

All the research procedures were carried out via web-based platforms, such as Microsoft Teams, Microsoft Forms, emails, and in some cases WhatsApp. The participants were contacted mainly via email and WhatsApp. Microsoft Forms was used for the survey. Individual interviews, mini-workshops, and focus group discussions were held via Microsoft Teams, and with the consent of participants interviews and focus group discussions were video recorded. Additionally, to secure the recordings they were voice-recorded with a voice-

recording application on the phone. All teachers had Microsoft accounts provided by the school, thus, there were not any issues with accessing any of these platforms. Moreover, the participating teachers were already familiar with these tools and the usage of these platforms was straightforward for teachers. According to Creswell and Poth (2018), qualitative data collection via web-based platforms saves time and costs and also provides time and space flexibility for the researcher and participants. Regarding teachers' busy working timetables and my being away from the research country conducting mini-workshops online and reaching out to participants via web-based platforms were opportune.

After providing comprehensive information about the research for English teachers at school the survey was shared with them via email. Thirteen teachers responded to the survey. The last question in the survey asked teachers if they would volunteer to participate in the interview. Seven teachers confirmed their participation in the mini-workshops and further stages of the study. Although initially it was planned that all survey respondents would attend the workshops and would participate in all data collection processes, six out of thirteen teachers withdrew after the survey. Seven teachers attended the mini-workshops, and five teachers were interviewed individually before the mini-workshops. All seven teachers who participated in the workshops attended the focus group discussions.

3.1. Context

The research site chosen for the present study was a private K-12 school in Azerbaijan. The school is one of the leading schools and prides itself on teacher development opportunities. The school is equipped with state-of-art technologies in classrooms and all teachers are provided with laptops. Students also have their laptops with them at school every day. Hence, teachers are expected to design lessons enhanced with technology.

The school provides education in Azerbaijani, Russian, and English. Students in Azerbaijani and Russian streams study English as a foreign language based on the National Curriculum and during the study, they had 6-8 hours of English classes per week. In the English stream, students study English more intensively and they also study content subjects in English.

3.2. Participants

The participants were selected based on non-probabilistic convenience sampling. They were former colleagues of mine. All the participants were in-service English teachers and females. Eight out of thirteen participants had 16 or more, two of them 10-15, two teachers 2-6, and only one teacher had 2-5 years of teaching experience and most of them taught 16 or more

hours of English classes per week during the research process. All teachers had an MA degree and 5 teachers had PhD degrees in Language teaching and studies. All participating teachers were non-native English teachers with high proficiency in English. The names of teachers in this study are replaced with pseudonyms.

3.3. Data collection

Data collection in this study included two stages. It entailed pre-workshop and post-workshop data collection. Pre-workshop data were collected from a survey and individual semi-structured interviews. Post-workshop data collection incorporated individual interviews with the same participants who attended the interview before the workshops and focus group discussions with all teachers who attended the mini-workshops. According to Creswell and Poth (2018), a good qualitative case study can be accomplished by collecting and integrating multiple forms of data since relying on one form of data is not enough for in-depth understanding. Similarly, Mertens (2020) notes that using multiple instruments to collect data strengthens the validity of the findings of the research. In that respect, in order to gain an in-depth understanding multiple forms of data were collected.

The diagram below illustrates the data collection procedure with the number of participants.

Figure 1.

3.3.1. The survey

Despite the small number of participants, a survey was implemented to gather general information about teachers' demographic profile and their backgrounds regarding the CALL and technology professional development programs and their classroom practices with CALL and technology. Vershuren (2003) notes that case studies can employ surveys and questionnaires to collect the data. Similarly, Cohen et.al. (2018) assert that case studies can blend numerical data and qualitative data to explain, describe, and illustrate the phenomena. In that sense, in order to gather broad information about teachers' previous experience in CALL and technology professional development programs and attitudes towards technology and CALL the survey was a rational decision. It also allowed me to save participants time

during the interviews since demographic and background questions were not included in the interviews.

The survey was conducted in English. It included 30 questions and questions were adopted and modified from Kessler (2006, 2007). Although the validity of the survey questions was previously proven by Kessler they were piloted for this study. According to Creswell and Creswell (2023) modified and combined research tools may not hold the same validity. Thus, the survey was piloted with two experienced English language teachers with high English proficiency. The piloting teachers were not the participants of the study. During piloting teachers were asked to do concurrent think-aloud and voice-record themselves. Afterward, they shared their think-aloud voice recording with me via WhatsApp.

There were modifications made to the survey questions. Initially, for the purposes of this study, the term "course" in the original survey was replaced with "seminars, workshops, training, course, webinar and program" to gain broad information about teachers' backgrounds in CALL professional development. However, based on piloting teachers' feedback the terms "seminar, workshop, course, webinar, and program" were later replaced with "professional development program" since they were considered too lengthy and confusing. Hubbard (2021) defines the term "professional development" as the formal and informal teacher education mechanisms. Barett et. al. (2012) define professional development as programs for in-service teachers which target to improve teachers' knowledge, strategies, and other teacher characteristics influencing their teaching. Both these definitions allowed me to use the term "professional development program" instead of "seminars, workshops, courses, webinars, training, and programs". After piloting the survey and discussing the updated version with piloting teachers the survey was ready.

The survey included two sections. The first section included profile questions such as age, years of experience, and general English language teaching context: English is taught in the National Curriculum as a foreign language or in the international stream where English is taught as a first or second language and one option was "other". The purpose of this question was to examine if there is a difference between teachers' attitudes towards technology and CALL depending on the course materials they use. Furthermore, this section incorporated questions about teachers' previous professional development practices in CALL and their attitudes towards CALL.

The second section asked teachers about their previous background about their classroom practices related to CALL and technology i.e. how they integrated technology into their classes. Although there is a consensus that it is better to put demographic questions towards

the end of the survey (Sapsford and Jupp 2006) for this study demographic questions were placed towards the beginning based on my personal preferences since I anticipate demographic questions can help build a rapport with participants. Demographic questions accounted for five questions of the whole survey. The survey included 5-point Likert-scale items, open questions, category questions such as 0-1 years, 2-5 years, 6-10 years, and multiple-choice statements about teachers' experiences from previous professional development courses and classroom practices. Questions with the Likert scale included statements "strongly agree, agree, neutral, disagree, and strongly disagree". These questions reflected a variety of teaching techniques and evaluative abilities. The five-point Likert scale questions included items from extremely confident to extremely unconfident. Some questions in the survey asked participants about the frequency of the activities related to CALL. Frequency questions included options as "always, sometimes, or never". According to Dornyei (2010), there is no absolute standard for the number of options in the Likert scale. Due to the small number of respondents, the survey was not used for statistical data analysis. However, it provided significant details about teachers' profiles, preferences, and backgrounds.

3.3.2. Pre-workshop Individual Interviews

The second stage of data collection was pre-workshop individual interviews. In order to explore teachers' opinions about and attitudes towards CALL a semi-structured interview was conducted before the mini-workshops. Pre-workshop semi-structured individual interview questions were adopted from Kessler (2006). Kessler (ibid) states that the interview questions were designed in a broad way intentionally to allow topics to arise that might not be predicted by the researcher. In that respect, interview questions were maintained broad. As there were some modifications in the interview questions, they were piloted with three seasoned English language teachers. Two of them were non-native English language teachers and one of them was a native English teacher. Questions were sent to the piloting teachers via email and their feedback was accepted via WhatsApp. Both non-native and native English-speaking teachers noted that the questions did not cause any confusion or misunderstanding and thus, interview questions were finalized. Five teachers agreed to participate in individual interviews. Each interview lasted for approximately 35-40 minutes. Interviews were on Microsoft Teams and recorded with the consent of participants. In several cases, after the interviews, additional information was received by phone. All the recordings were securely uploaded to a cloud server which is only accessible to me.

3.3.3. Post-workshop individual interviews

Afterward, two mini-workshops with a one-week interval were conducted. The details of the mini-workshops are discussed in the workshop section. Following the workshops, 5 teachers participated in an individual interview in which they were prompted to reflect upon their experience in the workshops and how they perceived it as effective. Individual interviews were conducted with the same interviewees who attended the pre-workshop interviews. Each individual interview lasted roughly 25-30 minutes. The interview questions included "Do feel you have benefited from the mini-workshops?" "Do you think you can use the tools incorporated in the mini-workshops in your classes? How? Please elaborate?", "How do you think the mini-workshops have contributed to your attitude towards technology and CALL?" Interview questions were intentionally designed in a broad way to allow any topics to arise that I might not have anticipated. These questions were piloted with three teachers outside the research to ensure they did not lead to any misunderstanding. The individual interviews were mainly conducted in English based on teachers' preferences, sometimes teachers shifted into Azerbaijani during the interview.

3.3.4. Focus group discussions

Focus group discussions were conducted with all teachers who participated in the mini-workshops. These discussions lasted nearly 50 minutes. The teachers spoke both Azerbaijani and English based on their personal preferences. The purpose of focus group discussion was to help me discover unspoken rationales, experiences, perceptions, and perspectives in individual interviews. Focus group discussions were unstructured. However, some of the post-workshop focus group discussion questions were adopted and modified from Kessler (2006). According to Shaikh (2023) when the researcher would like to rely on participants' knowledge to lead the conversation, they might need unstructured discussion. In this study, I relied on participants' experience, expertise, and invaluable insights, thus, opted for the unstructured focus discussion. Opie and Brown (2019) note that the focus group discussion stimulates the participants to discuss and generate new ideas and knowledge. In that sense, focus group discussion provided significant data about teachers' perceptions and perspectives of the CALL and technology integration as well as the impact of the mini-workshops. Although participating teachers were not explicitly asked to carry out classes with any tools

covered in the mini-workshops they were encouraged to reflect upon how they would connect the workshop content into their teaching practices.

Both pre- and post-workshop interviews allowed the researcher to understand teachers' perceptions and beliefs. According to Shaikh (2023), interviews help researchers to understand people's beliefs, opinions, and perceptions which we cannot directly observe.

3.4. Data analysis

First, data collected from the pre-workshop and post-workshop interviews and focus group discussions were transcribed verbatim. Thematic analysis of the qualitative data was conducted. According to Oppie and Brown (2019), thematic analysis is particularly suitable when the depth of understanding is the main consideration since it does not only measure the frequency of categories. According to Cohen et. al. (2018) for the case study sometimes information that is not frequent can be important, namely, if a particular occurrence does not happen recurrently, it does not mean it should be ruled out. In that sense, thematic analysis can provide in-depth understanding since it does not only measure the frequency. Using a thematic coding approach interview and discussion transcripts were reviewed. Transcripts were read thoroughly three times and after a week they were read again. Codes were added, rejected, modified, and redefined as they were revisited repeatedly. To ensure the trustworthiness of the data coding and data analysis with individual interviews and focus group discussions member checking was applied throughout data coding and data analysis procedures. This included ongoing discussions with participating teachers about data analysis and summarisation sessions at the end of interviews and focus group discussions. (Mertens 2010). After reaching a consensus on the initial codes several themes were developed.
Since the researcher and participants were former colleagues, it could lead to decrease the quality of the study due to the power relationship. In order to minimize the power relationship I collaborated with participants during the data analysis and interpretation phases. Creswell & Poth (2018) suggest the researcher should collaborate with participants to review the research questions, data analysis, and interpretation to minimize the power relationship.

3.5. Quality criteria of the study

The validity of this study was considered based on Lincoln and Guba's (1985) trustworthiness and Creswell and Poth's (2018) perspectives. Lincoln and Guba (ibid) offer credibility, transferability, dependability, and confirmability as the criteria of trustworthiness. According to them, credibility can be achieved with prolonged engagement in the research

site. Similarly, Maxwell (2012) asserts that in order to know one case well the researcher needs to spend a long-time observing contexts and events. However, due to the limited time allotted for this study, I could not be engaged in the research site for a great deal.

The transferability of the study can be provided by the thick description and high detail on important aspects. Geertz (1973) argues that research must include thick descriptions; and for those descriptions of the research to be "thick" detailed observational data, data on meanings, participants' interpretations of situations, and unobserved factors should be included. Throughout reporting this study, I provided a detailed description of the context and participants' features. As well as that I provided excerpts from participants' discussions to rationalize my interpretations. Those interpretations were reviewed with participants as well. Moreover, the research setting was described with enhanced details. Every effort was made to make the research procedures as transparent as possible and to describe the research stages clearly including the research setting, methods, data analysis, and ethical considerations so that research results can be scrutinized by others. In order to provide dependability, the research procedures were well-documented. In addition to that member-checking was conducted. After data were transcribed and interpreted, they were discussed with the participants whether they confirmed the accuracy of interpretations. Confirmability was provided with peer debriefing with a researcher outside this study and a transparent account of the study was provided.

Due to its nature qualitative case studies require close contact between participants and the researcher. Consequently, the researcher is in a sensitive position. Onwuegbuzie and Leech (2006b) provided steps researchers need to consider ensuring the validity and quality of their studies. One of the steps is checking for the researcher's bias. It includes reflecting on how far the researchers' characteristics affect the research. In that respect, concerning my relationship with participants, I reflected on the interaction between participants and me. In order to do that I watched the video recording of the focus group discussion video, listened to the interview recordings, and read the transcripts a few times. Opie and Brown (2019) assert that the researcher should take all possible measures to avoid bias in the interpretation of the data. However, according to them, bias is inevitable since the researcher is never neutral. Furthermore, they add that the researcher has the beliefs, and values that influence their interaction with the participants. Thus, I acknowledge that since I did the data analysis and its interpretations mostly by myself, it was likely there was some bias in them.

My role in this study was multifaceted. I was the instructor of the mini-workshops, as well as a close participant in the focus group discussions. Because of this, I was able to provide

personal insights about the mini-workshops, technology, and CALL and this partially made the research and the workshops inseparable. According to Silverman (2001) in qualitative research, the researcher brings their subjectivity i.e., views and perspectives for making better sense into the research process. This is the strength of qualitative research rather than its weakness. However, it should be acknowledged that in this study, my role as a researcher and as a workshop instructor as well as the relationship between study participants and me could have contributed to bias to some extent in data interpretation. Having said that, Richards (2015) notes that in the qualitative study, the researcher is part of the data, not an observer i.e., qualitative data are the products of the interaction between the researcher and participants.

With regard to the downsides of the interpretivist qualitative data in order to minimize the bias and increase the trustworthiness of the study I applied peer debriefing. Another researcher outside of this study read the transcripts of the interviews and focus group discussions and shared her opinions. In order to minimize the researcher bias, I alternately, contemplated on the development of interactions between participants and me throughout the data collection and data analysis processes. Cohen et. al. (2018) assert that there is no correct and single way of analysing qualitative data since qualitative data heavily relies on interpretations and there are possibly other interpretations. This is the strength and the shortcoming of the qualitative data.

3.6. Ethical Considerations

Based on Creswell and Poth (2018) three principles of ethical issues were considered during the study. First, was being respectful which included participants' privacy and consent. Furthermore, participants and the school authority were fully informed about the stages of the study, and they were assured that confidentiality and anonymity would be protected. In that respect, participants' identities were not revealed at any stage of the study. However, due to the small number of the participants and the context being too specific their identity could be predicted. According to Casanave (2016) when the study is too particular it is difficult to protect participants' identity. Thus, participants need to be informed about the possible risks and it should be made clear that participants can withdraw at any time. In that sense in this study, participants were informed about this issue at the outset. The second principle is the welfare of participants. In order to ensure participants' welfare, the timing of the research procedures including the mini-workshops were negotiated with participants and their preferences about timing were taken into consideration. The third principle is enhanced

inclusivity. Participants were asked at all stages of the study if they needed any additional support during their participation. They did not require any specific help to participate in the study.

Bogdan and Biklen (1992) argue that research participants should be respected as subjects, not as research objects to be used and discarded. In that respect, participants were also involved in discussions to analyze the data. They were asked if there was any information they did not prefer to be revealed.

The study was carried out with participants who volunteered to attend. The personal relationship between participants and the researcher raises ethical concerns. In that respect to ensure that participants did not feel obliged to participate in the study they were informed that they could withdraw from the study at any time. Participants were informed about the research procedures and expected time they were supposed to invest in the study at the outset.

3.7. Mini-Workshops

Ashik et. al. (2020) argue that despite the fact that there is a consensus on training teachers on CALL and technology there is limited evidence of established methodology and content for teacher training. Similarly, Hubbard (2023) claims that there is little systematic technology education for language teachers. According to Levy (1997) expecting to cover all possible technologies in all possible scenarios is unreasonable.

Beatty (2010), Egbert (2005), Levy and Stockwell (2006) Hubbard (2008) mentioned the "breadth-first" approach in teachers' CALL professional development which represents traditional survey courses. According to Hubbard (2008), this approach should be about technology in language teaching and help participants practice both technical and pedagogical skills and knowledge. Similarly, Son (2018) notes that teacher professional development in CALL both pedagogy and technology should be included. Heigelheimer (2006) emphasized the importance of technical knowledge describing that the structure and impact of the technical skills course is the foundation of the integration of technology. Thus, the content of the mini-workshops was carefully considered regarding the possible needs of the school and teachers in the specific context and incorporated both technical and pedagogical features of the tools introduced in the workshops.

There were two mini-workshops, and each lasted for 90 minutes. Seven English teachers attended the workshops. I conducted the mini-workshops. All workshop attendees were experienced language teachers who taught more than 20 hours per week. Since all the participants had Microsoft accounts the mini-workshops were held via the Microsoft Teams

program. Before the mini-workshops, teachers received resources about CALL such as the TESOL Technology Standards Framework, British Council Innovations in Learning Technologies for English Language Teaching edited by Motterham (2013), Hubbard (2021) An invitation to CALL Foundations of Computer Assisted Language Learning. Receiving these resources enabled teachers to study them at their own pace and prepare for the mini-workshop topics and for further consolidation of the workshop content.

The mini-workshops included Bloom's Digital Taxonomy (2012), TESOL Technology Standards Framework (2008), and four technological approaches to developing various language skills. (1) podcasts as a language teaching tool (2) digital storytelling (3) Chatbots as a language partner (4) SKELL corpus-based language teaching tool and Contemporary American Corpora. All these approaches were chosen based on the CALL scholarly literature and the positive impact of these tools on language learners were supported by a few studies. For instance, Hubbard (2017) notes that TESOL Technology Standards for Teachers (TTST) were designed in a way that they can be implemented internationally or locally in low, middle, and high-resourced contexts and he adds that by adapting them to the specific context teacher educators can be guided.

Fouz-Gonzalez's (2019) study revealed that a podcast-based approach impacted learners' perception and production of target sounds although there was no statistical significance in producing specific sounds. However, Gholami and Mohammadi's (2015) study indicated that learners who integrated podcasts into their learning significantly outperformed students with no integration of podcasts regarding their lexical knowledge. Furthermore, O'Brien and Hegelheimer (2007) evaluated the impact of the integration of podcasts into academic English classes as listening strategies and preliminary evaluation of this attempt indicated that both teachers and learners found podcasts to be fruitful.

Alismail (2015) expresses digital storytelling as videos that combine traditional storytelling with text, visuals, audio, music, and videos. Wang and Zhan (2010) describe digital storytelling as rich in visual and auditory elements. Robin (2016) defines digital storytelling as a mixture of multimedia, text, pictures, audio narration, music, and video. Danny Huang's (2023) study disclosed that digital storytelling tasks had a positive impact on English speaking proficiency, group cohesion, and willingness to communicate in English. According to Reindeers (2011), digital storytelling heightens learners' awareness of writing and speaking for a larger audience. Wawro (2012) notes that digital storytelling enhances learner autonomy and empowers reticent students to express themselves.

Another topic included in the workshops was the corpus-based approach in language teaching. It is a multi-purpose approach that allows language teachers and learners various practices. The corpus-based approach can be used to teach vocabulary in general, to distinguish near-synonyms, learn the use of words in diverse contexts, and collocates. A number of scholars and researchers (Flowerdew 2013, Richard and Tony 2006) believe that this approach is reliable because authentic data can assist language teachers and learners in understanding the differences in language use. Similarly, Lee et.al. (2019) study on the effectiveness of corpus use in second language vocabulary learning revealed that corpus use is effective in enhancing L2 vocabulary long-term retention.

Chatbots have long been a topic of interest for educators and researchers as well as language teachers. Kai et. al. (2023) studied the effectiveness of chatbot-assisted in-class debate for argumentation skills. Their study findings indicated that students who participated in chatbot-assisted in-class debates were able to produce more claims and data and their arguments were more elaborated and organized. Furthermore, students showed more enjoyment and engagement than in conventional learning tasks.

Alternatively, Çakmak's (2022) study revealed that students demonstrated better performance with interacting with a chatbot than with face-to-face interaction with their peers as interaction with chatbots caused less anxiety. Since interaction with a chatbot is a relatively novel approach in language teaching teachers' intention to adopt it is still slow. Based on Yang, Kim, Lee, and Shin's (2022) study AI chatbots encouraged students to engage in conversations and language learners supported the positive potential of AI chatbots as a speaking partner.

3.7.1. Structure of the mini-workshops

The content of the mini-workshops was designed for in-service classroom teachers in accordance with the purpose of the research. Full implementation of the role-based framework is out of the scope of this research. Therefore, it did not include any content for pre-service classroom teachers, CALL specialists, and CALL professionals. Thus, only in-service teachers' roles could be included in this study. According to the role-based framework, teachers are expected to be able to use CALL materials and lessons that others have produced effectively. Furthermore, teachers should be able to develop software, websites, apps, and CALL activities and tasks.

Day 1 of the mini-workshops started with the TESOL Technology Standards Framework (2008) and Bloom's Digital Taxonomy (2012). Teachers discussed the suitability of the

standards and how Digital taxonomy can be used to transform students' learning to different levels. The second phase of the mini-workshop included using podcasts for teaching English and developing various skills of learners, digital storytelling. Initially, teachers were introduced to two podcast channels, and they were asked to go over these websites and share their opinions. They were asked questions, "Do you think you can apply these tools? How?". Teachers had 5-10 minutes to check the websites and discuss with each other. What is the added value of using podcasts as a language tool? Teachers came up with ideas that podcasts could help with developing speaking and pronunciation skills and teaching vocabulary. As an example of podcasts American Scientific and Britannica were introduced to teachers. American Scientific is a website and a mobile application that provides content from different fields of science. The podcasts have transcripts that allow teachers to use as ancillary material. At the end of the first day, teachers were asked to explore those tools until the next workshop.

In the workshops, two short digital story samples created with PowerPoint were presented to teachers, and they were asked to discuss how digital storytelling can be implemented in the classes. The teachers discussed creating a digital story using the features of MS PowerPoint which allowed them to practice the technical part of the tool. They also discussed the pedagogical added value of digital storytelling. Teachers mentioned that Google Slides or any video-making and editing tools can be used depending on the accessibility. As the context school provides students with Microsoft accounts teachers considered using PowerPoint as the most relevant for the context.

After a week, Day 2 of mini-workshops started with a quick recap of content from Day 1 and teachers shared their opinion on how the tools incorporated on the previous day could be efficient in their classes. Day 2 included chatbots as speaking partners and using simple corpus tools in English classes. For corpus-based language learning, SKELL (https://skell.sketchengine.eu/#result?f=wordsketch&lang=en&query=insight)and Corpus of Contemporary American English (COCA) (https://www.english-corpora.org/coca/) were introduced to teachers. SKELL is a user-friendly SketchEngine-based website that allows users to find examples, collocations, and potential modifiers of a word and similar words. The advantage of SKELL is that it does not require any registration or login and is free to use. Its simple interface makes it easy to use for less technologically savvy teachers and learners. Given these upsides of SKELL, it was considered an appropriate tool to introduce in the mini-workshop. Although COCA provides limited access for free and requires registration to use it it can be a productive tool once teachers get familiar with its usage.

Thus, COCA was included in the workshop. After introducing each tool and website teachers were allotted 5 minutes to explore the tools and their functions. Then teachers were asked questions “Do you think you could apply these tools to your teaching? How? Please elaborate.”.

The last tool to have been discussed in the mini-workshops was a chatbot as a speaking partner. For this mini-workshop teachers were introduced Kuki AI chatbot which was the Loebner Prize winner for simulating the most human-like conversation. Chocarro et. al.’s (2023) study indicated that perceived easiness and perceived usefulness can lead to acceptance of chatbots. In the mini-workshops, participating teachers investigated the Kuki chatbot (https://www.kuki.ai/) which is free to access and is considered one of the most human-like chatbots. Teachers interacted with the chatbot for 5-6 minutes and then discussed how efficiently it could be implemented in the language classes.

The mini-workshops included Bloom’s Digital Taxonomy (Churches 2010) which can facilitate low- and high-order thinking activities. The taxonomy depicts the technological learning tools in a hierarchical order from low-order to high-order thinking. Low-order cognitive tasks require learners to remember, understand, and apply while high-order cognitive tasks require learners to analyse, evaluate, and create.

Throughout the mini-workshops, the participants practiced how to use these tools and discussed the added value of using these tools in their classes. Egbert et. al. (2002) report that teachers mainly use technology for word processing, spreadsheets, and creating tests and forms to adapt technology to their current practice rather than adapting their practice to the integration of technology. Thus, the content of mini-workshops included discussions about the technological tools that targeted to develop teachers’ practices of technology beyond being an ancillary tool but instruction. Smerdon et. al. (2000) and Fisher (1999) suggest that peer collaboration in a situated learning context has a greater impact on teachers’ personal use of technology and instructional delivery since teachers apply technological tools to their classrooms. Having said that, this study could not incorporate teachers’ classroom practices due to insufficient time. However, teachers had the chance to discuss and reflect on their CALL classroom practice.

Chapter 4. Findings

The thematic analysis of the pre- and post-workshop interviews provided the following themes. (1) ongoing professional development (2) teachers' challenges (3) accessibility of tools These codes also emerged in the open questions in the survey.

Ongoing teacher professional development makes teachers feel engaged, and they learn new tools and approaches in technology integration. In that sense, the mini-workshops provided the teachers an opportunity for collaboration, reviewing and reflecting on their CALL classroom practices.

Teacher challenges mainly include the following subthemes: insufficient time to design a lesson plan that incorporates technology. Generally, current materials are not designed to embrace technology implementation. Teachers need to invest extra time and effort to include technology-induced instructions. Teachers need to gain technical and pedagogical knowledge and skills about emerging CALL tools. However, exam preparation of upper-grade students deters teachers from applying new practices to the class since they mostly invest their time in developing students' exam techniques.

Accessibility of tools includes these subthemes: availability of technological tools for free or provided by the school. Thus, teachers do not have to pay for using any tools, Teachers prefer incorporating new and more sophisticated tools. Using the same technological tools or applications repetitively makes students and teachers lose enthusiasm to use them. Teachers perceive the pedagogical value of the technological tools through discussing how those tools enhance the learning process. The findings are discussed with further details and excerpts in the next sections and chapters to answer the research questions.

4.1. Survey results

Due to the small number of participants the survey did not provide inferential statistical data. However, it provided initial descriptive data about the participants (Cohen et. al. 2018). The survey results indicate that eight out of thirteen teachers feel extremely confident, and five teachers feel somewhat confident using technology. However, all teachers chose "yes" to the question "Do you feel you would benefit from more instruction in a teacher training workshop regarding teaching with technology?".

Table 3 illustrates teachers' backgrounds in attending teacher professional development programs. Overall, all participating teachers previously attended a professional development program focusing on teaching with technology to some extent.

Table 3.

Number of professional development programs	How many professional development programs did you take that focused on using technology for teaching	How many professional development programs did you take that devoted more than 20% of the time to issues regarding teaching with technology?
0	2	3
1-2	2	2
3-4	3	5
5-6	3	3
7 or more	3	0

Table 4 illustrates teachers' self-report on their classroom practice with the implementation of technology.

Table 4.

Statements	**Strongly agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
Use computer-based materials for teaching speaking skills	2	10	1	0	0
Use computer-based materials for teaching listening skills	4	8	0	1	0
Use computer-based materials for teaching reading skills	1	5	6	1	0
I use computer-based materials for teaching writing skills	0	9	3	1	0
Use computer materials for teaching grammar skills	1	9	2	1	0
Use computer-based solutions for evaluating students	3	9	0	1	0

Make effective decisions regarding the use of technology for instruction	2	6	3	2	0

For the survey question which asked teachers to choose the best statement that matched with their attitude towards technology the most common statements were *"I really enjoy using computers and the internet instructionally"*, *"I am confident using technology as a learning resource"*, *"students should be able to use computers to help them solve problems in English"*, *"computers should be as important and available to students as pencils and books"*. No teacher chose any statement indicating a negative attitude toward technology. These results support the assumption that CALL is valued as a component in language teaching.

The survey results also revealed the two most commonly cited challenges for the successful integration of technology: teachers and materials. A few respondents mentioned the importance of materials incorporating technology while answering the open question "What challenges does the technology represent for teachers?".

Excerpt 1. Teacher Gulnara.

Materials are not designed for classes to integrate technology. Teachers still need to spend much time sorting them out and making amendments to them according to the student's level of understanding of the task.

Excerpt 2. Teacher Zaynab.

Time and resources. Incorporating technology into language instruction often requires additional time and resources for lesson planning, content creation, and technology implementation.

4.2. Interview and focus group discussion results

To answer RQ2 findings revealed teachers consider mini-workshops fruitful and productive as they gave them the opportunity to voice their challenges, collaborate with each other, and learn new things about the CALL domain. They noted that these tools, and approaches as well as Bloom's Digital Taxonomy and TESOL Technology Standards Framework provided new insights for them. Teacher Nigar says:

Excerpt 3. Teacher Nigar.

SKELL is great to use. It will be really efficient in teaching collocations. Thank you for sharing this with us. I will definitely go over it again afterward and see how I can use this in

my lessons. It is better to use authentic examples from SKELL rather than prepare examples by myself.

The participating teachers also provided positive feedback specifically about digital storytelling. They expressed that unlike traditional storytelling digital storytelling requires more effort and practice from students and it can have a positive effect in developing the reading, writing, pronunciation, and oral proficiency of students. Teachers Fatima and Surayya took a similar approach to incorporating the digital storytelling method in the workshop. They viewed it as an opportunity to learn how digital storytelling can be implemented in their classes to realize various language objectives.

Excerpt 4. Teacher Fatima.

I really liked the idea of digital storytelling. It will help students to see their own mistakes and they will work on their pronunciations. They will be more cautious with their speaking in digital storytelling whilst recording their audio or video.

Excerpt 5. Teacher Surayya.

Sometimes children work hard and study well, but they cannot see their own mistakes. And they keep making the same mistake. In traditional storytelling, I try to correct their mistakes many times after they finish. But I think in digital storytelling they will correct their slight mistakes themselves whilst recording.

The teachers also raised the significance of teachers' criticality in implementing technology. They think technology should add value to the lesson and enhance the learning but not distract learners.

Excerpt 6. Teacher Laman.

Teachers sometimes use technology without actually exploring the real relevance of what they are teaching. Using technology just because it is a trend does not lead the teacher to successful and effective technology use in class. Technology is supposed to add value to your class, not distract the student from the real purpose of the class.

Excerpt 7. Teacher Elena

Integrating technology effectively into language instruction requires careful pedagogical planning. Instructors need to determine how technology can enhance learning outcomes and align technological activities with language learning outcomes.

In that sense, teachers think that teachers' ongoing professional development should be provided.

Excerpt 8. Teacher Zeynab

Ongoing and continuous professional development is essential for teachers to stay updated with emerging technologies and pedagogical practices.

Teachers Fatima and Elena think that each curriculum should incorporate tasks that include CALL activities and objectives to develop CALL skills. They noted that policymakers should design a curriculum with specific technological tools and teachers should have access to those tools.

Excerpt 9: Teacher Elena

It is significant that specific technological resources that align with our curriculum are created. Those resources should be accessible to teachers. It should not be an individual effort of teachers. Policymakers should incorporate technology in the curriculum as they design the coursebooks.

Teachers also raised the issue related to the availability of technological tools. They think that using the same app causes boredom among teachers and learners. Therefore, it is salient to implement new tools.

Excerpt 10: Teacher Surayya

Using the same app also causes boredom among learners and teachers. Since COVID 19 we have been using many apps. However, those apps are not as exciting as they were before. Students as well as teachers want something new.

Teachers consider test-driven exams as another deterrent to applying sophisticated technological tools. They think that they cannot rely on students' autonomous learning in exam preparation. Therefore, they spend most of the lesson developing students' exam techniques and working on only topics that are included in exams. Teachers Nigar and Surayya brought up this issue in the focus group discussions.

Excerpt 11. Teacher Nigar.

Students' language levels are different, and we have to prepare them for the state exams with a rigid curriculum. We mostly try to embed things in their brain which is included in the exams. Upper-grade students are at the perfect level at which they can benefit from technology integration and technological tools and advance their language levels. However, we confine them to tests so that they can succeed in the state final and admission exams.

One of the participating teachers noted that the technological tools mentioned in the mini-workshops in particular corpus-based language learning and chatbots were mostly appropriate to high-achieving students as those tools require students' other skills beyond language

competency. Teachers think that in order to understand the language samples from the corpus students need to have analytical skills.

Chapter 5. Discussion

Findings of this study showed that participants perceived CALL and technology integration as important to their teaching highlighting that technology can provide more authentic tasks, individualized and adaptive learning and more interactive lessons, and autonomous learning outside the class. The teachers also agree that CALL can enhance learning and motivate students. These were the common responses to the question in the survey "What is promising about using technology for language instruction?". The qualitative data from individual interviews and focus group discussions not only confirmed these findings but expanded them.

Some of the challenges in integrating technology for the language classes revealed in this study overlapped with the challenges identified by Hubbard's (2008) and barriers listed by Hew and Brush's (2007). However, the impact of high-stake exams in integrating technology has not been listed among any of the abovementioned factors. The thematic analysis of the teachers' interview data and their interpretations coincided with Nami's (2022) study, in the sense that opportunities for teachers to review, reflect and discuss technology-based instructions and resources bolster teachers' willingness to integrate technology. Since in the extant literature, there has not been done any research with the exact similarities with this study, comparing the outcomes and findings of this study is limited.

With regard to RQ 1 the collected data indicated that participants were already confident in their functional skills associated with technology integration into their classes and they had positive attitudes toward technology. Having said that, the participants confirmed that they feel they would benefit from more instruction in a teacher training workshop regarding teaching with technology. Although, there was not any significant indication of increasing teachers' confidence and willingness to integrate CALL and technology into their classes as a result of mini-workshops the majority of the participating teachers noted that mini-workshops were fruitful since they created opportunities for them to collaborate, increased engagement and also advised them about the technological tools and approaches that were new for them.

This allows to answer the RQ 2 that mini-workshops can contribute to teachers' technical and pedagogical knowledge and skills to some extent. As well as that the collaboration between teachers and engagement in the activities provided in formal professional development programs may trigger teachers out of inertia. This conclusion corroborates with Meihami's (2021) and Nazari and Xodabende's studies' findings. Nevertheless, it needs to be acknowledged that it is likely that participating teachers do not benefit from the mini-workshops uniformly. Some participants can embrace the new approaches more easily than others. According to Wong and Benson (2006), a single training program is not enough to make considerable changes. In their case study, they revealed that there was a significant difference between teachers' integration of technology who attended the same CALL course. In that respect, in order to examine the real impact of mini-workshops it is salient to observe teachers' classes.

Chapter 6. Conclusion

My purpose as a researcher is not to claim that mini-workshops are the best practice, and they are merely sufficient to increase teachers' confidence and willingness to integrate CALL into their classes. Having said that, interpretations of participating teachers' discussions indicate that these mini-workshops provide opportunities where teachers can collaborate and hone their technological and pedagogical knowledge and skills by getting familiar with recent updates in the CALL domain. With regard to RQ1, it should be noted that although findings did not indicate that the mini-workshops had a significant impact of teachers' confidence and willingness in technology and CALL integration they were perceived as fruitful by the participating teachers. Regarding RQ2 mini-workshops which incorporate both the technical and pedagogical content of technological and CALL tools can contribute to teachers' technology implementation into their classes positively as teachers get familiar with the use of the tools and acknowledge the positive effect of the tools in language learning.

Despite its limitation this study adds to the existing literature new insights from Azerbaijani English teachers working in the technologically enhanced environment highlighting that teachers need consecutive professional development opportunities regardless of their experience. Professional development programs can be designed according to the needs of the institutions as well as teachers and learners.

In closing, this research has underscored the importance of the ongoing teacher professional development in the CALL domain emphasising that the successful and sustainable integration of technology is significantly dependent on how teachers are technically and pedagogically ready for it.

6.1. Limitations

This study has limitations as all studies do. Due to the short study period, there were only a few tools discussed during the mini-workshops. It could have been more helpful to include a

few other tools and conduct workshops on a regular basis. The other limitation is that the effectiveness of the mini-workshops was only assessed with individual interviews, focus group discussions, and self-reported post-workshop surveys. It could have been more insightful to observe participating teachers' classes after the mini-workshops to explore the participants' behavioural changes. In that sense, Kessler (2007) notes that it would be more important to observe teachers' abilities to evaluate CALL teacher training rather than using surveys. Furthermore, the time limit did not allow me to assess the impact of mini-workshops in the long term. In order to examine the changes in teachers' attitudes towards CALL professional development long-term and regular mini-workshops can be conducted and studied with longitudinal research. According to Kessler (2023), contemporary CALL studies should include detailed and longitudinal studies in contrast to tool-focused and survey-based studies. In order to address that limitation of this study I incorporated interviews and focus discussions which yielded elaborate and in-depth data. However, due to the short period of the current study, the periodic workshops and longitudinal studies to assess them were not applicable.

The study also entails limitations with its sampling method which must be acknowledged. Although Patton (2002) notes that in qualitative inquiry there are no rules for the sample size, it should be acknowledged that the small number of participants and short period of the study have limited the breadth of findings. Furthermore, despite the fact that mini-workshops were perceived as fruitful by the participating teachers their real effectiveness should have been investigated by reflecting on teachers' classroom practice.

The findings of a case study are less likely to be generalized due to the limited number of participants. However, Cohen et. al. (2018) claim that case studies can contribute to greater generalizability if they are replicated. Furthermore, Yin (2009) adds that case studies can provide analytical generalizations even though they cannot offer statistical generalizations. In the light of the limitations and delimitations presented throughout the dissertation, this study's results are generalizable to similar contexts and participants i.e. schools equipped with all necessary technologies, access to reliable technological infrastructure, opportunities for teacher training and professional development, and multi-year experienced teachers. It should be acknowledged that since the study reports the perceptions of in-service teachers who volunteered to participate in the study, the participants do not represent the sample. Although no sign of bias was detected in participants' responses, due to the small number of participants findings cannot represent the general sample.

Moreover, because the study collected the data from teachers who self-selected to participate in the mini-workshops there is a possibility of certain predisposition among these participants. As participants are experienced in working in well-equipped and technology-enhanced environments they can be predisposed to the desired outcomes relevant to the study. In that respect, Creswell and Creswell (2023) warn that participants who are selected with non-probabilistic convenience sampling might have certain characteristics that predispose them to certain outcomes. Additionally, since I did not have the opportunity to collect observational data from teachers' technology integration practices in class all collected data were self-reported. According to Bowman et. al. (2022), there is a desirability bias in self-report data. To delimit this concern Greene (2015) and Pintrich (2004) suggest that the researcher use additional data collection methods. However, due to the limited period of time, additional data were not possible to collect for the current study. Furthermore, as the timing of the study coincided with the summer holiday the observational data collection of teachers' technology and CALL integration were not logistically attainable. Instead, I endeavoured to have interviews and focus group discussions which revealed insightful findings.

This study intended to explore the impact of CALL mini-workshops on in-service teachers who work in the same context and have more or less similar experiences. Thus, participating teachers in this study represent homogeneous backgrounds. This homogeneity of participants in the study does not allow the researcher to generalize the findings. However, in terms of identifying teachers' needs in a particular context this uniformity of teachers helped me to design more effective content for the workshop. In that respect, Hubbard (2004) argues that working with teachers practicing in a homogenous setting is more effective in building CALL introduction appropriate for the environment they work in.

The main limitation in most of the studies in literature, as well as this study, is that there is a divide between teacher education programs and student learning outcomes (Johson and Golombek 2020).

6.2. Implications

The original intent of the study was to find out how mini-workshops were perceived as effective by the in-service teachers in increasing their confidence and willingness to integrate technology and CALL into their teaching practices and how these mini-workshops contribute to their technological and pedagogical knowledge and skills. However, data collected from individual interviews and focus group discussions yielded some other insights. For instance,

teachers mentioned three main factors that slowed or deterred them from fully integrating technology into their classes. First, material designs should include activities or tasks that incorporate technology. Textbooks, coursebooks, and curricula should encompass lessons and tasks where technology is embedded. Since teachers hardly ever deviate from coursebooks the well-organised inclusion of technology in coursebooks can ease the technology and CALL integration. This issue was noted by Hubbard (2008) as the lack of established methodology. He asserts that the textbook selected may determine the content of the course. Therefore, textbooks should be designed to contribute to embracing technology. The second issue is also related to resources. Thus, teachers think existing technology-based resources do not always align with the current curricula and they need to work on it to adjust to the lessons. In addition, those resources are not always designed by CALL experts and their pedagogical value are not explicit. Therefore policymakers, material, and curriculum designers should give thought to technology's pedagogical value while designing materials and technology-based resources.

Third is the negative washback of national university admission exams. Those exams mainly assess students' factual knowledge such as grammar and simple vocabulary skills. Thus, teachers who prepare students for the national final and admission exams are not willing to invest their time to develop students' other skills. Therefore, they mostly use technology for drilling and repetition with tasks such as word-matching or testing students' factual knowledge. The impact of exams, however, has not been mentioned as the barrier to integrating technology and CALL in the scholarly literature. This issue needs to be further investigated for a more in-depth understanding.

6.3. Recommendations

There are multiple areas for future research stemming from this study. First, continued mini-workshops for in-service teachers for an extended time and examination of their outcomes based on teachers' self-reports and observations of their classes are salient. In that sense, Egbert and Borysenko (2019) note that outcomes of CALL teacher education should be examined at a classroom level in order to understand how teachers transfer what they learn in courses. Second, the correlation between teachers' confidence and willingness to integrate technology into their classes and learners' learning outcomes needs to be investigated with further studies. Since the study did not include teachers' classroom practice due to insufficient time, the impact of the mini-workshops on classroom practice could not be explained. According to Erthmer (1999) coursework which does not include opportunities for

teachers to practice and apply and see the evidence of learners' improvement can lead to learning technology but not precisely the use of it. Also replicating this study with a larger group of teachers can provide broader and more in-depth insights into the effectiveness of the mini-workshops in increasing teachers' willingness and confidence in the integration of technology.

Having said that, replication of a study in the CALL domain requires a thorough consideration in terms of the content included in the professional development. Although Tschichold (2023) argues that replication is salient in order to enhance the reliability of the findings, it is also problematic in the CALL domain due to the fast-paced technological development. She notes that one should consider carefully addressing gaps wherein popular technological tools can be quickly out of date and replaced with new ones.

Moreover, the main limitation in most of the studies in CALL literature, as well as this study, is that there is a divide between teacher education programs and student learning outcomes (Johson and Golombek 2020). Thus, studies that aim to examine the impact of teacher professional development in the CALL domain do not include examining the impact they have on students' learning outcomes. Thus, further studies can include evaluating students learning outcomes as well.

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Appendices

Appendix 1.

Survey

Section 1.

1. Full name (It is optional. If you require the researcher to contact with you later, please provide your full name.)
2. Date of birth
3. Gender

a) Female

b) Male

4. How many years have you been teaching English?

a) 0-1

b) 2-5

c) 6-9

d) 10-15

e) 16 or more

5. In which of the following settings do you currently teach?

a) IGCSE

b) National Curriculum

c) Both

d) Other

6. How many hours per week do you currently teach?

a) 0-5

b) 6-10

c) 11-15

d) 16-20

e) 21 or more

7. Is the use of technology for language instruction encouraged at your school?

a) Always

b) Sometimes

c) Never

8. Does your school offer incentives for teachers who use technology for teaching?

a) Always

b) Sometimes

c) Never

9. How long have you been using technology for language teaching?

a) 0-1 years

b) 2-5 years

c) 6-10 years

d) 11-15 years

e) 16 or more

10. How confident do you feel using technology for instruction in English classes?

a) Extremely confident

b) Confident

c) Not sure

d) Somewhat unconfident

e) Extremely unconfident

11. To what extent did professional development programs you attended prepare you for teaching with technology?

a) Very prepared

b) Somewhat prepared

c) Neither prepared nor unprepared

d) Somewhat unprepared

e) Very unprepared

12. How many professional development programs did you take that focused on using technology for teaching?

a) 0

b) 1-2

c) 3-4

d) 5-6

e) 7 or more

13. How many professional development programs did you take which devoted more than 20% of the time to issues regarding teaching with technology?

a) 0

b) 1-2

c) 3-4

d) 5-6

e) 7 or more

14. How would you finish this sentence? "The extent of time devoted to learning about teaching with technology in teacher training courses/ workshops/professional development programs was ..."

a) Extremely excessive

b) Excessive

c) Perfect

d) Insufficient

e) Extremely insufficient

15. Do you feel you would benefit from more instruction in a teacher training workshop regarding teaching with technology?

a) Yes

b) No

16. The technology for teaching courses which you took were ..... relevant to your teaching experience.

a) Always

b) Never

c) Sometimes

d) I have never taken such a course.

17. Have you presented at professional conferences on topics related to CALL (computer assisted language learning) or TELL (technology enhanced language learning?

a) Yes

b) No

18. How do you stay informed about CALL or TELL approaches, techniques and methods?

19. What challenges does technology present for language instructors?

20. What is promising about using technology for language instruction?

21. What do you use technology for in a language teaching?

22. Choose the best statements that matches with your attitude towards technology. (more than one statement can be chosen).

a) Technology makes my professional work more difficult.

b) Using computers for learning takes students away from important instructional time.

c) Computers should be as important and available to students as pencils and books.

d) I am confident using technology as a learning resource.

e) I feel out of place when confronted with technology.

f) I do not believe the quality of English education is improved by the use of technology.

g) I am concerned that technology might interfere with student interactions.

h) There is not enough time to incorporate technology into the subject I teach.

i) I really enjoy using computers and the internet instructionally.

j) Students should be able to use computers to help them solve problems in English.

k) Students can use computers and technology to help make informed decisions.

Section 2.

Teacher training workshops/professional development programs prepared me to.....

23. use computer-based materials for teaching speaking skills.

a) Strongly agree.

b) Agree

c) Neutral

d) Disagree

e) Strongly disagree.

24. use computer-based materials for teaching listening skills.

a) Strongly agree.

b) Agree

c) Neutral

d) Disagree

e) Strongly disagree.

25. use computer-based materials for reading skills.

a) Strongly agree.

b) Agree

c) Neutral

d) Disagree

e) Strongly disagree.

26. use computer-based materials for writing skills.

a) Strongly agree.

b) Agree

c) Neutral

d) Disagree

e) Strongly Disagree

27. use computer-based materials for teaching grammar skills.

a) Strongly agree.

b) Agree

c) Neutral

d) Disagree

e) Strongly disagree.

28. use computer-based solutions for evaluating students.

a) Strongly agree.

b) Agree

c) Neutral

d) Disagree

e) Strongly disagree.

29. make effective decisions regarding the use of technology for instruction.

a) Strongly agree.

b) Agree

c) Neutral

d) Disagree

e) Strongly disagree.

30. How would you prefer to participate in an interview? Do you have any preferences about time and circumstances of the interview? Do you have any specific requirements? Should you give consent to attend interview please provide your name.

Appendix 2.

Pre-workshop Interview questions

What CALL training do you think English teachers need?

What CALL training do professional development programs offer?

Do you think that is sufficient? Please elaborate.

What technology for teaching skills would you like teachers to have?

What concerns do you have about CALL regarding teachers?

Post-workshop interview questions?

Do you feel you have benefited from mini-workshops?

Do you think you can use the tools incorporated in the mini-workshops in your classes? How? Please elaborate.

How do you think mini-workshops have contributed to your attitude toward technology and CALL?

Focus group discussion questions.

What kind of training did you receive related to CALL and technology integration?

What kind of training you did not receive that you believe you would have benefited from?

What barriers to CALL do you face in your current environments?

What could be done to improve the mini-workshops?

Appendix 3.

Excerpt from focus group discussions' transcript. The highlighted sections are frequently mentioned by teachers at different stages of the study. In brackets are my comments. The sentences in square brackets were translated from Azerbaijani (L1) by me while transcribing the data.

Teacher Zeynab:

Err, I completely agree. Our children now work normally on Kahoot, they work on Quizlet, and Quizziz, unfortunately has already been closed for free access, it was very interesting, I also give the vocabulary on Quizlet, match the words with definitions, to check the students' vocabulary knowledge, I use Socrative in upper grades, because their mistakes are clearly visible in Quizlet, just when they are tired, they work. These tools make students more engaged. (students' engagement mentioned by Elena and Nigar)

Teacher Nigar:

But I really liked that the child should write and see his mistake and evaluate himself. (students' autonomy. Technological tools can increase students' self-directed learning). [Sometimes students don't agree with you when you correct them. But when the student sees his mistake, he does not have any pretensions to the teacher.] At the same time, they read, write, speak, I really liked that the student would write his own voice would notice the mistakes and would correct his mistakes. For example, in my class there is a child who studies very well, but he always uses a verb in the continuous tense. When I explain it to him, I tell him to be careful, not to use continuous tense every time, if the action is not being performed right now, don't use it, but sometimes he remembers, sometimes he doesn't, but he uses continuous tense a lot. It is like habit. Now in digital storytelling he will read, speak and record himself and then listen to himself. When he records your voice, he won't make those mistakes anymore, very good, I really like your idea of working with these new apps.

(Teachers articulated they are happy to use these tools and practice these approaches) In fact, in will be interesting for learners. Hopefully we will implement all of these when we go back to school.

Teacher Surayya:

I want to say that the children's levels are different, and we have to prepare them very seriously for the state exam tests [Dövlət imtahan mərkəzi-State Exam Center], (high stake exams and preparation for them takes two or three years, it was mentioned by Nigar as well) away from the real English environment, with very rigid, limited spere of English, we use the real English very little. When grades 9-11 reach the advanced level, we give them exam-type questions. But in some groups, I will apply SKELL (they find SKELL useful) because they are going for SAT or IELTS. They are happy when I provide additional activities for them, but weaker students will not like that. But in general, children will get interested if we create a digital environment for children. We will check it and we will use it (they assert that they will use it) to the extent which is appropriate for students' level.

Teacher Nigar:

I completely agree with Surayya. You know how exam results are crucial for upper grades. They are going to take exams at the end of the year. Students' language levels are different, and we have to prepare them for the state exams with a fixed curriculum. We mostly try to embed things into their brains which are included in the exams. Upper-grade students are at the perfect level at which they can benefit from technology integration and technological tools and advance their language levels. However, we confine them to tests so that they can succeed in the state final and admission exams.

Excerpt from the pre-workshop interview transcripts with teacher Nigar.

Interviewer: What CALL training do you think English teachers need?

Nigar: I guess teachers need training which can provide information about emerging technologies. You know, there are so many technology tools out there and we constantly need to update (ongoing professional development) what we know about technology. Teacher training can provide tutorials how to use specific tools and also their pedagogical value. (Teachers acknowledge the pedagogical value of the tools) Also, kind of tools which can enhance or aid various stages of the lessons.

I think CALL training should also address the importance of digital citizenship and online (who else mentioned this point?) safety. Teachers should be aware of ethical considerations, copyright issues, online privacy, and responsible internet use. Teacher training should include

guidance on educating students about digital literacy, online safety practices, and responsible online behaviour.

Teachers should be introduced to a range of language learning platforms, virtual language labs, interactive websites, educational apps, and multimedia resources in order to be able to integrate technology. I think policy makers (materials, curriculum, coursebooks can include more technology-based resources) should encourage English teachers to apply CALL into their curriculum.

Interviewer: Have you ever participated in a professional development like the ones you mentioned?

Nigar: Yeah, I have. Mostly during COVID. There were tutorials (Do tutorials provide both technical and pedagogical knowledge and skills?) everywhere.

Interviewer: What CALL training do Professional Development Programs offer?

Nigar: They usually offer how to use different digital tools, CALL tools and resources. Pedagogical approaches and practices, digital assessment and feedback. Online safety. Online Teaching Methods- How to teach English online. However, you cannot learn all of this in one or two training sessions. It needs to be regular. (ongoing professional development)

Interviewer: How often would you prefer to attend the professional development program?

Nigar: You definitely know about it. Our school organizes many professional development programs, workshops and etc. a lot. And it's I guess a good idea to do this because, first of all, teachers get engaged, refresh what they know and learn new things from others. (although in the survey they mentioned that they are confident they acknowledge that learning new things is constantly required.)

Interviewer: Do you think it is sufficient?

Nigar: No. Definitely not. First of all, it is because technology is constantly developing, and we need to learn new things. What is more, the sufficiency of a CALL training program depends on various factors, including the specific goals and needs of the teachers, the duration and intensity of the program, the resources available, and the overall support provided for implementation. Ongoing professional development and continuous learning are essential for teachers to stay updated (getting out of inertia) with emerging technologies and pedagogical practices. They need to be improved regarding to students' knowledge.

Interviewer: What technology for teaching skills would you like teachers to have?

Nigar: A lot of tools are out there. We are immersed with technology. But we need to be aware what we use and why we use it. I think, I would like teachers to have broad ICT knowledge, to know how to use a tool, why to use it and so on. Visualisers, loudspeakers, recorders, notebooks, projectors. LMS, Presentation Tools, Online assessment tools, Language Learning Apps, Digital Content Creation Tools. All these tools can be used in classes to increase students' learning. Teachers need to know how to use all necessary computer-based teaching programs.

Interviewer: What concerns do you have about CALL regarding teachers?

Nigar: Teachers need to invest time and effort for their professional development. Sometimes they focus on using the tool rather than learning the value of using it. Teachers need to be technically competent as well. I also think limited access to technology, time and resource constraints, digital literacy can deter teachers from using technology properly.

The table shows the main themes stemming from teachers' interview and focus group discussions as well as open questions in the survey.

Ongoing professional development	Teacher challenges	Technological tools
Engagement Learn new practices Collaboration Reflect on practices Other teachers' practices	Insufficient time for professional development Inadequate material designs High-stake exams Insufficient time to adapt resources to integrate technology	Free technological tools Technological Tools provided by the schools Technological tools should align with the curriculum

Appendix 6

Department of Education | UNIVERSITY OF BATH

ED 50484 DISSERTATION FOR THE MA TESOL

ETHICAL IMPLICATIONS OF PROPOSED RESEARCH

To be completed by the student and approved by the supervisor before any data collection takes place. Before completing the form, students should read the guidelines published by the British Educational Research Association (BERA), which are available in Moodle.

NB Where ethical approval is deemed unnecessary e.g., if the research has no empirical element, a nil return is required. Supervisors should retain a copy for their own records.

Introduction

Full name of student: Natavan Gojayeva	**Student number:219567217**
Provisional title of your study: Effectiveness of mini workshops in increasing in-service teachers' confidence and willingness in technology and Computer Assisted Language Learning (CALL) integration	
Justification for your study: Research into various teacher training programs in various contexts is salient to improve our understanding of how best practices of CALL teacher training can be conducted. Furthermore, since there is not much research done in CALL literature from my context, this study might reveal new insights in CALL and technology integration from Azerbaijani English teachers.	

Participants

1. **Who are the main participants in your research (such as interviewees, respondents)?**
   In-service English teachers working in a private school in Azerbaijan.

2. **How will you find and contact these participants?**
   Participants are former colleagues of mine; I will email them about the research.

3. **How and from whom will you obtain informed consent?**
   I will receive consent from the school authority and participants.

4. **Have you approached any other body or organisation for permission to conduct this research?**
   I have approached the school principal and received informal consent.

5. **At what stages of your research, and in what ways will participants be involved?**
   Participants will attend at the data collection via survey and individual interview, then they will attend workshops, and some participants will be involved in data analysis stage for member checking.

6. Have you considered how to share your findings with participants and how to thank them for their participation?

I will send them a "Thank you" email and after finishing the research I will give them a modest gift for their contribution. Research findings will be shared with the school authority and participants after completion.

Deception avoidance, confidentiality and accuracy

6. **How will you present the purpose of your research? Do you foresee any problems?**
   I will present the purpose of the research in detail. I will give information about the stages of the research and how much time participants will spend. The expected time 7-10 min. pre-workshop survey (all participants), 30-40 min. pre-workshop interview (volunteering participants), two 90-minute workshops, 5-7 min. post workshop survey (all participants), 30-40 min. post workshop interview (the same participants volunteering in pre-workshop interview), 50-60 min. focus group discussion (volunteering participants). I will explain the confidentiality in the email and will inform them that they can withdraw at any time.

7. **In what ways might your research cause harm (physical or psychological distress or discomfort) to yourself or others? What will you do to minimise this?**
   The most concerning issue is teachers with heavy workload might not be willing to participate. In order for teachers not to feel overwhelmed with the research I will contact them during working hours and will consider the timing for their preferences. In June teachers usually have more free time as students are on holiday.

8. **What measures are in place to safeguard the identity of participants and locations?** **The school's name and participants identity will not be revealed at any stage of the research. Pseudonyms will be used instead of participants' real identity.**
9. **How will you record information faithfully and accurately?** **Interview will be recorded via voice recorder and the participants will be informed that their voice is recorded. WhatsApp voicemail can be used instead of synchronous interview depending on the participants' preferences. Workshops will be recorded and participants discussion during the workshop will be used as the data. Participants will be informed about this issue.**

11. Any additional information: Participants well-being will be a priority throughout the research.

Student:	**Signature: Natavan Gojayeva**  **Date: 14 June 2023**
Supervising Member of Staff:	**Name:** **Dr Reka R Jablonkai** **Signature:** *Reka R. Jablonkai* **Date: 15 June 2023**

NB: Students should upload a signed copy of this form into Moodle (Dissertation for the MA TESOL) before any data collection takes place.

Appendix 7

CONSENT FORM

I freely and voluntarily consent to be a participant in the research project on the topic of "Effectiveness of the mini-workshops in increasing teachers' confidence and willingness in technology and computer assisted language learning (CALL) integration" to be conducted by Natavan Gojayeva as part of her MA Dissertation at MA TESOL, University of Bath. I understand that the contents of the study have been disclosed only partially so as to avoid any detailed information having an impact on the data. I have been informed that the data collection methods to be used include the survey, interviews and focus group discussions. I have been explained the nature of these methods to my satisfaction. I understand that my participation will take place between on working days and I am expected to participate at two 90-minute workshops.

I have been told that my responses will be kept strictly confidential. I also understand that my participation in this study is voluntary and that I am free to withdraw from it at any time without giving any reason and without being penalised or disadvantaged in any way. In addition, I am free to decline to respond to any particular question(s) or to complete any particular task(s). Should I withdraw from the study before data collection is completed, my data will be returned to me or destroyed. I can also ask the researcher to delete or not make use of some of the information I provide.

My real name will not be linked with the research materials, and I will not be identified or identifiable in any report subsequently produced by the researcher. I understand that my information will be held and processed to be used anonymously for internal publication for Mrs Natavan Gojayeva's MA Dissertation.

I have been given the opportunity to ask questions regarding the study and my questions have been answered to my satisfaction. I have been informed that if I have any general questions about this project, I should feel free to contact Mrs Natavan Gojayeva at her e-mail address: natavan.qocayeva@mtk.edu.az or ng676@bath.ac.uk.

I have read and understand the above and consent to participate in this study. I understand that I will be able to keep a copy of this consent form for my records.

_____ _____

Participant's Signature Date

I have explained and defined in detail the research procedure in which the participant has consented to participate. I will retain a copy of this consent form for my records.

_____ _____

Researcher's Signature Date