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Smartphone Assisted Language Learning (SALL)

An investigation into the possibility of the use of smartphones for English language teaching and learning from pedagogical and attitudinal perspectives

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DECLARATION

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“O mankind! We created you from a male and a female and made you into nations and tribes that you may know and honour each other. Indeed, the most honourable of you in the sight of God is the most righteous” (Quran, 49:13).

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ABSTRACT

The fusion of mobility, computing, and ubiquity has turned smartphones into a powerful and affordable educational technology and has made them the selected technology in almost all mobile assisted language learning (MALL) studies in the current decade. There are still, however, important gaps in the research field in terms of theory and theory use from both pedagogical and attitudinal perspectives which need to be addressed. To this end, a theoretical review and three empirical studies on the use of smartphones for language learning were carried out and questionnaires, interviews, and observations were used to collect the related data.

Activity theory (AT), with its semiotic and technological layers, was introduced as a theory which is able to frame smartphone assisted language learning (SALL) and was used to discuss the pedagogy underpinning the use of smartphone-assisted tasks and activities in the language educational settings of the project. Expectation disconfirmation theory (EDT), the theory of interpersonal behaviour (TIB), and user acceptance models were used to generate the pre- and post-use models of the project from the most significant determinants of attitude and intention to use technology – perceived usefulness, perceived ease of use, perceived playfulness, affect towards use, relative advantage, and facilitating conditions. The models were used to examine teachers' and students' attitudes and as a result, their intention to use SALL. This led to an investigation into the formal use of smartphones in English as an additional language or dialect (EALD) classroom settings of the studies.

Study 1 was semi-experimental and examined the possibility of implementation of SALL in an intervention at an Australian university English language centre through studying teachers' and students' pre- and post-use attitudes towards the use of the Evernote note-taking app by the students for creating and using electronic vocabulary notebooks

on their smartphones. Four teachers and 138 students completed the pre-use questionnaire, and three teachers and 49 students completed the post-use questionnaire.

Study 2 investigated worldwide EALD teachers' (N = 85) current smartphone usage and their attitudes toward the use of the device for teaching English. It also looked at the possible impact on such attitudes of the differences in teachers' age, gender, type of mobile phone, qualification, teaching experience, and previous SALL experiences.

Study 3 examined the possibility of incorporating the use of Evernote and its features into students' vocabulary and pronunciation learning in a communicative language teaching (CLT) classroom environment in a four-session course which was designed and implemented by the researcher in the same university as study 1. Students' (N = 3) and CELTA/Delta experts' (N = 2) attitudes towards SALL and their perspectives on the course were researched.

The results indicated that although computers and computer rooms/language labs are now available in most of the participants' language schools and institutions, there are still restrictions on their accessibility. However, 100% smartphone ownership by the students who participated in the studies, and more than 98% smartphone ownership by the teachers, plus their current uses of the device for educational purposes, revealed that smartphones are now playing their role as a tool, a tutor, a stimulus, a means of communication, and a source of information in the students' language learning journey, although mostly in an informal and non-instructed way or, if instructed, in a non-theory-supported way. Therefore, the use of smartphones is still limited to the use of dictionaries, search engines, video/audio recorders, YouTube, and a few well-known games.

In addition, results showed teachers' and students' agreement with most of the constructs of the attitude models of the project, reflecting their positive attitudes and their intention to use smartphones for English language teaching and learning both before and after the intervention. Age, gender, English language proficiency, qualification,

experience, and amount of smartphone use did not have significant impacts on attitude and intention to use smartphones for English language educational purposes, whilst voluntariness, mindset, freedom of choice of technology, type of activity, and smartphone disadvantages were found to have strong moderating impacts on such attitudes and intention and acted as a barrier to the actual formal use of smartphones when the use of smartphones went beyond the teachers' and students' current uses of the device.

Results also showed that despite teachers' and especially students' familiarity and high amount of smartphone use, they still need to be provided with the necessary training and be supported with the use of smartphone apps and features for language teaching and learning. Finally, within the limitations of the study, the results confirmed the possibility of the use of the device for creating a communicative learner-centred classroom setting. However, teachers need to be supported by stakeholders, curriculum designers and material developers to make the necessary modifications in their current curricula and available coursebooks and materials.

Overall, the current PhD project shed light on some of the problems which exist in relation to the application of theories as well as the actual use of smartphones for English language teaching and learning in EALD classroom settings, especially when the use of smartphones goes beyond the use of the apps and features that teachers and students are currently using and familiar with. The results provide language institution stakeholders with an insight into ways they can increase the possibility of SALL and support its implementation within their institutions. The results can also inform English language teachers, course designers, and material developers regarding SALL theories and suggest how, and to what extent, they can integrate students' smartphone use into their lessons, courses, and materials.

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LIST OF ABBREVIATIONS

<i>AT</i>	Activity Theory
<i>AU</i>	Affect towards Use
<i>CALL</i>	Computer Assisted Language Learning
<i>C-TAM-TPB</i>	Combined TAM and TPB
<i>DIT</i>	Diffusion of Innovation Theory
<i>EALD</i>	English as an Additional Language or Dialect
<i>EDT</i>	Expectation Disconfirmation Theory
<i>FC</i>	Facilitating Conditions
<i>ITC</i>	Information and Communication Technology
<i>MALL</i>	Mobile Assisted Language Learning
<i>m-learning</i>	Mobile Learning
<i>MPCU</i>	Model of PC Utilisation
<i>MT</i>	Motivation Theory
<i>PC</i>	Personal Computer
<i>PDA</i>	Personal Digital Assistant also referred to as handheld PC
<i>PEU</i>	Perceived Ease of Use
<i>PP</i>	Perceived Playfulness
<i>PU</i>	Perceived Usefulness
<i>RA</i>	Relative Advantage
<i>SALL</i>	Smartphone Assisted Language Learning
<i>SCT</i>	Social Cognitive Theory
<i>TAM</i>	Technology Acceptance Model
<i>TELL</i>	Technology Enhanced Language Learning
<i>TIB</i>	Theory of Interpersonal Behaviour
<i>TPB</i>	Theory of Planned Behaviour
<i>TRA</i>	Theory of Reasoned Action

CHAPTER 1: INTRODUCTION

1.1. Introduction and Research Justifications

Smartphones are powerful devices which have most of the computing features of modern desktop or laptop computers and can perform many tasks and computations in the same way as personal computers (PCs; Anshari et al., 2017; Metruk, 2021). This feature of smartphones, coupled with their mobility and ubiquity have made them a powerful technology which can be used as a language teaching and learning aid (Kasumuni, 2011; Traxler & Kukulska-Hulme, 2005; Yudhiantara & Nasir, 2017) in the world of technology enhanced language learning (TELL).

Teachers can ask students to use their phone to listen to audio or video files and watch movies or videos, use the internet, send messages, chat, participate in teleconference, and access many other synchronous and asynchronous communications through their smartphones (Anshari et al., 2017; Kasumuni, 2011; Reinders, 2010; Traxler & Kukulska-Hulme, 2005). This demonstrates that smartphones can contribute to students' progress in their language learning process (Kukulska-Hulme et al., 2017; Reinders & Cho, 2010).

These affordances have put smartphones ahead of laptops and tablets to the extent that they have become the technology of choice in the majority of current mobile assisted language learning (MALL) studies (e.g. Akhshik, 2021; Alavinia & Qoitassi, 2013; Chen et al., 2019; Haron et al., 2021; Jafari & Chalak, 2016; Janatsin & Suppasetserree, 2016; Lekawael, 2017; Liu et al., 2019; Loewen et al., 2019; Lu, 2008; Luo et al., 2015; Luo & Li, 2018; Nah et al., 2008; Nami, 2020; Plana et al., 2012; Rashid et al., 2017; Wu, 2014). However, most studies have considered the use of smartphones under the umbrella of mobile learning (m-

learning), which typically happens outside the context of classrooms, and less attention has been paid to the integration of smartphones in classroom tasks and activities (e.g. Akhshik, 2021; Alemi et al., 2012; Basal et al., 2016; Jin, 2014; Li & Hegelheimer, 2013; Loewen et al., 2019; Wu, 2014; Zengin & Aksu, 2018; Zhang et al., 2011). Therefore, it is time for the concept of “smartphone assisted language learning”, which was coined by Leis et al. (2015, p. 75), to enter the world of TELL as a distinct concept and go beyond its informal and non-formal educational uses to be implemented inside language classrooms.

Several literature reviews and systematic reviews have been carried out in the MALL literature, and their findings can provide an insight into the research gaps in the field. Earlier reviews found a lack of research on the use of authentic/real-world contents and communicative and task-based learning (Khansa, 2013), as well as a lack of field-specific theory and theory use (Viberg & Grönlund, 2013). Elaish et al. (2017) indicated that existing studies exhibited a lack of variety in research and assessment methods, participants, and context of the studies; and three other reviews (Burston, 2015; Elaish et al., 2017; Viberg & Grönlund, 2013) reported vocabulary and SMS as the most researched skill and technology, respectively.

More recent reviews have shown an increasing quantity of research on reading, listening, writing, and speaking skills and more use of media forms and audio in delivering content to students’ phones, but no improvement in proposing theory and theory use (Peng et al., 2020). Furthermore, they have indicated a greater emphasis on the use of mobile technologies to practise learner autonomy, communicative and task-based learning, but still only for out-of-class practices (Kukulaska-Hulme & Viberg, 2018; Shadiev et al., 2020). The literature review in this thesis (Chapters 2, 3, and 4) supports the results of the aforementioned systematic reviews in terms of

the uncertainties and lack of theory use in the studies which have looked at the efficacy of the implementation of SALL from pedagogical perspectives. The theories which can be cited as field-specific theories (connectivism, navigationism, and Sharples et al.'s (2010) theory of learning for mobile age) have not attracted the attention of specialists in the field and have not been used to describe the pedagogy of SALL.

This lack of attention to theory and theory use has also extended to the measurement of attitude towards SALL, and while a large number of studies on students' attitudes towards SALL exists (e.g., Ababneh, 2017; Ahn, 2018; Al Aamri, 2011; Almudibry, 2018; Alrefaai, 2019; Alsied, 2019; Lekawael, 2017; Metruk, 2020, 2021; Nami, 2020; White & Mills, 2012, 2014; Wisnuwardana, 2019; Yurdagül & Öz, 2018), only one (Ahn, 2018) was underpinned by any theory. In addition, only two studies could be found which were dedicated to the analysis of teachers' attitudes (Abugohar et al., 2019; Alzubi, 2019), but they too did not outline any theories underpinning their study of attitudes. No study has examined and compared teachers' and students' post-use attitudes with their pre-use attitudes towards SALL.

A large number of studies could also be found which were dedicated to examining the use of smartphones for teaching and learning English language vocabulary (e.g., Alemi et al., 2012; Basal et al., 2016; Cavus & Ibrahim, 2009; Hayati et al., 2013; Lu, 2008; Motallebzadeh et al., 2011; Saran & Seferoğlu, 2010; Wu, 2015; Zhang et al., 2011). In almost all these studies, teachers have transferred the content of the lessons to the students' phones via SMS, MMS, WhatsApp and emails, and students have not been given the chance to build up their vocabulary

knowledge through engaging with the new words either individually or in interaction and collaboration with their peers.

Two studies (Loewen et al., 2019; Zengin & Aksu, 2018) went beyond examining the latter apps (SMS, MMS, WhatsApp and emails) and looked at the use of commercial language learning apps such as Quizlet and Duolingo for vocabulary learning. In one of these studies (Zengin & Aksu, 2018), researchers even let students create their own content in their vocabulary notebook on Quizlet. However, smartphones' apps and features possess various additional functions (such as voice/image/video-adding, sharing, or chatting options) which can support the implementation of language learning theories and these have not been examined yet. Only two studies could be found on SALL for teaching pronunciation – Saran et al. (2009) and McCrocklin (2016) – and they had the same limitations as previous studies on smartphone-assisted vocabulary learning. Above all, most studies only looked at the use of smartphones as out-of-class language learning devices.

Overall, the above information indicates significant gaps in the SALL literature which still need to be addressed by researchers in the field. Two main gaps – the lack of application of theory and the lack of literature on the smartphones' potential as an inside-classroom educational technology – formed the motivation for the current research and informed the aims and objectives of the project.

1.2. Aims and Objectives

The aim of the current PhD project was to address the gap which exists in the SALL literature in terms of theory and theory use and to examine the possibility of smartphone use for teaching and learning vocabulary and pronunciation in English as an additional language or dialect (EALD) classrooms from pedagogical and attitudinal perspectives. Therefore, two objectives were pursued. The first objective

was to investigate appropriate theories within which to frame SALL from pedagogical and attitudinal perspectives. The second objective was to investigate and compare teachers' and students' pre- and post-use attitudes towards SALL in interventional studies, examining the use of smartphones for teaching and learning language vocabulary and pronunciation as both individual and collaborative activities in the classroom settings of EALD courses. Three studies were conducted to meet these objectives.

1.3. Research Questions

The following research questions and sub-questions were examined in the project:

1. What is the theoretical justification behind the use of a technology such as smartphones for language teaching and learning?
2. For what educational purposes do EALD teachers and students use their smartphones?
3. What attitudes do EALD students have towards using their smartphones to learn English?
 - 3.1. Do gender, English language proficiency, and amount of smartphone use have any impact on their attitudes towards SALL?
4. What attitudes do EALD teachers have towards the implementation of SALL?
 - 4.1. Do age, gender, type of mobile phone, qualification, teaching experience, and amount of smartphones use have any impact on their attitudes towards SALL?

1.4. Organisation of the Thesis

The thesis is presented in 10 chapters:

Chapter 1 is an introduction to the project.

Chapter 2 reviews language learning theories related to the use of information and communication technologies (ICTs) in language education. It also gives a background to the world of technology enhanced language learning (TELL) and its concepts to introduce and discuss activity theory (AT), clarifying the interaction between SALL and language learning theories and showing the pedagogy that underpins the use of smartphones for educational purposes.

Chapter 3 reviews pedagogical perspectives on teaching vocabulary and pronunciation, explains the best practices, and introduces the reasoning underlying the choice of smartphone-assisted vocabulary and pronunciation activities in the studies. Smartphone-assisted vocabulary and pronunciation language learning studies are also reviewed to allow better understanding of existing work in the field and to justify the choice of the smartphone-assisted tasks and activities in studies 1 and 3.

Chapter 4 explains the importance of attitude and intention as the determinants of user acceptance and successful implementation of SALL and reviews the studies which have been carried out on teachers' and students' attitudes to SALL to identify the related gaps addressed throughout the work. It also presents the pre- and post-use attitude models which were used to study teachers' and students' attitudes and find out about their intention to SALL across the project's three studies.

Chapter 5 specifies the methodology underpinning the project's empirical studies and the project design, methodology, ethics, data collection, data analysis, and validity and reliability.

Chapter 6 reviews the pilot study that examined the reliability and validity of the projects' preliminary questionnaires and examines teachers' and students' readiness for the use of smartphones for educational purposes inside classrooms.

Chapter 7 details study 1, which was a quasi-experimental study of the use of smartphones and the Evernote note-taking app for the creation and use of electronic vocabulary notebooks by EALD students at an Australian university English language centre.

Chapter 8 discusses study 2, which was a mixed-methods study investigating worldwide EALD teachers' current uses and attitudes towards SALL. The study also examined possible impacts of differences in teachers' age, gender, type of mobile phone, qualifications, and teaching experience on such attitudes.

Chapter 9 presents study 3, which examined the possibility of incorporating the use of the Evernote app and its features into students' vocabulary and pronunciation learning in a four-session communicative language teaching (CLT) smartphone-assisted vocabulary and pronunciation course which was designed and implemented by the researcher in her own class.

Chapter 10 encompasses a short discussion of the project's empirical studies and their findings, the overall conclusion, and the project's contribution to the discipline. It also outlines the project's limitations and makes recommendations for future research.

CHAPTER 2: SALL PEDAGODY

2.1. Introduction

Educational technologies encompass both hard technologies (such as tools and devices) and soft technologies (such as learning theories and practices; Hooper & Rieber, 1995; Lakhana, 2014; Saettler, 2004; Venkataiah, 1996). Both hard and soft technologies have always been interlinked components of language teaching and learning, and ranging from books and boards through to phonographs, tape and video recorders, and language learning labs, tools have historically helped educators with the implementation of language learning theories and their associated approaches and methods (Saettler, 2004; Venkataiah, 1996).

However, today, 'educational technology' mostly refers to information and communication technologies (ICTs; Dudeney & Hockly, 2007). These are technologies such as desktop/laptop computers, personal digital assistants (PDAs; also known as handheld PCs which were more common in 2000s), tablets, and mobile phones/smartphones that support a variety of digital processes, including human and data electronic communication (Zuppo, 2012). Of these technologies, the use of mobile technologies (especially smartphones for language education) is now becoming more prevalent both inside and outside classrooms. This creates the need for an improved understanding of how theories can interact with these technologies if we are to understand the related pedagogy (Viberg & Grönlund, 2013).

2.2. Language Learning and Theories (Background)

Since the evolution of ICTs, the world of language education has been influenced by three schools of thought: behaviourism, cognitivism, and constructivism. These overlapping theories shed light on important aspects of human mental developmental processes and the way that people acquire and expand their knowledge of their first or subsequent languages.

2.2.1. Behaviourism

The behaviourists viewed learning as a change in behaviour which is reinforced by external factors (Ertmer & Newby, 2013). Two main strands of behaviourism – classical behaviourism and neo/radical behaviourism – have had a great impact on language pedagogy. Classical behaviourism mostly reflected Pavlov's 1880s (published 1941) and Watson and Rayner's (1920) findings in their studies of animals' and humans' responses to conditioning, which established the three concepts of "contiguity", "discrimination", and "generalisation" in the theory of classical conditioning (Pavlov & Gantt, 1941, pp. 118, 129, 135 & 172).

According to Pavlov and Gantt (1941), "contiguity" explains the ability to associate two stimuli (e.g., a dog's ability to associate a ringing bell with food). "Discrimination" refers to the ability to discern different kinds of stimulus (e.g., a dog's ability to differentiate between bells ringing at different frequencies), and "generalisation" describes the ability to generalise and give a similar response to all different kinds of stimuli resembling the same (e.g., Watson and Rayner's Little Albert and his fear of all objects and animals which resembled a rat/rabbit; Pavlov & Gantt, 1941).

Neo/radical behaviourism reflected the idea of Skinner (1938) who developed Thorndike's (1898) work to ideate the theory of operant conditioning. This theory

explains the role of reinforcement and the ways it can modify a behaviour; describing the ways in which positive and negative reinforcement can lead to learning. Operant conditioning was explained in the light of two key concepts: “operant extinction” and “intermittent reinforcements” (Skinner, 2005, pp. 69-70). The former indicates that stopping an existing reinforcement which has ended in a learned behaviour results in the gradual extinction of that behaviour (Skinner, 2005). The latter suggests that the impact of intermittent/occasional reinforcements is much greater than that of consecutive ones, slowing the process of extinction of learnt behaviours (Skinner, 2005).

These theories demystified important aspects of language learning, such as learners’ ability to associate language items and generate rules, and to find the similarities and differences between language items and generalise those rules to other similar language items. They also revealed that occasional positive reinforcement can aid learning and that repetition can help with retention. The audio-lingual method was a prominent language teaching methodology that implemented the behaviourist “stimulus-response-reinforcement” notions and theories into language teaching (Harmer, 2007, p. 64). This method focused on accuracy, the use of dialogues, drills, and substitutions to aid learning development, and the use of positive reinforcement to encourage students (Harmer, 2007; Richards & Rodgers, 2014). The teacher dominated and “model[ed] the target language, control[led] the direction and pace of learning, and monitor[ed] and correct[ed] the learners’ performance” (Richards & Rodgers, 2014, p. 62).

However, despite what behaviourist theories offered, and their uptake in language teaching for around three decades from the 1950s (Richards & Rodgers, 2014), they were criticised for their inability to explain the structure of knowledge

and the mental processes that are used to acquire it (Winn, 1990). They were also questioned for considering learning as a passive activity (Marton & Booth, 2013) and treating the “learner as a passive entity waiting to be programmed” (Griffiths & Parr, 2001, p. 248). In addition, learners’ agency and individuality were disregarded in these theories which were based on the idea that learners are reactive to environmental conditions and that two learners under the same conditions will learn in similar way if the conditions are the same (Demirezen, 1988; Ertmer & Newby, 1993). These deficiencies provided the ground for cognitivist theories to enter the world of language education.

2.2.2. Cognitivism

Cognitivists believed in the importance of deeper analysis of the processes which underlie human behaviour and happen inside the brain. They conceived that such a knowledge and understanding could only be achieved through longitudinal observation of all aspects of human development from birth. The school of cognitivism consists of a large number of theories, the most dominant being Piaget’s theory of intelligence, also known as the theory of children’s cognitive development (Piaget & Cook, 1952).

Piaget based his ideas on the daily observation of his three children’s biological, emotional, and behavioural development from their birth to the age of two. Building upon behaviourist theories about the influence of environment and experience in the human stimulus-response-reinforcement learning cycle, Piaget succeeded in delineating the ability of the human brain to store information in the form of organised schemata (bits/chunks of knowledge) in the memory. He also justified human intelligence in the light of the ability to discover through the coordination

of the schemata, active experimentation, and the ability to invent “new means through deduction or mental combination” (Piaget & Cook, 1952, p. 361).

Piaget’s theory was followed by Miller’s (1956) theories of “the span of absolute judgment”, “the span of immediate memory”, and his “magical number seven plus/minus two”, which together explain the human cognitive limitations in terms of receiving, processing and remembering bits of information (p. 95). Another example of a cognitive theory is Sweller’s (1988) cognitive load theory, which somewhat echoes Miller’s (1956) idea by highlighting the limited capacity of the brain and the necessity of designing activities and tasks which do not involve individual problem-solving.

Paivio’s (1979) dual coding theory, which highlights the importance of the unity of instructions and images, and Craik and Lockhart’s (1972) level of processing, which emphasises the necessity of students’ deeper and longer processing of words, followed the above line of theories in the 1970s. Both theories are similar in terms of their focus on the efficacy of working memory, and many modern western language learning strategies that can assist learners with their vocabulary, grammar, and pronunciation learning are based on these theories from the cognitivist paradigm. Such strategies include studying words alongside a pictorial representation of their meaning as well as using vocabulary and grammar notebooks to keep a record of the new vocabulary and grammar point which they learn for their consecutive future review.

Furthermore, Krashen’s (1977) input hypothesis was also inspired by cognitivist theories. In his theory, Krashen (1977) proposed his notion of comprehensible input ($i+1$) and explained that learner’s language develops in the light of an input which is one step beyond their current knowledge. Other

hypotheses inspired by cognitivist theories include Swain's (1985) output hypothesis and its role in identifying the gaps in learners' knowledge, and Schmidt's (1990) noticing hypothesis, which highlights the substantial role of conscious processing in "converting input to intake" (p. 129) .

Overall, cognitivists drilled deeper into the process of learning than behaviourists, as they were concerned with the mental operations that led to the acquisition of knowledge (Atkinson, 2012; Jonassen, 1991b). However, their theories had their own limitations as they assumed that the human brain is a predictable organ and contains "all [the] stages of future intellectual development [...] that exist in complete form, awaiting the proper moment to emerge" (Vygotsky, 1930, p. 8). Unlike the behaviourists, the cognitivists did not view learners and their brains as passive, and they considered learning as a process that learners do, rather than something that is done to them (Kolb, 1984). However, within cognitivist frameworks, learners were still subjects rather than agents.

2.2.3. Constructivism

In second language pedagogy, "constructivism" mostly refers to social constructivism and, as a result, links to Vygotsky (1930) and his cultural-historical/sociocultural theory which includes a series of interrelated concepts and philosophies. In his experiments, Vygotsky (1930) observed that in order to act on an object, children deployed a range of actions including direct attempts to obtain their goal, the use of tools, speech with the experimenter, and speech with him/herself (egocentric speech). Based on these observations, Vygotsky (1930) described the superiority of human mental functions (Kaptelinin & Nardi, 2006; Lantolf, 1994a), and their mediated memory which goes beyond "non-mediated/natural mental function" such as perception (Vygotsky, 1930, p. 25). In

addition, he introduced the mediatory/auxiliary role of speech as a semiotic tool and explained the process of internalisation, whereby egocentric and social speech are internalised, form thought, and result in the development of human intellect. In other words, Vygotsky (1930) described how knowledge is co-constructed through collaboration and inter-psychological processes, and how it is internalised individually and through intra-psychological processes (John-Steiner & Mahn, 1996; Johnson, 2004).

Vygotsky (1930) then proposed the concept of the zone of proximal development (ZPD) which he defined as “the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (p. 79). The concept helped define human prospective mental development and showed that human potential can actualised by social interactions. It also resulted in the emergence of Vygotsky’s (1930) activity theory (AT), which represents his sociocultural theory in the form of a triangular framework that is able to describe human individual and social tool-mediated goal-oriented activities.

Pask’s (1976) conversation theory, which emphasises the ability of human to converse with themselves and others to exchange their understandings as a prerequisite for learning, originated from Vygotsky’s (1930) sociocultural theory. The same could be said about the concept of situated learning proposed by Lave and Wenger (1991). This concept introduced learning as an activity which needs to be done in collaboration with educators and more capable peers in authentic contexts. Finally, the communicative language teaching (CLT) method which has been used in many language educational settings all around the world since the

1970s (Harmer, 2007; Richards & Rodgers, 2014; Savignon, 2018; Spada, 2007) was influenced by the same theory.

CLT is attributed to Hymes' (1972) model of communicative competence. In line with Vygotsky's (1930) principles, Hymes (1972) looked at language as a social phenomenon and explained that children's language competence consists of grammatical competence, sociolinguistic competence, and knowledge of underlying rules. Hymes (1972) essentially proposed that performance is part of competence, and that language learners not only need to know grammar and its rules, but also how to use and apply them (Wiemann & Backlund, 1980). Hymes' (1972) notion was first articulated into a methodological pedagogy and experimented within a classroom setting with forty-two beginner French students by Savignon in 1970 (Savignon, 1972). The new communicative method was successful in terms of improving the students' communicative and oral skills; the communicative group (who were given the opportunity to speak French in a variety of settings with their errors being ignored) outperformed the cultural group (who were learning about French culture) and the control group.

Canale and Swain (1980) adapted Hymes' (1972) model of communicative competence and developed a second language learning communicative theoretical model with four constructs: grammatical competence, sociolinguistic competence, strategic competence, and discourse competence. In this model, Canale and Swain (1980) focused on the importance of four types of knowledge in language acquisition: knowledge of lexis and its rules, knowledge of the rules of language use, knowledge of communication strategies, and knowledge of cohesion and coherence, all of which should be gained in the light of knowledge-oriented and skill-oriented teaching and testing. Canale and Swain (1980) introduced their model

as an integrative approach which attempts to prepare students to make the best use of their limited communicative competence in actual communication situations. According to this approach, it is important that learners find “the opportunity to take part in meaningful communicative interactions with competent speakers of language” (Canale, 1983, p. 18).

Overall, the approaches and methodologies which have stemmed from Vygotsky’s (1930) cultural-historical philosophy have been effective pedagogical practices in terms of giving learners the opportunity to construct their own knowledge in interactional communications with their teachers and their peers in authentic learning contexts. However, it has to be considered that this type of learning is not suitable for beginner language learners who have little or no knowledge of a language, as they are not able to take part in negotiations and modify their knowledge (Jonassen, 1991a). Furthermore, these approaches and methods might work less effectively in countries where learners are not surrounded by the target language.

In summary, each set of these theories built on its predecessors to demystify an important aspect of language learning and had its own influence on the world of language education. Behaviourist principles lay at the heart of imitation, repetition, and positive reinforcement. Cognitivist theories focus on the importance of the human brain and the use of learning strategies to enhance learning. Constructivist theories direct students towards constructing their knowledge via social interaction and becoming independent, autonomous learners. Therefore, many writers in the field have recommend a combination of these methodologies and strategies depending on the learners and their differences (e.g., Ertmer & Newby, 2013;

Harmer, 2007; Jonassen, 1991a; McLeod, 2003; Nagowah & Nagowah, 2009; Nor & Ab Rashid, 2018).

Harmer (2007, pp. 77-78), for example, criticised the use of a single approach by the teachers and recommended they “extract the key components of the various method[ologies] ... to create a bridge between their methodological beliefs and their students’ preferences”. Nagowah and Nagowah (2009) also proposed that instructors use the behaviourist approach at the beginning of the lesson to help students understand the basic concepts and then move towards the constructivist approach and relate the topic to real-life events with which students can interact, culminating in a discussion of their experiences. Such a combination of approaches can be further developed by the use of technology.

2.3. Theories and ICTS

Technology enhanced language learning (TELL) arose as a result of the emergence of the internet, which connected all ICTs with each other and with the world of information in the 1990s. Therefore, TELL was defined as “any application of technology in language learning” (Gómez-Parra & Huertas-Abril, 2019, p. 137) and was able to accommodate concepts such as computer assisted language learning (CALL), mobile assisted language learning (MALL), and subsequently, smartphone assisted language learning (SALL).

2.3.1. Computers and CALL

Computer assisted language learning (CALL) emerged as a result of the computer evolution and the use of computers in language teaching and learning in the 1970s and 1980s. Different interpretations of CALL exist in the literature. CALL has been defined as research and studies of computer applications (Levy, 1997); computer

materials (Dudeney & Hockly, 2007); computer programs that help with language learning (Öztürk, 2013); or even an approach to language learning (Jafarian et al., 2012). However, according to Garrett (1991, p. 475), none of these definitions are correct and rather, CALL refers to the use of computers as a medium that helps with the implementation of “a wide variety of methods, approaches, or pedagogical philosophies”.

To complement Garrett’s (1991) claim and highlight the efficacy of the use of computers in language education, Warschauer (1996, p. 11), one of the leading writers in the CALL field, explained five auxiliary roles for computers in language education. These roles include the role of “a tutor, a tool, a stimulus, a medium of global communication, and a source of limitless authentic materials”. He also categorised three stages in CALL history – “behaviouristic, communicative, and integrative CALL” (Warschauer, 1996, p. 4) to review the ways computers have helped with the implementation of the theories with which they coincided during their evolution and theorise CALL.

According to Warschauer (1996), behaviouristic CALL was mostly implemented in the 1960s and 1970s, when behaviourist theories still prevailed, and giant mainframe computers were used to create CALL programs such as PLATO (which entailed repetitive language drills and practices and immediate feedback for students). The suitability of computers for repetition, the possibility of providing learners’ with immediate feedback, and the potential for learners to proceed at their own pace all underlay behaviouristic CALL’s success in which the programs were able to play the role of a tutor in students’ language learning (Warschauer, 1996).

Communicative CALL emerged in the late 1970s and 80s with the rejection of behaviourist theories and the evolution of the communicative approach to language

learning (Warschauer & Healey, 1998). The main principles of the programs created at this stage of CALL were outlined as follows: a focus on form and implicit teaching of grammar; encouraging learners to generate original language; skill practice accompanied by communicational interactions rather than drilling; and no evaluation activities (Warschauer, 1996). Programs such as text reconstructions assisted students' language learning, playing the role of a tutor; games such as Sim City and Sleuth played the role of a stimulus; and word processors and concordancers worked as tools at this stage of CALL (Warschauer, 1996). As explained in section 2.2.3., the communicative approach is attributed to Hymes' (1972) model of communicative competence which mostly reflects social constructivists' perspectives of language learning. However, Warschauer and Healey (1998) introduced cognitivist theories as the theories underpinning the design of the programs at this stage of CALL. Such a conflict can be best explained by the following quote from Brown (2000), which indicates how constructivist theories have been considered part and parcel of cognitivism in ELT literature:

Constructivism is hardly a new school of thought. Jean Piaget and Lev Vygotsky, names often associated with constructivism, are not by any means new to the scene of language studies. Yet, in a variety of post-structuralist theoretical positions, constructivism emerged as a prevailing paradigm only in the last part of the twentieth century and is now almost an orthodoxy. (p. 23)

Integrative CALL started with the evolution of multimedia and internet in the 1990s with search engines acting as a source of authentic materials and emails acting as a means of synchronous and asynchronous communications (Warschauer, 1996). Warschauer and Healey (1998) have argued that teachers' interests in using a more integrative version of communicative approach formed the rationale for the emergence of this stage of CALL. They also defined integrative CALL as “a

perspective which seeks both to integrate various skills (e.g., listening, speaking, reading, and writing) and [...to] integrate technology more fully into the language learning process” (Warschauer & Healey, 1998, p. 58). A similar conflict in terms of the naming of theories exists in this stage of CALL. Warschauer and Healey (1998) introduced social cognitivist theories as the underpinning theories of the programs at this stage of CALL, while (as explained in section 2.2.3) the more integrative version of CLT was proposed by Canale and Swain (1980) and was underpinned by social constructivist theories.

2.3.2. Mobile Technologies and MALL and SALL Pedagogy

Mobile assisted language learning (MALL) encompasses the use of mobile wireless technologies such as MP3 and MP4 players, PDAs, tablets, laptops, and mobile phones, which have served to “usher [...] in anyone/anytime/anywhere learning” (Pownell & Bailey, 2001, p. 21). Different interpretations of MALL exist in the literature. For instance, Kukulska-Hulme and Shield (2008, p. 273) introduced it as a different way of learning afforded by the “use of personal [and] portable devices, [...] continuity or spontaneity of access, and interaction across different contexts of use”. Gholami and Azarmi (2012) described it as a field of study that looks at language learning via mobile technologies, and Viberg and Grönlund (2013) attributed it to mobile learning (m-learning), which proponents define it as a learning that goes beyond the mobility of the device and encompasses learners and learning processes, too (O'Malley et al., 2005; Yu & Conway, 2012).

Mobility of devices is then addressed by the constant presence of wireless internet connections, which can provide unlimited “anywhere, anytime” access to software programmes (Yu & Conway, 2012). Mobility of learner is defined in terms of “anytime, anywhere” access to knowledge and information via their device, and

mobility of learning is explained by the mobility of device and the mobility of learner, which provide learning opportunities across various places and times (Sharpley et al., 2016; Yu & Conway, 2012).

It is important to note that the potential of mobile devices such as PDAs, laptops, tablets is not based on their mobility alone. There has been a reduction in the gap between PCs' and smartphones' functionalities within the last decade that has made smartphones a versatile technology for language teaching and learning. With their high-resolution touch screens, smartphones not only act as a mobile telephone, but also as a camera, a recorder, and an internet-enabled computer which offers its user a wide range of pre-installed and free and payable downloadable software programs (apps). In addition, they provide their users with the possibility of accessing the world of information via web browsers and search engines. These features can all be potentially leveraged towards language learning by teachers not only outside but inside classrooms in English language institutions.

However, none of the reviewed definitions is able to explain the potentials of mobile technologies, clarify their auxiliary roles, and show their connections to theories in the way that Garrett's (1991) definition of CALL does. With these points in mind and with regards to Garrett's (1991) definition, I therefore define MALL as

instructed and/or non-instructed use of mobile technologies as an aid for language learning, either in an educational setting such as a classroom, or a non-educational setting, anywhere and at any time.

In addition, I define SALL (the focus of this project) using this minor variation of the same statement:

*instructed and/or non-instructed use of **smartphones** as an aid for language learning, either in an educational setting such as a classroom, or a non-educational setting, anywhere and at any time.*

Furthermore, there is a key aspect of smartphone technology that places it at the leading edge of mobile wireless and computing technologies. This key aspect is their personal ownership, and as a result, their ubiquity. According to O'Dea (2021), the number of smartphones owned worldwide was 3.6 billion in 2020; this is predicted to reach 4.3 billion in 2023. Silver (2019) also reported that although the rate of smartphone ownership in countries with an advanced economy is about 30% higher than in countries with an emerging economy, young adults and those with higher levels of education and higher incomes are more likely to have smartphones in all countries. This has implications for language learning and teaching, as young adults form the majority of language school students.

Smartphones' mobility, versatility, and ubiquity have frequently been referred to as their most important affordances for language education, and many efforts have been made by the researchers to justify this pedagogy both empirically and theoretically. To this end, some researchers have investigated students' and teachers' smartphone ownership, and for their part, they succeeded to report the ubiquity of mobile phones/smartphones. For instance, Bradley and Holley (2011) reported 100% mobile phone and 80% smartphone ownership by 74 students who participated in their study. Kafyulilo (2014) described 100% smartphones ownership by all 29 pre-service teachers, 4 college instructors, and 12 in-service teachers who participated in his study. Furthermore, 100% smartphone ownership was recorded for all 91 students in Hussin et al.'s (2012), all 50 students in Murugan et al.'s (2017), all 612 students in Bakhsh et al.'s (2019), and all 77 and 158 participants of Metruk's (2020) and (2021) studies by their researchers.

Some researchers have tried to demonstrate the versatility of smartphones by examining the efficacy of their use for language learning (e.g., Alemi et al., 2012; Basal et al., 2016; Cavus & Ibrahim, 2009; Hayati et al., 2013; Loewen et al., 2019; Lu, 2008; McCrocklin, 2016; Motallebzadeh et al., 2011; Saran & Seferoğlu, 2010; Saran et al., 2009; Wu, 2015; Zengin & Aksu, 2018). All of these studies involved semi-experimental research with experimental and control groups. Both groups were tested and compared on their knowledge of an aspect of language before and after an intervention, which examined the use of smartphones for teaching and learning of that aspect of language. All studies reported that the experimental group (who used smartphones) outperformed the control group (who used coursebooks/paper materials) at post-test and/or a delayed post-test.

Some researchers have tried to match mobile phones' applications and uses with theories. Naismith, Sharples, et al. (2004), for example, highlighted mobility and interactional opportunities as the specifications of mobile phones that differentiate them from computers and categorised six theory-based mobile phone uses: behaviourist, constructivist, situated, collaborative, informal and lifelong, and learning and teaching support. Similarly, Keskin and Metcalf (2011) introduced a large number of concepts and theories to the context of mobile phone applications and uses – behaviorism, cognitivism, constructivism, situated learning, problem-based learning, context awareness learning, socio-cultural theory, collaborative learning, conversational learning, lifelong learning, informal learning, activity theory, connectivism, navigationism, and location-based learning.

Both Naismith et al.'s (2004) and Keskin and Metcalf's (2011) research were useful steps in explaining the pedagogy of the use of mobile phones/smartphones for educational purposes. However, some of the terms and concepts which they

employed (learning and teaching support, context awareness learning, conversational learning, lifelong learning, informal learning, connectivism, navigationism, location-based learning) are just “theory-labeled fashions that simply restate common-sense knowledge” (Van Der Veer & Valsiner, 1991, p. 1). Whilst others (situated learning, problem-based learning, socio-cultural theory, collaborative learning, activity theory) which are learning theories or techniques fall under the umbrella of behaviourism, cognitivism, and constructivism.

To address the above problem, due to the similarities of smartphones and computers, I categorise the versatility of smartphones using Warschauer’s (1996) classification of computer applications. Such a classification helps to highlight the roles of smartphones and, as a result, their affordances for language teaching and learning. These roles, which can be outlined as those of a tutor, a tool, a stimulus, a means of global communication, and a source of authentic materials, permit a connection between smartphone applications and the three sets of theories – behaviourism, cognitivism, and constructivism – which were reviewed in section 2.2.

In their role as a tutor, smartphones mostly support behaviourist theories of language learning. There are many English language learning websites and apps that can play the role of a tutor in students’ learning processes. British Council or Cambridge apps such as Learn English Grammar UK & US Editions, Learn English Audio and Video, Quiz Up, English Vocabulary and Grammar in Use, Vine, FiftyThree apps (e.g., Paper, Book, Think Kit), and Duolingo are some examples. Listening to podcasts and watching movies can also expand students’ cultural awareness and play a proper instructional role for them.

In their role as a tool, a stimulus, a means of global communication, and a source of authentic materials, smartphones can help with the implementation of cognitivist and constructivist theories. Microsoft Office applications (Word, Excel, PowerPoint) and e-mail which foster collaborative tasks and activities including writing, mono- and bilingual dictionaries, concordances, thesauruses, encyclopedias, and notetaking apps, are now downloadable and can play the role of tools for students. The internet and web browsers, and audio and video recorders, can be used as tools for conducting research, and podcasts, radio, and TV programmes provide the opportunity to access authentic materials.

There are many educational games, including English language learning games such as Draw and Guess, Hangman, Twisted, Power Box, Kahoot, and different types of puzzles, which perform the role of stimuli. These games can bring the chance of discussion and interaction to students both inside and outside the classroom. Telephony and text messaging as well as internet and social networking services such as e-mail, Skype, Viber, and Facebook can create opportunities for both synchronised and asynchronised communications such as chatting, texting, and sending pictures and audio and video files. Finally, web browsers and search engines have created quick, easy, and unlimited access to motivating and engaging authentic materials such as radio and TV programs, films, and newspaper articles. These apps make smartphones a source of authentic materials.

However, there are researchers such as Siemens (2004), Brown (2006), and Sharples et al. (2010) who have claimed that the existing behaviourist, cognitivist, and constructivist theories were unable to explain the nature of contemporary learning which is highly impacted by technology. This perception led them to propose their own learning theories. Siemens (2004) proposed connectivism in

which he looked at learning as an “actionable knowledge [...that] can reside outside people, within an organization or a database” and explained that such a learning occurs within “nebulous environments [... which is] not entirely under the control of the individual[s]” (p. 4).

According to connectivism, learning is now full of complexity and chaos; therefore, the eight principles of the theory, which were driven from chaos, network, and complexity and self-organization theories, explain that instead of learning, people must act and “draw information outside of their [current] primary knowledge” (Siemens, 2004, p. 3). Therefore, skills such as the ability to synthesise and make decisions are of chief importance, since they need to be applied prior to learning itself (Siemens, 2004).

Siemens’ (2004) connectivism and its principles were criticised by Verhagen (2006). Verhagen (2006) described Siemens’ (2004) key contribution as creating interconnections between actually and virtually distributed knowledge during the learning process and criticised Siemens’ (2004) use of the word “learning theory” for connectivism. In Verhagen’s (2006) view, connectivism was only a pedagogical view at the curriculum level which dealt with “what is learned and why” (p. 4). Verhagen (2006) also criticised the novelty of Siemens’ (2004) principles and explained that Siemens (2004) was not able to connect his principles to chaos, network, and complexity and self-organization theories that introduced as the foundations of connectivism.

Brown (2006) attributed Siemens’ (2004) ideas and principles to navigationism, calling them “the essential navigating skills for the knowledge era” and introduced connectivism as “part and parcel of navigationism” (p. 117). Brown (2006) described “the ability to connect and to stay connected [...] as part of the skill to

navigate” (p. 116). He also introduced navigationism as a paradigm in which learners should be able “to find, identify, manipulate[,] and evaluate information and knowledge; to integrate this knowledge in their world of work and life; to solve problems; and to communicate this knowledge to others” (p. 113). According to navigationism, people need a range of skills to survive in the knowledge era – basic skills such as “problem-solving, ICT skills, visual media literacy, e-competence to function within the technological and knowledge era [...] and psychological and emotional competences”, as well as a set of skills which are needed for knowledge management (Brown, 2006, pp. 115-116).

Brown’s (2006) principles were criticised by Strong and Hutchins (2009, p. 54) for being restricted to “the development of skills and competencies for managing, and making sense of and applying information”, as well as for their lack of originality. By and large, neither connectivism nor navigationism have been accepted as learning theories in the world of education, and they have not been able to attract significant attention from educational technologists, teachers, material designers, or other specialists in the field.

Finally, Sharples et al. (2010) proposed their theory of learning for the mobile age in which they defined mobile learning as “the processes of coming to know through conversations across multiple contexts amongst people and personal interactive technologies” (p. 10). Sharples et al. (2010) explained their theory as a learning framework that is a combination of activity theory (AT) and Pask’s (1976) conversation theory. In this framework, Sharples et al. (2010) analysed learning as a knowledge and skill transformation activity which is supported by tools. They also outlined two layers of learning: the semiotic layer, in which the learners’ learning is mediated by cultural tools and signs (e.g., their language in oral and

written conversational interactions), and the technological layer, in which mobile learning technologies also create chances of interactional conversations (Figure 2.1). Sharples et al. (2010) did not recommend the fusion or the separation of the layers but proposed that both layers be used to create an opportunity for analysing mobile learning.

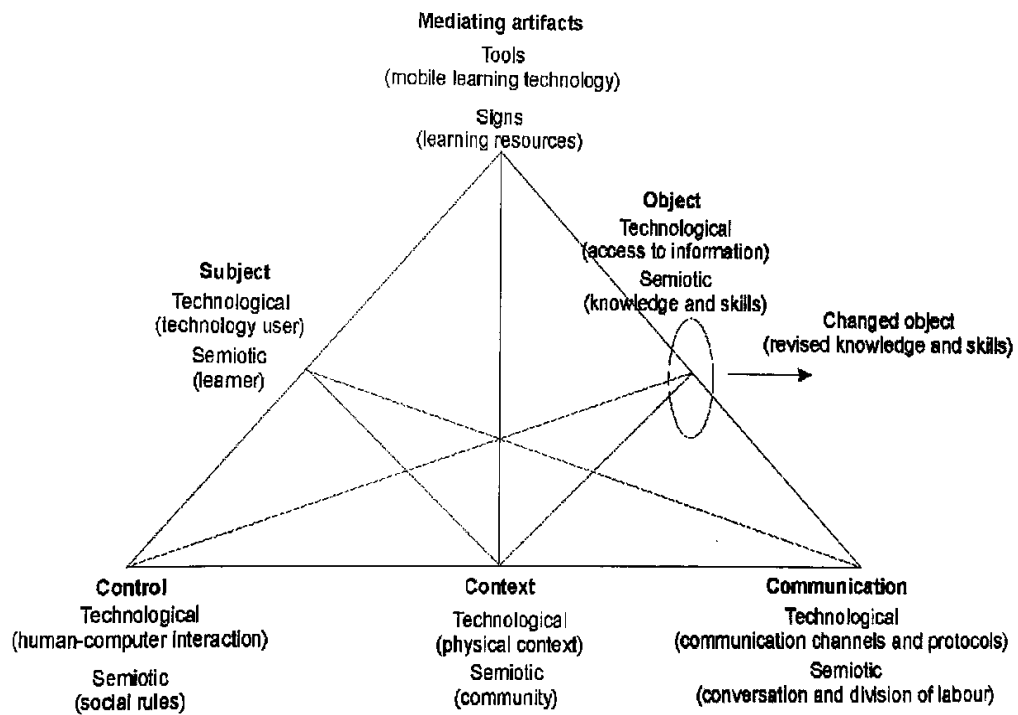


Figure 2.1: Sharples et al.'s 2010 mobile learning framework

In their model, Sharples et al. (2010) replaced the elements of rules, community, and division of labour from AT with control, context, and communication. They argued that the control of learning can be held by the teacher or learners themselves, the context can involve both the learners and the interactive technology, and that communication encompasses the dialectical relationship between the technological and semiotic layers. Therefore, within this framework, teachers are also participants in ongoing conversations, and learning is the outcome of these conversations (Sharples et al., 2010).

The mobile learning framework proposed by Sharples et al. (2010) did not receive the same criticisms as Siemens' (2004) connectivism and Brown's (2006) navigationism. However, Pachler et al. (2010, p. 7) questioned Sharples et al.'s (2010) definition of mobile learning for its use of the word "conversation", arguing that it was too narrow a word incapable of incorporating learners' interactions with the tool as part of the theory; they proposed the use of the word "communication" instead. However, a more important problem with Sharples et al.'s (2010) model is the integration of AT and conversation theory to explain mobile learning as the processes of coming to know through conversations; while such communicational interactions have always been at the heart of social constructivist theories and as a result, AT. However, this necessitates a better understanding of AT.

2.3.2.1. Activity Theory

AT is a generative and multi-layered theory with more than a century of developmental history behind it. Kuutti (1996, p. 25) describes AT as "a philosophical and cross-disciplinary framework for studying different kinds of human practices as processes, with both individual and social levels interlinked at the same time". However, such a general description cannot fully describe the potential of AT, as the framework not only defines conscious and unconscious activities at the individual and social level, but also explains them at semiotic and instrumental levels. In addition, AT has the potential to grow into a network of activities to describe how individuals and communities with different traditions and perspectives interact within such a network. As a result, although AT originated in the field of psychology, the framework has been used in different disciplines such as applied linguistics, human-computer interaction design, cognitive science,

anthropology, communications, and workplace studies (Kaptelinin & Nardi, 2006; Thorne & Lantolf, 2006).

AT has roots in Vygotsky's 1896–1934 cultural-historical psychology and his studies of social and cultural determination of mind which known as his “cultural-historical psychology” and are presented in his book, *Mind and Society* (Vygotsky, 1930). However, Vygotsky's early death in 1934 meant that he was never able to postulate his findings in the form of theories. In addition, Vygotsky's writings were prohibited by Stalin for around two decades after his death. Therefore, Leontiev, Vygotsky's student and colleague who had assisted him in his research programs, reformulated Vygotsky's (1930) notions and findings in the form of a theory.

Three generations of AT have been introduced in the literature. The first generation of the theory describes human activity at individual level and as a goal-oriented system that is shaped by the tool-mediated interaction between the subject and the object in the system. In such a system, the subject uses instrumental and/or psychological tools to act on an object and reach a desired outcome (Foot, 2014). An EALD student using a dictionary (instrumental tool) to find the meaning of the list of words in a course book, or a teacher using a communicative method (psychological tool) to design an activity to help students learn new vocabulary, are classroom examples of human activity at an instrumental and a semiotic level, respectively. This generation of the theory is depicted in a triangular shape as presented in Figure 2.2.

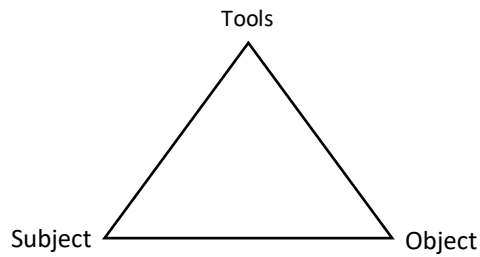


Figure 2.2: First generation of activity theory derived from (Vygotsky, 1930, p. 27)

The second generation of AT, known as cultural-historical activity theory (CHAT), is a collective activity system which encompasses the first generation and describes human activity at both the individual and social levels. It has six key components – subject, object, tools, rules, community, and division of labour (Figure 2.3).

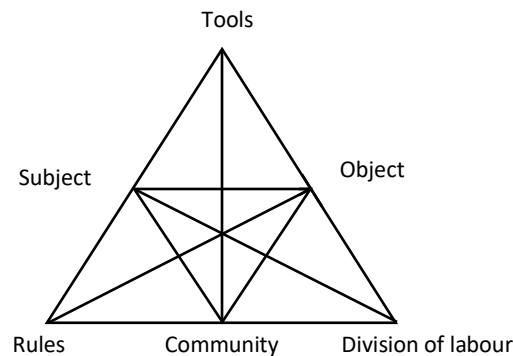


Figure 2.3: Second generation of AT derived from (Engeström, 2001, p. 135)

When it comes to a collective activity system, rules, community, and division of labour also play important mediatory roles in the system. Community plays a mediatory role between the subject and the object of the activity. Rules plays a mediatory role between the subject and the object. It also plays a mediatory role between the subject and the community. Similarly, division of labour plays a mediatory role between the subject and the object and, between the subject and the community. Rules are the agreements among the participants and “provide

direction so that the subject [and other members (community)] can [effectively] participate” in the activity (Olavarría, 2013, p. 51). Division of labour reflects the work and efforts of the members.

In such a system, the interactions among all the components will help the subject to reach the objective of the activity. Examples of a collective activity system include student collaboration (in pairs or groups), using instrumental tools such as computers or mobile phones to carry out a research task, or two or three material designers collaborating to write a course book and deploying the most appropriate theories in the design of their activities. The participants in each of the aforementioned activities engage in the activity and do their own share in the light of the regulations on which they have agreed.

The third generation of AT, known as the theory of expansive learning, was proposed by Engeström. While Engeström (2001) complimented the internationalisation of activity theory and its expansive use by researchers, he also criticised its inability to account for “the diversity and dialogue between different traditions or perspectives [which he introduces as] increasingly serious challenges” (Engeström, 2001, p. 135). To address this gap, Engeström introduced his theory as “conceptual tools to understand dialogue, multiple perspectives, and networks of interacting activity systems” (Engeström, 2001, p. 135). An example of the networks of interacting activity systems in education would be two or more schools or language schools interacting, using digital computing technologies to exchange ideas and inform each other of the ways they have integrated technologies into their curriculum to come up with the best practices for integrating technology into their curriculum. Engeström (2001) expanded his basic model to include at least two interacting activity systems (see Figure 2.4).

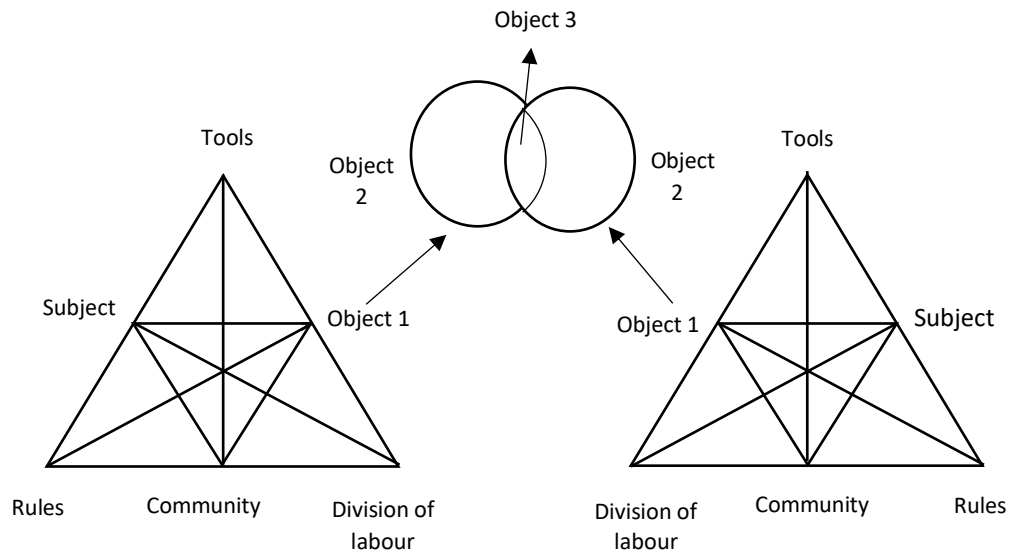


Figure 2.4: Third generation of activity theory derived from (Engeström, 2001, p. 136)

One of Siemens' (2004) rationales for proposing connectivism was the inability of existing theories to describe the learning which happens within organisations and as explained, Engeström's (2001) theory of expansive learning helps with the understanding of a network of interacting activity systems, dialogue, and multiple perspectives and voices. The theory explains how such networks function and how organisations exchange knowledge and information and build up and revise their knowledge as a result of their communicational interactions with other organisations and the world of knowledge which exist in this network.

Vygotsky (1930) introduced the mediatory/auxiliary role of tools as externally oriented aids and speech/sign as internally oriented aids in human activities. Therefore, in all three generations of AT, *tool* can be either a technological tool such as a mobile phone/smartphone, computer, pen, or a semiotic tool such as language, theories, or thoughts. Vygotsky (1930) also talked about "the real tie between these activities" and, as a result, "the real tie of their development in phylo- and ontogenesis" (p. 46). According to Vygotsky (1930), this tie meant that

externally oriented aids help with the implementation of internally oriented aids to reach the objective(s) of a human activity.

This is how AT justifies the use of any technology (including smartphones) as an aid for the implementation of language learning theories and their subsequent approaches and methods in language education on its own. Therefore, AT can be used to address the lack of an umbrella/field-specific theory, as outlined by Viberg and Grönlund (2013) and supported by Peng et al. (2020) in their systematic review of studies on the use of mobile technologies for language learning.

2.3.2.2. Activity Theory and the Current Project

SALL was defined as both instructed and non-instructed use of mobile technologies as an aid for language learning, either in an educational setting such as a classroom, or a non-educational one, anywhere and at any time. Therefore, SALL encompasses all three forms of learning: formal learning (curriculum-based learning that happens inside educational settings such as classrooms and is therefore intentional and goal-oriented); non-formal learning (goal-oriented learning that happens outside the classroom); and informal learning, which is unintentional, unconscious, and incidental.

The second generation of AT (which encompasses both human individual and social activities) is able to explain the human learning which is mediated by the use of technological and semiotic tools. Therefore, it will be used to explain the pedagogy of SALL in study 1 and study 3 of this project, as depicted in Figure 2.5.

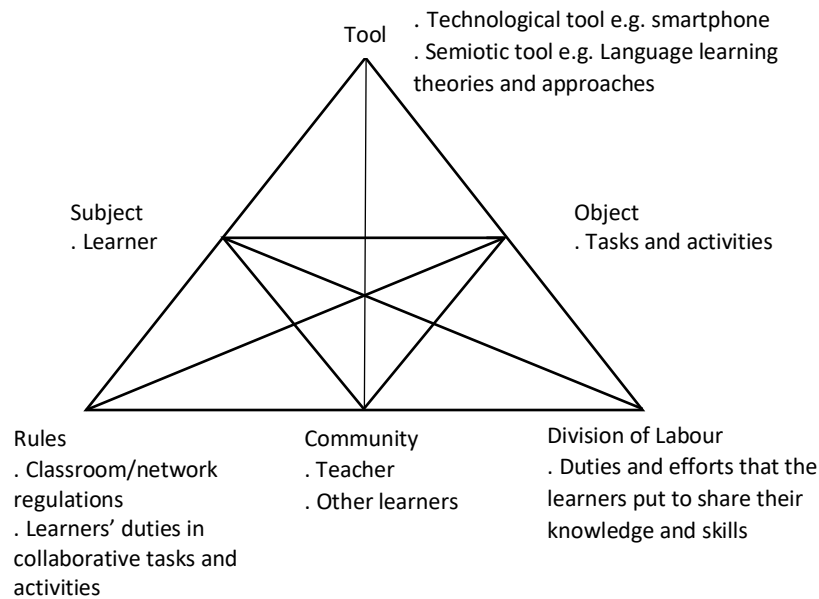


Figure 2.5: SALL as an activity system

The subject in an educational SALL environment can be the teacher, an individual student or a group of students in the classroom. The community is both the teacher and peer students. The teacher designs theory-based tasks and activities which are assisted with the use of smartphones and students use their phones to complete their tasks and activities either individually or in collaboration with their peers. The classroom has its own rules, which are defined by the teacher; groups have their own regulations; and individuals have their own duties. Individuals play their role and share knowledge and skills while working on the tasks and activities. All these activities result in the advancement of the students' knowledge which happens as a result of the communicational interactions of the subject and the community of the activity with the technology and with each other synchronously and/or asynchronously.

Additionally, within such an activity system, each member of the activity can adopt different roles. As discussed in section 2.3.2., smartphones can play the role

of a tutor, a tool, a stimulus, a means of global communication, and a source of limitless authentic materials. Teachers and students also play a dynamic role; they can act as a researcher, a designer, a tutor, an enabler, a monitor, and an evaluator. A similar kind of SALL system can exist outside the classroom when learner is on the move or in other fixed places with or without the active presence of their teacher and peers, non-formally and/or informally.

Studies 1 and 3 of this project will look at the use of smartphones for teaching vocabulary and pronunciation. They will also use the second generation of AT to examine how the use of smartphones' apps and features may complement and improve the implementation of related language teaching and learning practices recommended in the literature. Therefore, Chapter 3 will look at pedagogical perspectives on teaching vocabulary and pronunciation, with the aim of highlighting the best specific practices for teaching the aforementioned skills. It will also review the existing smartphone-assisted vocabulary and pronunciation learning studies to specify the related gap(s) which will be addressed in these two studies.

CHAPTER 3: PEDAGOGICAL PERSPECTIVES ON TEACHING VOCABULARY AND PRONUNCIATION

3.1. Introduction

Vocabulary and pronunciation are inseparable parts of language education. Vocabulary refers to both “single items and phrases or chunks of several words which convey a particular meaning” (Lessard-Clouston, 2013, p. 2). These are the heart of language, and without them, nothing can be conveyed (Lewis, 1993; Wilkins, 1972). According to Lessard-Clouston (2013, p. 2), “without sufficient vocabulary students cannot understand others or express their own ideas”.

Similarly, the way in which speakers pronounce words and intone their sentences is important. Fraser (2000, p. 7) explains that speakers with poor pronunciation are “very difficult to understand, despite their accuracy in other areas” and Ketabi and Saeb (2015, p. 182) introduce pronunciation as “a key to intelligible speech and effective [verbal] communication in a globalized world”.

3.2. Pedagogical Perspectives on Teaching Vocabulary

Students’ vocabulary learning can be categorised as incidental or intentional (Hulstijn, 2001; Nation, 2013). Hulstijn (2001) defines the former as learning which is “the by-product of any [activities that are] not explicitly geared to vocabulary learning, especially activities such as listening and reading” (p. 10), and the latter as learning which happens as a “result of [the activities] that aim at committing lexical information to memory” (p. 14). He also argues that research on first and second language vocabulary learning indicates that most vocabulary items are acquired incidentally and through extensive reading, rather than intentionally.

According to Huckin and Coady (1999), there are three important advantages of incidental vocabulary learning activities:

- They are more individualised and learner based.
- They provide students with the chance of inferring and constructing meaning, and help the learner develop a richer sense of a word's uses and meanings.
- They are pedagogically more efficient since they engage students in two activities at the same time (e.g., vocabulary acquisition and reading or listening).

However, activities will be individualised and learner-based if learners are given the opportunities to select their own materials (Dörnyei, 2014; Watkins, 2005), in other words, to learn intentionally as well as incidentally. In addition, teachers and material developers need to consider that a comprehension of 95% to 98% of the text is necessary for students to be able to infer the meaning of new words in a reading or listening activity (Laufer, 1992; Nation, 2013). Finally, according to Prince (1996, p. 489), “effective learning of words requires a stage in which the word is in fact isolated from its context and submitted to elaborative processing”. Therefore, “it is the quality and frequency of the information processing activities (i.e., elaboration on aspects of a word's form and meaning, plus rehearsal) which determine retention of new information” (Hulstijn, 2001, p. 18). This means that extensive reading is not enough on its own and a combination of incidental and intentional vocabulary learning activities must be used to help students acquire new vocabulary successfully.

Another important notion in vocabulary teaching is the necessity of fostering learner autonomy by helping students become strategic learners. Autonomous

learners take more responsibility for their learning, are familiar with the learning strategies, and deploy the best strategies in their own vocabulary learning (Nation, 2013; Scharle & Szabo, 2000). Independent learners select the vocabulary they want to study and decide upon the ways in which they want to deal with it, and this can simplify the process of learning new vocabulary and result in better recall of words (Hamzah et al., 2009; Ranalli, 2003).

However, vocabulary learning strategies should be taught as an important part of the explicit teaching of vocabulary. The importance of strategy instruction as a powerful approach that helps learners generate their own vocabulary learning strategies has been noted by many specialists and researchers in the field (e.g., Cunningsworth, 1995; Nation, 1990, 2013; Schmitt, 2000; Schmitt & Schmitt, 1995; Sökmen, 1997). Limited time of classroom instruction and the inability of learners to learn all the necessary words inside the classroom are two important rationales underpinning the necessity of strategy instruction (Sökmen, 1997).

Vocabulary learning strategies can be defined as any special techniques that learners employ to understand, learn, store, and retrieve the new vocabulary (O'Malley & Chamot, 1990; Oxford & Scarcella, 1994; Schmitt, 1997). Various classifications of vocabulary learning strategies have been proposed in the literature (e.g., by Cook, 2016; Gu & Johnson, 1996; Lawson & Hogben, 1996; O'Malley & Chamot, 1990; Oxford, 1990; Williams, 1985; Zhang & Li, 2011). However, Schmitt's (1997) taxonomy is the most comprehensive and widely used taxonomy in the research field (Adamu, 2016; Al-Bidawi, 2018; Catalan, 2003; Gilakjani & Ahmadi, 2011). Schmitt (1997) classified 58 vocabulary learning strategies into two main categories – discovery and consolidation. Discovery strategies help learners to discover the meaning of unknown words and are subdivided into two types:

determination (e.g., using one's knowledge of the language, contextual clues, or reference materials such as dictionaries to apprehend new meaning) and social strategies (e.g., asking the teacher or a classmate). Consolidation strategies help learners to internalise the meaning of the words they encounter, and are subdivided into four types: social, memory, cognitive, and metacognitive.

In the consolidation category, social strategies are those strategies which involve improving language learning, including vocabulary learning, through interaction with others (e.g., teachers, peers, native speakers; Schmitt, 2000). Such interactions have a dual dimension and can help learners with both learning the meaning of new words (as noted in discovery strategies) and consolidating that new information. Memory strategies involve making connections between new words and previously learned knowledge, using keywords and/or imaginary mnemonic techniques (e.g., studying a word alongside a pictorial representation of its meaning, using the keyword method, imaging a word's meaning, using a new word in a sentence, remembering affixes and roots, or connecting a word to personal experience).

Cognitive strategies are not so focused on manipulative mental processing as on memory strategies (Schmitt, 2000). Verbal and written repetition and use of mechanical means (e.g., vocabulary notebooks or labelling items in L2) are all examples of cognitive strategies. Finally, metacognitive strategies include thinking and reflecting before, during, and after vocabulary learning and choosing the most suitable ways to study (Schmitt, 2000). Some related practices are think-aloud, mind maps or charts, checklists, and rubrics.

While incidental vocabulary learning has its roots in constructivist theories, intentional vocabulary learning and vocabulary learning strategies originated from

behaviourist and cognitivist theories and principles. Therefore, the best practice for teaching an individual skill such as vocabulary involves an integrated methodology that follows a combination of behaviourist, cognitivist, and constructivist theories. Several vocabulary teaching frameworks have been proposed in the literature which introduce a similar methodology.

For instance, Hunt and Beglar's (2002) framework is composed of incidental learning, explicit instruction, and independent strategy development for the sake of vocabulary learning. Hunt and Beglar (2002) introduced extensive reading and listening as the main facilitators of implicit vocabulary learning, but they recommended these as out-of-class activities. They classified explicit instruction into four stages – diagnosing the words learners need to know, presenting them, elaborating word knowledge, and developing fluency – and recommended all the stages to be followed by teachers.

They also focused on the necessity of developing learner autonomy through training and helping students develop their study skills, including the skills they need to infer and retain the meanings of words, as well as to use dictionaries. However, in Hunt and Beglar's (2002) view, teachers must consider factors such as students' proficiency level and learning situation while deciding how much emphasis to place on each approach. For instance, they suggested placing a greater emphasis on teaching the skills required for dictionary use and explicit instruction for lower-level students, as such students possess limited vocabulary knowledge. With more proficient and advanced student, they recommended a greater focus on reading and listening.

Stahl and Nagy (2009) discussed the integration of the same approaches in their book, *Teaching word meanings*. However, they referred to the approaches using

different titles – teaching individual words, immersion in target language, and developing generative vocabulary knowledge. They focused on teaching words as a way of helping students with intentional vocabulary learning and introduced wide reading and exposure to oral language as the best possible ways of immersing students in the language and a result incidental vocabulary learning. They also introduced the concept of word learning skills as a way of generating vocabulary knowledge and highlighted the necessity of teaching students the strategies they need for dealing with new words.

Finally, Schmitt and Schmitt (1995) chose a more specific focus recommending the creation and use of vocabulary notebooks as a useful strategy to supplement to other forms of vocabulary learning such as extensive reading, learning implicitly through task work, and explicit classroom vocabulary exercises. A vocabulary notebook is “a personal dictionary [in which] learners record the words they encounter along with their meanings and any other important aspects such as part of speech, pronunciation, other word forms, collocations, synonyms, antonyms, a context sentence, etc.” (Wang et al., 2014, p. 103).

A range of advantages has been attributed to students’ creation and use of vocabulary notebooks. Nation (1990) claimed that vocabulary notebooks keep teachers informed of their students’ progress and Sökmen (1997, p. 272) suggested that they serve to aid retention. Fowle (2002) highlighted developing learners’ self-management and enhancing learner autonomy as the advantages associated with vocabulary notebooks. Ledbury (2006) noted that they improve learners’ ability to use a dictionary and to guess meaning from context. Dubiner (2017) argued that they help to promote conscious and intentional acquisition of vocabulary in a second language as they engage learners in deeper and more meaningful processing

of new words that result in enhancing storage in learners' long-term memories. Therefore, it can be concluded that creating and using a vocabulary notebook is a useful cognitive strategy that encompasses other vocabulary learning strategies such as discovery and memory strategies and engages students in constructing their knowledge of target language vocabulary.

The creation and use of an electronic vocabulary notebook on a smartphone is associated with additional advantages. For example, electronic vocabulary notebooks eliminate the need for students to carry heavy paper notebooks (García & Gil, 2014). Furthermore, smartphone-based vocabulary notebooks solve limitations associated with the use of paper versions, including their limited capacity, editing problems (e.g., adding a new word in between two words with no space), and the limitations related to the categorisation of words (Bazo et al., 2016). They also provide rapid, anywhere, anytime accessibility and improve functionality by offering specific features such as multimedia, automatic backups and edits, and filtering (Bazo et al., 2016).

Dictionaries play an important role in EALD students' language learning, not only for decoding but also for encoding (Miller, 2018). Miller (2006) found that the two experimental groups who used dictionaries to practise English articles in her study achieved a slightly higher mark in related exercises than the two groups who did not use dictionaries. Similarly, Lew (2016) found that Polish learners who used dictionaries to write an argumentative essay performed better in terms of vocabulary use and general accuracy than the control group who did not use a dictionary.

The creation and quality of students' vocabulary notebooks/personal dictionaries depend not only on their dictionary use skills but on the type and the

quality of the dictionaries that they use. English language dictionaries can be categorised as general, specialized, monolingual, bilingual or even multilingual dictionaries which are available in printed and electronic versions (Humbley, 2017). General dictionaries include a higher range of words and are designed for more general uses, whereas “specialised dictionaries [are] designed with the overall purpose of transmitting knowledge of specific subject matters” (Tarp, 2018, p. 240).

While bilingual dictionaries are of great help to EALD students at early stages of their language learning, monolingual learners’ dictionaries are more useful resources for those who “have [...] enough knowledge of English to navigate an English dictionary entry” (Miller, 2018, p. 354). When students use monolingual dictionaries, they come up with more new words in the definition which they need to guess or look up for their meaning and this expands their knowledge of English language vocabulary. In addition, the use of monolingual dictionaries increases students’ exposure to the target language and decreases the interference of their first language (Chen, 2010). In their studies to compare the influence of monolingual and bilingual dictionaries on students’ vocabulary learning, both Ahangari and Dogolsara (2015) and Kung (2015) reported better post-test performance by students who used monolingual dictionaries in comparison to students who used bilingual dictionaries. However, studies which have examined students’ preference in relation to the use of dictionaries have found that students mostly use bilingual dictionaries (Nesi, 2014). More emphasis therefore needs to be laid on showing students the advantages of using monolingual dictionaries.

With the evolution of mobile technologies, especially smartphones, and teachers’ and students’ unlimited access to dictionary apps and web-based dictionaries, students use paper dictionaries less. In their study on the efficacy of

the use of e-dictionaries, Grami and Hashemian (2017) compared the impact of the use of e-dictionaries with the use of paper dictionaries on students' reading comprehension. Their results showed that e-dictionary users performed better than paper dictionary users, concluding that the use of e-dictionaries was motivating, saved the students time, and increased the number of their look ups.

The major monolingual English learners' dictionaries (*Cambridge Advanced Learner's Dictionary*, *Collins COBUILD*, *Longman Dictionary of Contemporary English*, *Macmillan English Dictionary*, *Merriam Webster Learner's Dictionary*, and *Oxford Advanced Learner's Dictionary*) are now freely available online and teachers and students can use them on their smartphones. These dictionaries not only furnish their users with the information which can be found in printed dictionaries (e.g., spelling, pronunciation, definition, example sentences, usages, word frequency, grammatical information), but also provide them with thesauri, idioms, exercises, blogs, hyperlinks, words of the day, and occasionally, etymology (Miller, 2018). Some online dictionaries provide their users with gamification elements such as flashcards and follow-up vocabulary exercises. These affordances show that online dictionaries are useful tools which promote ease of use and offer their users playfulness and fun.

Not all dictionaries are equally useful, however. For instance, Youdao, which is extensively used by Chinese students, provides its users with a large quantity of words but also includes unattested and misspelt words and morphological errors (Yeung, 2020). Entries in monolingual English learners' dictionaries do not always match the needs of younger generations who are the main users of these dictionaries (Miller, 2018). Furthermore, Nesi and Meara (1994) found that despite using dictionaries, 56.5% of the written sentences by the students who participated in their

study included unacceptable use of English language words. Finally, students may not be concerned about the quality or features of the dictionaries they use and instead rely on dictionary apps' built-in machine translators and Google Translate (Miller, 2018; Yeung, 2020).

Therefore, teachers should familiarise their students with different types of dictionaries which are appropriate for their level of English language proficiency and teach their students the necessary skills which direct them towards becoming autonomous dictionary users. However, this may not happen very often in EALD classes. Miller (2008) examined Australian schools' and universities' EALD teachers' readiness to use dictionaries for teaching of grammar, collocations, and idioms. Her study showed that despite their own use of dictionaries for preparing teaching materials, the majority of the teachers who participated in her study were not familiar with the advantages and the specific uses of dictionaries as they had never been provided with any training in this regard. Therefore, the majority were not ready to provide their students with comprehensive training in dictionary use and its related skills. Kondal (2018) also found that the 90 participants of her study, who were third year pharmacy graduates and had learned English for almost ten years, had never had any training associated to dictionaries and their use and were not aware of different uses of dictionaries.

Overall, there is a critical gap in terms of teachers' and students' familiarity with the advantages and disadvantages of different types of dictionaries, their specific uses, and the skills they need to use these resources to advance their language teaching and learning. As the first step towards addressing this gap, teachers should be provided with the necessary training in relation to the use of dictionaries as a part of their teacher training courses and professional training

programs. Dictionaries, after all, have moved beyond the traditional paper format and are available not only online but as dedicated apps for smartphone use.

3.2.1. Review of Studies on the Use of Mobile Phones/Smartphones for Teaching Vocabulary

A large body of research in the ELT literature has been dedicated to the study of mobile phone/smartphone use for English language teaching. However, despite the existence of numerous smartphone apps and features which can help teachers with implementing a variety of theories, the focus in most of these studies has been limited to the use of short message service (SMS), multimedia message service (MMS), or email for transferring teaching content to students' phones, utilising behaviourist theories of learning. Burston's (2015) meta-analysis of the 19 studies which were published between 1996 and 2014 showed that the majority of studies (n = 11) were concerned with vocabulary acquisition. Of these 11 studies, nine looked at the use of SMS or MMS on mobile phones for teaching and learning vocabulary. Similarly, Viberg and Grönlund's (2013) systematic review of 54 articles and conference papers on MALL published between 2007 and 2012 and Elaish et al.'s (2017) review of 69 papers published between 2010 and 2015 found that vocabulary and SMS were the most researched skill and technology.

One of the most cited studies is the Stanford Learning Lab's project, which involved the development of an integrated voice/data environment in which the content of students' lessons – the new words, their translations, and follow-up quizzes – were delivered to students' mobile phones using both voice and emails (E. Brown, 2001). In this project, students also had access to a live coach whenever necessary and could save their vocabulary to a notebook on their phone. Results indicated that the programme could demonstrate a great potential for vocabulary

learning especially if the automated voice vocabulary lessons and the quizzes were delivered in small chunks. However, small screen size and poor audio quality in the live tutoring component were reported as the deficiencies of mobile phones and of the programme.

Thornton and Houser (2005) carried out three projects investigating mobile phone usage by Japanese university students ($n = 333$), the effectiveness of learning English vocabulary via mobile phone e-mails, and the effectiveness of learning English idioms through videos via video cable mobile phones and PDAs respectively. Survey results in the first study indicated one hundred percent mobile phone ownership, with ninety-nine percent of students using their phone to send e-mails. Post-test results in the second study showed that the experimental group (who received a list of English idioms alongside their meanings and usage examples) via email performed better in the test than the control group (who received the same information on paper). Survey results in the third study indicated that students considered the use of videos for teaching idioms via mobile phones and PDAs to be an effective method of teaching. However, the group who had used PDAs had rated the quality of the videos on PDAs and as a result, the quality of learning and studying the idioms by PDAs higher.

Other studies involving the use of smartphones for teaching and learning vocabulary include those by Alemi et al. (2012), Basal et al. (2016), Cavus and Ibrahim (2009), Hayati et al. (2013), Lu (2008), Motallebzadeh et al. (2011); Saran and Seferoğlu (2010), Wu (2015), and Zhang et al. (2011). In all these studies, SMS/MMS vocabulary lessons were compared to traditional paper-based methods and the use of coursebooks. The SMS/MMS content in these studies included new words presented alongside their meanings, usage in an example sentence, visual

representation, and details on pronunciation. Experimental groups in these studies received SMS or MMS communications during the day, and in some studies (e.g., Cavus & Ibrahim, 2009; Hayati et al., 2013; Motallebzadeh et al., 2011; Zhang et al., 2011) the messages were repeated at specific time intervals.

Post-test results from all but Alemi et al.'s (2012) study revealed the superiority of mobile phone/smartphone vocabulary learning when compared to traditional methods. However, Alemi et al. (2012) reported significantly better results of the experimental group on the vocabulary test at delayed post-test. This contrasts to Zhang et al.'s (2011) finding of no difference between SMS and traditional methods at delayed post-test. Zhang et al. (2011) proposed the use of a blended approach to increase vocabulary retention rates and recommended further research on this approach.

More recent studies on the use of smartphones to teach vocabulary have attempted to examine commercial second language learning apps. For instance, Zengin and Aksu (2018) looked at the effectiveness of Quizlet for creating electronic vocabulary notebooks in comparison to traditional paper ones. They explained the inadequacy of learning vocabulary inside the classroom as the rationale for their study and introduced cognitivist theories such as dual coding and cognitive load theories (reviewed in Chapter 2) to explain mobile learning and the pedagogy underpinning the use of Quizlet in their study.

Despite having introduced dual coding and cognitive load theories, Zengin and Aksu (2018) did not use them in their programme since the content of both mobile and traditional versions of the vocabulary notebooks created by the students was the same. This may have resulted from the fact that the ability to add or scan images is not a free feature in Quizlet, meaning that students could not take advantage of

images to aid them in visualizing the meaning of their new words in their vocabulary notebooks. But if this was the case, then proposing Dual Coding theory, which explains the efficacy of the use of images in integration with oral and written description and its reinforcing impacts on language learning, was not a suitable choice to explain the pedagogy of SALL.

Zengin and Aksu (2018) argued that the possibility of creating gap-fill and matching exercises of the recorded words in Quizlet as an advantage of the app, yet these are other examples of transferring content onto smartphones and utilising behaviourist theories of learning similar to other reviewed studies. Despite the similarities of the two versions of vocabulary notebooks, Zengin and Aksu's (2018) vocabulary assessment results showed that the experimental group outperformed the control group in the post-use test, suggesting the efficacy of the use of smartphones and Quizlet. The researchers attributed this efficacy to smartphones' motivational attributes and the accessibility, automaticity, and flexibility of the devices that make them suitable for students' lifestyles.

Another example is Loewen et al.'s (2019) study, which investigated the effectiveness of Duolingo, a free second language learning app which offers language courses in 23 languages and claims to have over 300 million registered users worldwide. The nine participants (three females, six males) in the study were the researchers themselves. They restricted themselves to the use of Duolingo to study Turkish for 34 hours, covering the materials of one semester's language study. For the first 12 weeks, the participants agreed to study for at least one hour a week and to record their progress and ideas in the form of a journal. Then, regardless of their total study hours, the participants completed two tests: a Duolingo progress test and a university-level Turkish language test.

Loewen et al. (2019) found that while Duolingo aided them with learning a second language, it was not strong enough to substitute for classroom instruction. The researchers argued that this was due to nature of Duolingo's exercises and drills which were influenced by grammar translation and audiolingual methods, and they recommended the incorporation of more meaning-focused or task-based activities into the program. However, they identified the gamification aspect of Duolingo as a motivational attribute of the program and recommended further research into the effectiveness of commercial second language learning apps.

Zengin and Aksu (2018) and Loewen et al. (2019) studies expanded the scope of SALL research from the use of SMS, MMS to the use of commercial second language learning apps. Zengin and Aksu (2018) also examined the use of smartphones against the constructivist view of language learning, although the authors themselves did not discuss this. There are however many smartphone functions (e.g., adding voice, images, or videos and sharing and chatting options) which are now available on many smartphones' app (e.g., the Microsoft Office and notetaking apps) which have a great potential for the implementation of cognitivist and constructivist theories and have not been examined in the SALL literature. With the aim of addressing this limitation, studies 1 and 3 in this PhD project looked at the possibility of the implementation of SALL in EALD classroom settings, with specific focus on the use of Evernote which is a free and a highly functional notetaking app. The reasons underpinning the choice of Evernote and its specifications and functionalities will be discussed in Chapter 7.

3.3. Pedagogical Perspectives on Teaching Pronunciation

Fraser (2000) defined second language pronunciation as a cognitive skill that can be attained by learners depending on the level of their aptitude and motivation, but

in Cook's (2016) view it is both a physical and a cognitive activity. It is a physical activity as it results from the coordination of "a number of muscular processes ranging from breathing to rounding your lips" (Cook, 2016, p. 87). It is also a cognitive activity as successful second language pronunciation learning depends largely on learners' ability to overcome "the bias of [... their] first language" and to establish "new pronunciation habits" (Cook, 2016, p. 90).

Based on what Celce-Murcia et al. (1996) explain in their book *Teaching pronunciation*, four principle approaches to teaching pronunciation can be identified in the literature: intuitive-imitative, naturalistic, linguistic/analytic, and communicative. The intuitive-imitative and naturalistic approaches to pronunciation teaching both originated with reference to the ways children learn their first language and adults learn additional languages informally in noninstructional settings (Celce-Murcia et al., 1996). They therefore had their roots in behaviourist theories of language learning.

Overall, there was no explicit instruction of pronunciation in classrooms which followed these two approaches. In the intuitive-imitative classrooms, students imitated the teacher or recordings inside the classroom to advance their pronunciation (Celce-Murcia et al., 1996). By contrast, the naturalistic approach was based on the notion that if students are simply given the chance to listen to the target language without being pushed to speak, they can internalise the target pronunciation and pronounce what they have heard without any problem (Celce-Murcia et al., 1996).

The linguistic/analytic approach emerged as a result of the reform movement and the development of the international phonetic alphabet (IPA) and phonology (a science which dealt with the sound systems using written symbols of the sounds in

all languages) in the 1880s (Celce-Murcia et al., 1996). In the audiolingual method classrooms, teachers implemented the principles of the linguistic/analytic approach (Celce-Murcia et al., 1996; Richards & Rodgers, 2014). In these classes, pronunciation was taught and phonetic symbols were used by the teachers to demonstrate the articulation of sound. Additionally, cognitive strategies such as minimal pairs (e.g., let and lit) were used to help students build up their overall pronunciation system (Celce-Murcia et al., 1996; Cook, 2016). Therefore, the linguistic/analytic approach has both behaviorist and cognitivist theories as its basis.

Finally, in the communicative approach in which communication is central, pronunciation was of critical importance. The approach was based on the idea that non-native speakers' pronunciation should reach a threshold level; otherwise, they would face communication problems even if they possessed a good level of vocabulary and grammar knowledge (Celce-Murcia et al., 1996). Within this approach, pronunciation teaching at the segmental (sound) level (as employed in the linguistic/analytic approach) was initially replaced by pronunciation teaching at the suprasegmental (word/sentence) level (Celce-Murcia et al., 1996). However, the communicative approach later became more balanced, with teachers identifying the most important aspects of both levels based on students' needs and integrating them into their lessons (Celce-Murcia et al., 1996).

Cook (2016) also highlighted the importance of a more balanced view which includes teaching pronunciation at both segmental and suprasegmental levels depending on students' needs. However, according to Cook (2016), the research on teaching and learning pronunciation has shown that dealing with the new language sound system is more appropriate for advanced students. Therefore, she

recommended that pronunciation teaching be restricted to learning the pronunciation of individual words for beginners.

Kenworthy (1987) noted that there are five factors – learners' first language, age, amount of exposure to the new language, phonetic ability, and attitude and motivation – which have a great influence on learners' pronunciation learning. Therefore, it is important that teachers familiarise their students with the impacts of these factors, so students can think of a realistic and achievable goal for their pronunciation learning rather than aiming for a native-like pronunciation. In addition, she argued that teachers can play an important role in increasing students' exposure to their target language to help them improve their pronunciation, especially for students who are not surrounded by the target language (Kenworthy, 1987). This is a context in which smartphones can play an auxiliary role. Teachers can ask students to watch film and videos and listen to news and other programs in the target language on their phone, both inside and outside the classroom.

As explained in Chapter 2, the world of ELT has moved towards the integration of the principles of behaviourist, cognitivist, and constructivist theories as the best English teaching practice. The review in section 3.2. showed a very similar trend for vocabulary teaching, and pronunciation was no exception. For the purpose of developing an integrated methodology in teaching pronunciation, Celce-Murcia et al. (1996) proposed a five-stage communicative framework combining the principles of behaviourism, cognitivism and constructivism. Study 3 (Chapter 9) looked at practicing teaching vocabulary and pronunciation in a communicative classroom environment with the assistance of smartphones, considering Celce-Murcia et al.'s (1996) framework in the design of the smartphone-assisted

pronunciation task in the four-session smartphone assisted course in the study.

Celce-Murcia et al.'s (1996) framework stages are as follows:

- Description and analysis to raise learners' consciousness
- Listening discrimination
- Controlled practise
- Guided practice
- Communicative practice (1996, p. 36)

3.3.1. Review of Studies on the Use of Mobile Phones/Smartphones for Teaching Pronunciation

There are fewer studies on the use of smartphones for teaching and learning pronunciation than for teaching and learning vocabulary, and only two studies could be found which had focused on the use of smartphones for teaching pronunciation. The first of these (Saran et al., 2009) was a mixed methods quasi-experimental study investigating the use of using mobile phone multimedia messages for the purpose of improving language learners' pronunciation of English words. Saran et al. (2009) introduced the inadequacy of in-class activities and the necessity of providing opportunities outside the classroom as the rationale for their study. Elementary level students (N = 24) in the English preparatory school of a university in Turkey were divided into three groups: a multimedia group, a webpage group, and a handout group.

A few times in a day, four new words were sent to the multimedia group's smartphones via MMS, alongside their definition, example sentences, related pictures, and pronunciations. The web group received similar content on a webpage, and the handout group received the words and their related information on colorful handouts, with the teacher pronouncing the words for them. The post-test showed

that the multimedia group got a significantly better results in the post-test in comparison to the two other groups. The questionnaire and interview results demonstrated the positive effects of mobile phone use on students' pronunciation learning. No issue was reported with use of the application and mobile phone by the multimedia group, perhaps due to their familiarity with the application and they found the push aspect of mobile technology via MMS encouraging and useful.

The second study was conducted by McCrocklin (2016). IT examined the effect of automatic speech recognition (ASR) software use on students' autonomous learning beliefs and behaviour. Students in an advanced listening course (N = 48) were divided into three groups: conventional (with face-to-face teaching N = 15), strat (with face to face and minimal strategy teaching N = 17), hybrid (with minimal strategy training and use of ASR on smartphones N = 16) and participated in a three-week pronunciation workshop program. Celce-Murcia et al.'s (2010) communicative pronunciation framework (with its five stages) was used to design the lessons, and each lesson included articulatory descriptions and listening practice.

Strat and hybrid groups became familiar with the pronunciation practice strategies, which taught them to listen for pronunciation and practise and speak using ASR. The hybrid group's lessons also included the use of required and optional ASR inside the classroom. All groups recorded their voices and sent the recordings to the teacher as homework. Pre-, post-, and delayed post-workshop surveys and interviews were conducted. Results indicated an increased belief of autonomy among students in the strat and hybrid groups. However, students displayed a reluctance to practice and record using ASR due to the software's low recognition of their pronounced words.

Both Saran et al.'s (2009) and McCrocklin's (2016) studies showed the effectiveness of the use of smartphones for teaching pronunciation; however, both studies are prone to the same limitations. Both studies looked at the use of smartphones for extra practice and, as a result, out-of-class language learning. The content of the lessons was sent to the students' phones in the first study, but in neither study did the students have the opportunity for interaction, deeper knowledge processing, or knowledge construction. The domination of behaviourist and cognitivist theories was also apparent in these studies.

Overall, the review of literature in this chapter highlighted the best possible practices that can be used to teach vocabulary and pronunciation to EALD students with the aid of their smartphones and in the light of activity theory. It also revealed the gaps that exist in the SALL literature in relation to the use of smartphones for teaching vocabulary and pronunciation. With the aim of addressing the identified gaps, study 1 in this thesis will look at the use of the Evernote app as a way in which students can create and use vocabulary notebooks as part of their classroom tasks to enhance their vocabulary, and study 3 will look at the use of Evernote in integration with other apps and features to examine the possibility of the use of smartphones for vocabulary and pronunciation learning in the communicative environment of an EALD classroom setting. Students' and teachers' attitudes and intention to use SALL as an important determinant of this possibility will be examined in response to the related gaps and are detailed in Chapter 4.

CHAPTER 4: SMARTPHONE ACCEPTANCE AND PRE- AND POST-USE ATTITUDE MODELS OF THE PROJECT

4.1. Introduction

With the evolution of computers and their presence in organisations and institutions in the 1970s, user acceptance of technology became one of the biggest concerns in these settings and as a result, an attractive topic of research for technologists, psychologists, and sociologists. Dillon and Morris (1996, p. 6) defined user acceptance of technology “as the demonstrable willingness within a user group to employ information technology for the tasks it is designed to support”. Davis (1993) described it as a defining factor in the success or failure of information system projects introducing “attitude towards use” as an important determinant of such acceptance.

In the context of language education and in his socio-educational model of attitudes and motivation, Gardner (1985) also introduced attitude towards learning situations, which include attitude towards educational materials and tools, as one of the five elements that determine second language learners’ success (Masgoret & Gardner, 2003). These all highlight the important role of teachers’ and students’ attitudes towards smartphones and their educational uses for the successful implementation of SALL. This is indeed an assumption that necessitates an understanding of the concept of attitude and its related theories and models and needs to be explored in more experimental research. However, it is also important to review the existing studies of teachers’ and students’ attitudes towards SALL to detect the related gap(s) which may need to be addressed.

4.2. Review of Studies on Students' and Teachers' Attitudes Towards SALL

A large proportion of research relating to SALL has addressed students' attitudes towards the use of smartphones for language learning. These studies can be classified into two main groups. The first group are the studies which have looked at students' attitudes towards the use of smartphones for language learning based on their own current informal educational and non-educational uses of their smartphones (Ababneh, 2017; Ahn, 2018; e.g. Al Aamri, 2011; Almudibry, 2018; Alrefaai, 2019; Alsied, 2019; Lekawael, 2017; Metruk, 2020, 2021; Nami, 2020; White & Mills, 2012, 2014; Wisnuwardana, 2019; Yurdagül & Öz, 2018). The second group are the studies which have examined students' attitudes following their formal or non-formal use of smartphones for language learning in a SALL intervention program (e.g., Davie & Hilber, 2015; Haron et al., 2021; Hulse, 2018; Jackson, 2017; Kayaoğlu & Çetinkaya, 2018; Khrisat & Mahmoud, 2013; Leis et al., 2015; Mutiaraningrum & Nugroho, 2021).

Most of the above studies were conducted in East/Southeast Asian or Middle Eastern countries. In terms of methodology, most studies utilised questionnaires to collect their data, but some also included interview/focus group discussions. Participants were mostly tertiary students, except for the participants in Lekawael's (2017) and Wisnuwardana's (2019) studies, who were primary and secondary students, respectively.

Only two studies used both pre- and post- intervention data. Davie and Hilber (2015) used a questionnaire to test students' attitudes towards the use of smartphones for language learning before their intervention. Then the participants (n=68) used Quizlet on their smartphones to learn and practise English vocabulary, and their test results at the end of the semester were compared with their results

from the two previous semesters. This allowed for an evaluation of the app's efficacy as a tool for vocabulary learning. Ten students were also interviewed to investigate their attitudes towards the use of Quizlet.

Likewise, Jackson (2017) used an open-ended questionnaire to collect pre-use attitude data from her experimental and control group participants. She then used the Fun Easy Learn English app to assist the experimental group (N = 62) with their vocabulary learning for around 20 to 35 minutes each session during a 12-week semester. She also used Socrative app to provide them with short quizzes in which they were able to review their lessons and prepare themselves for exams. The control group (N = 74) had the traditional method of teaching. At the end of the semester, both groups were tested again on their attitudes towards learning English and the use of smartphones for this purpose and their attitudes were compared. However, participants' pre- and post-use attitudes were not compared in either study.

Finally, most studies did not introduce any theory or framework underpinning the ways they examined their participants' attitudes. For instance, Ababneh (2017) asked her participants whether they saw having a mobile phone as essential to their study at university, whether they used the internet to access websites in relation to their lessons, and whether they visited those websites regularly and shared them with others. However, she did not explain what theory/theories she used to formulate these questions. In addition, the reported Cronbach's Alpha in this study was .65, which according to Pallant (2013), is a sign of inconsistency and weak correlation among the items of a scale.

Similarly, White and Mills (2012, 2014) and Lekawael (2017), who repeated their studies over two consecutive years, did not refer to any theory and evaluated

their participants' attitudes based on only one question. White & Mills' (2012, 2014) question asked how helpful they thought the use of a smartphone could be for English language learning inside the classroom and they used the question to collect data from 403 and 162 volunteer university students in their 2012 and 2014 studies, respectively. Lekawael's (2017) question asked participants to indicate whether they believed smartphone use for the purpose of English language learning would be harmful, not helpful, neutral, helpful, or very helpful and she used the question to collect data from 35 Indonesian primary and secondary school students, once in 2014 and then in 2015. Both White and Mills (2012, 2014) and Lekawael (2017) reported an increase in students' positive attitudes towards the use of smartphones for educational purposes. They also reported an increase in students' smartphone use but noted that students spent more time on non-educational uses (e.g., social networking and games) than educational uses (e.g., dictionary use and accessing the internet).

Almudibry (2018), Alrefaai (2019), Nami (2020), and Metruk (2020, 2021) used more items in their questionnaires to test their participants' attitudes towards SALL. However, the questions were limited to asking respondents about their perceptions of the usefulness of smartphones for language learning. Apart from Metruk (2020, 2021), who reported moderate attitudes towards SALL among his study's sample, the remaining studies reported that students held positive attitudes towards the use of smartphones for language learning. However, Alrefaai's (2019) participants reported technical difficulties, small screen size, distractions, and/or impatience as the drawbacks of SALL. Alrefaai (2019) and Metruk (2020, 2021) also reported gender differences, with evidence of greater smartphone use and more positive SALL-related attitudes among female students. Almudibry (2018) also

reported higher SALL-related positive attitudes of her female student participants. Nami (2020) did not report any gender difference, but she noted that the type of app was a significant determinant of students' attitudes.

Mutiaraningrum and Nugroho (2021) examined Indonesian higher vocational education students' perceptions towards the use of smartphone apps (Busuu, English Listening, and Speaking, English Podcast, English Listening and Speaking, and Ello English) for English language learning. Students chose the apps themselves and were supposed to use the apps at home. At the end of their 12-week semester, students were presented with three open-ended questions to be answered in the form of an essay. The questions asked about the students' experience with the apps, the opportunities and challenges they faced during the use of the apps, and their recommendations for app designers, but the researchers did not say what theoretical framework they had used to develop their questions. The researchers noted the students' acceptance of smartphone use for educational purposes despite the confusion and the technological problems they faced with the use of smartphones and the apps. Students asked app designers for simpler signing up procedures, simpler vocabulary and reading exercises, slower listening activities, use of mother tongue as the language of instruction, and an update that permitted the offline use of applications.

Review of Al Aamri's (2011) and Haron et al.'s (2021) Likert scale questions revealed that they examined attitudes towards the use of smartphones for educational purposes with regards to their participants' perceptions of the usefulness and motivational aspects of mobile phone/smartphone use for language learning. However, both Al Aamri (2011) and Haron et al. (2021) did not list any theoretical basis for their questions. Similarly, Hulse (2018) examined his

participants' attitudes towards SALL based on their sense of comfort with smartphone use as well as their enjoyment and future interest in using smartphones based on their experiences with Quizlet and Kahoot without any theoretical framework. Khrisat and Mahmoud (2013) investigated attitudes towards SALL based on their students' willingness to use smartphones for educational purposes and their perceptions of the advantages and disadvantages of smartphone, and Jackson (2017) used Khrisat and Mahmoud's (2013) questionnaire without expaling the reasons underpinning her chice of the questionnaire.

Kayaoğlu and Çetinkaya (2018), Yurdagül and Öz (2018), and Alsied (2019) also examined students' attitudes towards the use of smartphones for English language learning, but these studies included no theoretical basis. The open-ended questionnaire and focus group interview in Kayaoğlu and Çetinkaya's (2018) study examined students' perceptions of the benefits and the drawbacks of the use of smartphones, their sense of enjoyment while using smartphones for language learning, and their willingness to use them for English language learning in future. With a small difference in their measuring factors, Yurdagül and Öz (2018) studied students' attitudes towards SALL based on the usefulness, advantages and constraints of smartphone use as well as the level of autonomy that the use of the device offered them in their language learning. Like Nami (2020), no gender difference impact on attitude towards SALL was observed in Yurdagül and Öz's (2018) study. However, the researchers reported students' faculty as a moderator of attitudes, since students from the Faculty of Education showed more positive attitudes towards SALL than students from the Faculty of Architecture, the Faculty of Arts and Sciences, the Faculty of Economics, and the Faculty of Engineering.

Alsied (2019) used a questionnaire to collect data from 151 Libyan EFL learners in relation to their smartphone use and efficacy and she used focus group discussions with 18 of them to investigate their attitudes towards the use of smartphones for language learning. The focus group discussions were based around three main themes: participants' perceptions of the usefulness of smartphones for language learning, benefits and shortcomings of using smartphones for this purpose, and whether or not the use of smartphones for language learning should be encouraged by teachers and integrated in their lessons. Smartphones were mostly used by participants to check the meaning of words, to listen to English songs, and to develop language skills. Evidence supported the effectiveness of the use of smartphones for language learning and indicated that students held positive attitudes and perceptions towards the use of smartphones for language learning.

In a similar manner, Leis et al. (2015) compared the attitudes to smartphone use of Japanese university students who were not allowed to use their smartphones inside a language learning classroom with those who were encouraged to do so. The review of the Likert scale questions in this study showed that students' attitudes were examined based on their perceptions of smartphone usefulness, their willingness to use the device for their lessons and homework, and their tendency towards autonomy and studying more in their free time. The researchers reported that the students who were encouraged to use their smartphones for language learning during the class were more willing to study in their free time and to take charge of their learning.

Davie and Hilber's (2015) pre-use questionnaire investigated students' attitudes towards the use of smartphones for language through questions which asked them about smartphone usefulness and ease of use as well as questions which examined

students' willingness to use the device, and whether support from their university would encourage them to use their smartphones for language learning. Their post-use interview examined the students' attitudes towards the use of Quizlet based on the app's advantages and disadvantages, its usefulness, and whether students would accept their teachers using it in their lessons. Davie and Hilber (2015) also did not refer to any theory underpinning the themes of their questions, nor did they address the reasons for testing students' pre- and post-use attitudes using different types of questions.

Ahn's (2018) was the only study that introduced a theoretical framework in the context of studying students' attitudes towards SALL. Ahn (2018) utilised Wang et al.'s (2009) adapted version of the unified theory of acceptance and use of technology (UTAUT) to study Korean students' acceptance of smartphone English language learning apps. She verified that Wang et al.'s (2009) adapted model constructs – *perceived usefulness* (PU), *perceived convenience* (PC), *social influence* (SI), *perceived enjoyment* (PE), and *self-management of learning* (SL) – had significant positive effects on students' intentions to use smartphone apps for English language learning, and PU and SL were the strongest predictors. However, she did not report any findings regarding her participants' intentions to use smartphones for English language learning. She also found that gender had an effect on PC and PE. PC had a greater impact on shaping female students' intentions to use smartphones, whereas PE had a greater impact on shaping male students' intentions. Academic major had an effect on all constructs except PU. PC and SL played a more defining role in shaping the intentions of the students who studied an English-related major, whilst SI and PC played a more defining role in shaping the intentions of the students who studied a non-English-related major at university.

In terms of students' smartphone ownership and app usage, Ahn (2018) found 668 (99%) out of 675 participants in her study reported owning a smartphone. However, 405 (60%) of participants did not use English language learning apps on their smartphones despite having used them in the past, and 518 (78.4%) were not willing to purchase any English language learning apps, expressing a preference for free apps. She also found that students used their phone mostly for self-study outside their classroom, and dictionary, vocabulary learning, and translation apps were the most widely used apps by the participants, meaning students used smartphone apps solely for the purpose of developing their receptive skills.

Ahn's (2018) study results also indicated three types of barriers to the use of smartphone apps for language learning: pedagogical barriers, psycho-social barriers, and technical barriers. Pedagogical barriers encompassed problems such as the inferiority of smartphone apps to other resources and the difficulty of evaluating students' progress and achievements, learning on the move, finishing learning responsibly, and teachers' communicating their feedback to students. Psycho-social barriers included perceptions of the inappropriateness of smartphones for learning purposes and students' preference for using other technological devices. Technical barriers were the high price of smartphones, their small screen size and inconvenient keypad, and their limited memory.

It seems that less attention has been paid to teachers' attitudes towards the use of smartphones for English language teaching than to that of students. There exist studies which have looked at teachers' attitudes towards smartphones for educational purposes generally (e.g., AlTameemy, 2017; Ismail et al., 2013; Kafyulilo, 2014; O'Bannon & Thomas, 2014; Thomas et al., 2014). There also exist studies which have looked at teachers' attitudes towards the use of mobile

technologies for English language teaching and learning (e.g., Bozorgian, 2018; Dogan & Akbarov, 2016; Luís, 2018; Oz, 2015; Tayan, 2017). However, only two studies (Abugohar et al., 2019; Alzubi, 2019) could be found in the literature which have specifically looked at teachers' attitudes towards the use of smartphones for English language teaching. Both of these studies exhibit the same lack of theory problem that was observed in the studies of students' attitudes towards SALL.

Alzubi (2019) conducted a quantitative study of 41 Saudi Arabian EFL teachers' perceptions of smartphone use for teaching at a university in Saudi Arabia. Without explaining any theory underpinning his choice, Alzubi (2019) employed a 46-item questionnaire that Thomas et al. (2014) had used in their study of pre-school teachers' attitudes towards the use of smartphones for educational purposes. The results of his study showed that most of the participants used their smartphones for university-related work, such as checking and sending emails, searching for information, and working with educational apps and calculators, scanning, or creating QR codes, and playing games and podcasts. Participants reported finding the first three applications to be the most useful. Most participants were supportive of the use of smartphones for English language teaching and learning, as they believed that the device could play an effective role in enhancing students' English language learning. They considered smartphones to possess the advantages of accessibility, motivation, inspiration, and variation, which provide students with more opportunities for English language learning, highlighting possible distractions as the only disadvantage.

Abugohar et al. (2019) adopted a mixed methods approach, including questionnaires and focus group discussions, to investigate 45 Malaysian teachers' perceptions as well as their actual use of three categories of smartphone applications

for teaching speaking – speech-to-text transcription applications, audio recording animation-based applications, and automatic speech analysis video-based applications. The teachers were asked to implement the applications using Smaldino et al.'s (2012) ASSURE model in a CLT environment. According to ASSURE model, they needed to follow 6 steps in integrating the use of : analyse learners; state standards and objectives; select strategies, technology, media, and materials, utilize technology, media, and materials; [... have] learners' participation; evaluate and revise" (Smaldino et al., 2012, p. 53).

However, Abugohar et al. (2019) also did not outline which theory/theories guided their examination of teachers' perceptions; they merely reported teachers' high intentions towards the implementation of smartphone applications for teaching speaking, but their more moderate use of the applications. They therefore concluded that there was a weak and statistically non-significant positive linear correlation between the teachers' perception and their actual use of smartphone applications. In addition, they reported that they did not find any significant correlation between participants' age, gender, teaching experience, qualifications, ease of use of smartphone applications and their actual use of applications.

Overall, the above reviews shed light on some important gaps that exist in the SALL literature. First, it demonstrates the significant gap in terms of theory use and the execution of theory-based studies of students' and teachers' attitudes towards the use of smartphones for English language education. This gap is critical as, according to Viberg and Grönlund (2013), it can decrease the creditability of the results of the existing studies. Second, it showed that there was little diversity in terms of the countries shaping the context of research in the existing studies and it seems that no study on teachers' and students' attitudes towards SALL was

conducted in Australia. Third, while the review included two studies of attitudes towards SALL which examined students' attitudes both before and after the use of smartphones, no comparison of pre- and post-use data were carried out, nor did any study examine the teachers' pre- and post use attitudes to SALL.

4.3. Attitude and Attitude Towards Use/User Acceptance Models

Attitude has been noted as the most prevalent term used in social psychology (Eckes & Trautner, 2012; Fishbein & Ajzen, 1975; Hogg & Smith, 2007; Lemon, 1973). Several definitions of attitude exist in the literature, such as those proposed by Eagly and Chaiken (1993), Fazio (1995), and Oppenheim (1992). For instance, Oppenheim (1992, p. 174) defined attitude as “a state of readiness, a tendency to respond in a certain manner when confronted with certain stimuli”. However, nearly all the proposed definitions convey the same definition as that proposed by Fishbein and Ajzen (1975).

Fishbein and Ajzen (1975, p. 15) defined attitude as “a learned predisposition to respond in a consistency favourable or unfavourable manner with respect to a given object”. According to such a definition, although attitude tends to be durable, it is susceptible to changes with experience (Fishbein & Ajzen, 1975; Lemon, 1973; Oliver, 1980; Shaw et al., 1967). Like Rosenberg et al. (1960), Krech et al. (1962), and Lambert and Lambert (1964), Fishbein and Ajzen (1975, p. 12) believed that attitude encompasses three elements: “affect, cognition, and behaviour”. According to Fishbein and Ajzen (1975), affect refers to human feelings with respect to their evaluation of a person/object, cognition includes their opinion and knowledge about that person/object, and behaviour explains their reaction to the presence of that person/object.

Several prominent user acceptance models exist in the literature. These models were proposed by social psychologists and information system investigators and have been adapted and used to study individuals' attitudes and intention to use technology within the last five decades (e.g. Abu-Al-Aish & Love, 2013; Ahmed & Kabir, 2018; Botero et al., 2018; Esfandiari & Sokhanvar, 2016; Hao et al., 2017; Li et al., 2019; Luan & Teo, 2009; Moon & Kim, 2001; Teo, 2009, 2011; Teo & Noyes, 2011; Wang et al., 2009).

Kemp et al. (2019) carried out a qualitative review of the theories underlying the aforementioned models, as well as findings from recent related empirical studies in the field of education. They introduced a taxonomy of 61 factors that have been shown to influence teachers' and students' attitudes and intentions to use educational technologies. The taxonomy encompasses seven primary and 22 tertiary groups and is useful in terms of familiarising researchers with a comprehensive categorised lists of factors that shape users' attitudes towards technology. However, while Kemp et al. (2019) recommended that researchers at least employ the primary group items in their instruments, at minimum, they did not indicate how to structure an appropriate model to study attitude towards use, or which items to test for each individual factor. Therefore, researchers still need to refer to the main theories and models for this purpose.

The first user acceptance model is the theory of reasoned action (TRA) which was proposed by Fishbein and Ajzen (1975). In their model, Fishbein and Ajzen (1975) introduced *attitudes towards behaviour* and *subjective norm* as the constructs of behavioural intentions. The second model, the technology acceptance model (TAM), was introduced by Davis (1985). This model proposed that attitudes towards use were driven by *perceived usefulness* and *perceived ease of use*. The

third model, the theory of planned behaviour (TPB), was proposed by Ajzen (1985), who argued that *attitudes*, *subjective norms*, and *perceived behavioural control* were the factors underlying behavioural intentions. The fourth is the model of PC utilization (MPCU), in which Thompson et al. (1991) proposed that *job-fit*, *complexity*, *long-term consequences*, *affect towards use*, *social factors*, and *facilitating conditions* were the determinants of intentions.

Diffusion of innovations theory (DIT) is another model which was proposed by Moore and Benbasat (1991). They put forward *relative advantage*, *ease of use*, *image*, *visibility*, *compatibility*, *results demonstrability*, and *voluntariness of use* were introduced as the components of users' acceptance of a variety of technologies. This theory was followed by Davis et al.'s (1992) motivation theory (MT) which defined *extrinsic* and *intrinsic motivation* as the determinants of user acceptance. Subsequent theories were social cognitive theory (SCT) by Compeau and Higgins (1995), with *outcome expectations*, *self-efficacy*, *affect* and *anxiety* as its constructs, and the combined TAM and TPB (C-TAM-TPB) by Taylor and Todd (1995), which was based around the constructs of *attitude toward behaviour*, *subjective norm*, *perceived behavioural control*, and *perceived usefulness*.

Aiming to formulate a unified model of user acceptance, Venkatesh et al. (2003) carried out an empirical study and compared the above eight models above (and their associated constructs). Based on the results of their comparison, they developed the unified theory of acceptance and use of technology (UTAUT) with four direct determinants of intention: *performance expectancy*, *effort expectancy*, *social influence*, and *facilitating conditions*. They arrived at this list by assessing which constructs from the compared models were the more significant determinants of intention. Similar constructs from different papers were combined. For instance,

perceived usefulness, extrinsic motivation, job-fit, relative advantage, and outcome expectations had been acknowledged to be similar in the literature (Compeau & Higgins, 1995; Davis et al., 1989, 1992; Moore & Benbasat, 1991; Thompson et al., 1991) and in the UTAUT, they came under the umbrella of *performance expectancy*.

In the same way, Venkatesh et al. (2003) combined *perceived ease of use, complexity, and ease of use* into *effort expectancy*; *subjective norm, social factors, and image* into *social influence*; and *perceived behavioural control, facilitating conditions, and compatibility* into *facilitating conditions*. They also combined *attitude towards behaviour, intrinsic motivation, affect towards use, and affect* into *attitude towards using technology*. However, they did not include this construct in their model, as it did not display a “direct or interactive influence on intention” in their results (Venkatesh et al., 2003, p. 45). This result was not unexpected, since the constructs of *performance expectancy* and *effort expectancy* in the UTAUT had already been introduced as *attitude towards use* constructs in TAM and MPCU.

Figure 4.1 provides a visualisation of the UTAUT.

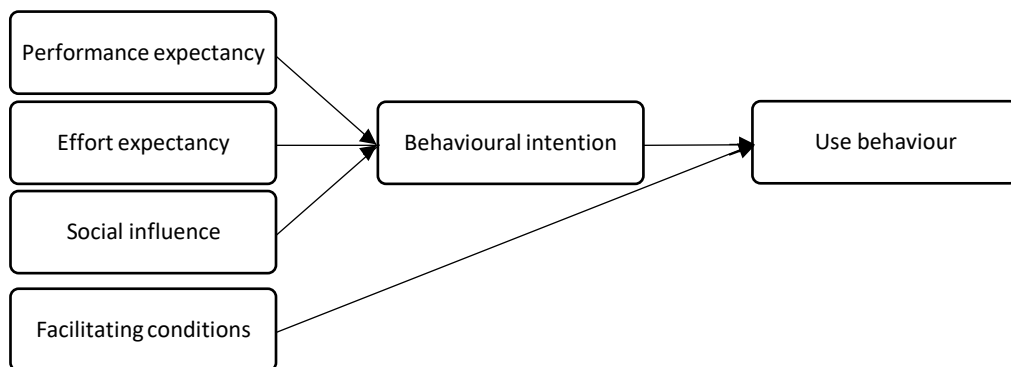


Figure 4.1: The UTAUT by Venkatesh et al. (2003)

Venkatesh et al. (2003) reported that their model can explain 70% of the variance in usage intention across their study’s four organisational workplace

settings. However, the UTAUT can be criticised for two main reasons. First, it cannot be counted as a unified model of user acceptance, as it still needs fundamental modifications to be able to explain user acceptance of technologies and contexts other than those in Venkatesh et al.'s (2003) study.

For instance, Wang et al. (2009) was obliged to adapt the UTAUT in order to investigate factors affecting user acceptance of m-learning. They therefore omitted *facilitating conditions* and incorporated *perceived playfulness* from the extended TAM, as proposed by Moon and Kim (2001), and *self-management of learning*, as proposed by Smith et al. (2003). In addition, developing a unified model of user acceptance seems impossible, as according to Moon and Kim (2001, p. 217), the “factors [which] contribute[...] to the acceptance of a [...] [new technology] are likely to vary with technology, target users, and context”.

Second, attitude towards use of technology, which had been identified as the critical determinant of people's intention to use technology in the TRA, TAM, and TPB, was omitted in the UTAUT. Therefore, this PhD project generated its own separate models to study teachers' and students' pre- and post-use attitudes. These models were influenced by expectation disconfirmation theory and the theory of interpersonal behaviour, as well as the user acceptance models reviewed above.

4.4. Theory of Interpersonal Behaviour

The theory of interpersonal behaviour (TIB) was proposed by Triandis in (1979). Triandis (1979) distinguished two sets of beliefs as the determinants of individuals' attitudes in TIB: beliefs that connect feelings arising at the moment of performing a behaviour and beliefs that link the behaviour to future consequences of the behaviour (Thompson et al., 1991). He also argued that the attitude-behaviour relationship was mediated by intention; in other words, he introduced intention as

a direct determinant of behaviour. However, he acknowledged that even strong intentions would not result in the performance of a behaviour if the facilities and resources (*facilitating conditions*) were not available. For instance, even if students have strong intentions to use smartphones to learn a language, they will not do so if they do not have access to a smartphone, as well as the necessary credit or internet access. Figure 4.2 provides a visualisation of the TIB.

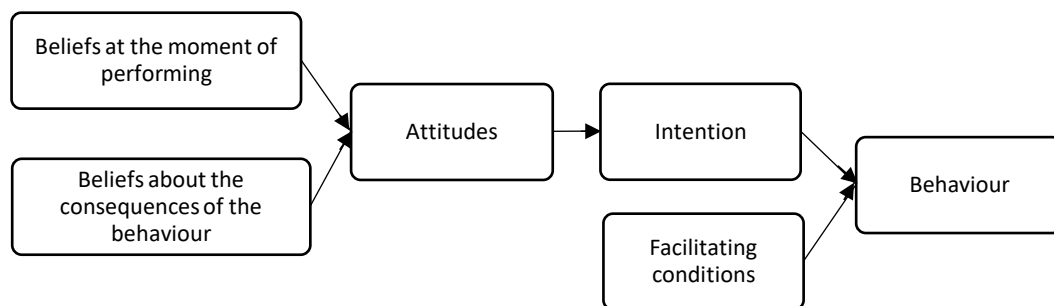


Figure 4.2: The theory of interpersonal behaviour (TIB) by Triandis (1979)

4.5. Expectation Disconfirmation Theory

Expectation disconfirmation theory (EDT) was proposed by Oliver (1980) and has been used by researchers to investigate consumer satisfaction and resulting repurchase intentions. Oliver's (1980) EDT was based on three processes in users' behaviour: their pre-usage expectations (beliefs) about a product, their usage experience, and their post-usage perceptions of the product. Accordingly, Oliver (1980) included three stages in his theoretical model: pre-use attitude and intention, a disconfirmation period, and post-use attitude and intention (Figure 4.3).

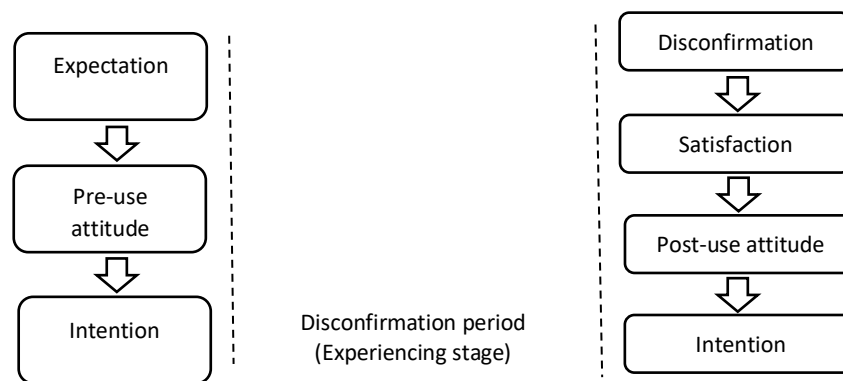


Figure 4.3: The expectation disconfirmation theory EDT by Oliver (Oliver, 1980)

In the first stage of Oliver’s (1980) model, an intention to purchase a product is mediated by a person’s attitude towards that product, which is formed by their expectations (beliefs) about it. This stage is followed by the disconfirmation period, which Oliver introduced as the experiencing stage. In this period, the consumer finds out about the extent to which the product meets their expectations. In the final stage, the consumer’s intention to repurchase a product is mediated by their post-use attitude, which is formed by their satisfaction with the use of the product. This satisfaction depends on the degree to which their original expectations have been disconfirmed. The lower the level of disconfirmation, the higher the level of satisfaction. In other words, disconfirmation of the initial expectations results in dissatisfaction with the product, and vice versa.

Focusing on the importance of continuous use of an information system (IS), Bhattacharjee (2001) took *perceived usefulness* from the technology acceptance model (TAM) developed by Davis (1985) and combined it with EDT to theorise a model to study people’s post-use attitude and intention to use an IS. However, the review of literature in this chapter indicated that most SALL literature lacks theory-based studies of students’ and teachers pre- and post-use attitudes towards the use

of smartphones for educational purposes. This means that there is a gap in terms of the existence of the models that can be used to study teachers' and students' pre- and post-use attitudes. This is an important gap which this thesis attempts to address by integrating EDT, TIB, and the user acceptance models.

4.6. The Pre- and Post-use Attitude Models of the Project

As explained in section 4.3., Venkatesh et al. (2003) compared the eight existing user acceptance models through an empirical study. The results of this comparison showed that *perceived usefulness*, *perceived ease of use*, *perceived behavioural control*, *job-fit*, *complexity*, *relative advantage*, *outcome expectations*, and *extrinsic and intrinsic motivation* were the more significant determinants of intention to use technology in these models. These constructs reflect expectations and beliefs about the consequences of a person's own behaviour or beliefs about their own feelings at the time of engaging in the behaviour.

However, as Venkatesh et al. (2003) noted, some of these determinants address similar beliefs, e.g., *perceived ease of use*, *perceived behavioural control*, and *complexity*. Consequently, of these three constructs, only *perceived ease of use* was considered in the attitude and intention models in this project. Similarly, from *perceived usefulness*, *job-fit*, *relative advantage*, *outcome expectation*, and *extrinsic motivation* which were similar, two constructs – *perceived usefulness* and *relative advantage* – were included. *Perceived ease of use* and *perceived usefulness* were included as they had both shown higher impacts in comparison to other similar factors as tested by Venkatesh et al. (2003) and were used in more models (e.g., TAM, C-TAM-TPB, Extended TAM). *Relative advantage* was included for its potential to assist with the understanding of users' preferences among available technologies.

Three more constructs in the user acceptance models were similar to *intrinsic motivation – affect toward use* and *affect* from Thompson et al.'s (1991) MPCU and Compeau and Higgin's (1995), and *perceived playfulness* from Moon and Kim's (2001) Extended TAM. Based on Csikszentmihalyi's (1975) theory of flow, Moon and Kim (2001) introduced three dimensions of intrinsic motivation – enjoyment, curiosity, and concentration – and used *perceived playfulness* to test users' intrinsic belief as one of their three constructs representing users' acceptance of the internet. However, they noted that playfulness by itself may not reflect the totality of *intrinsic motivation*. Therefore, to examine all three dimensions of the construct, both *affect towards use* and *perceived playfulness* have been included in the current project's models. *Affect towards use* was included to examine teachers' and students' level of enjoyment at the time of working with their smartphones and *perceived playfulness* to examine their sense of curiosity and concentration which they might feel at the time of interacting with their device.

The final construct included in the current project's models of attitude and intention to use SALL was *facilitating conditions*. *Facilitating conditions* was not one of the more significant determinants of intention to use technology in Venkatesh et al.'s (2003) user acceptance models, but it was included in this project's models because, according to Triandis' (1979) TIB, intention to use technology will not result in actual use if the necessary facilitating conditions are not available. Additionally, while validating the UTAUT in organisational settings, Venkatesh et al. (2003) argued that it was necessary to provide facilitating conditions for older and less experienced workers. Furthermore, the necessity of technical support and ICT skill training have constantly been noted by the

researchers in ELT literature too (e.g., Kessler & Hubbard, 2017; Pierson, 2001; Raman & Yamat, 2014; Shuldman, 2004; Van Braak, 2001).

In summary, the model used in this project to study teachers' and students' pre-use attitudes and intentions to use SALL consisted of six constructs – *perceived ease of use* (PEU), *perceived usefulness* (PU), *perceived playfulness* (PP), *affect towards use* (AU), *relative advantage* (RA), and *facilitating conditions* (FC). The first five constructs were chosen from the most significant determinants of attitude towards use of technology in the existing user acceptance models (Venkatesh et al., 2003), while the final construct was taken from the theory of interpersonal behaviour (TIB). Table 4.1 provides definitions of the project's models' constructs.

Table 4.1: Definition of the project's models' constructs

Constructs	Definition
Perceived ease of use (PEU)	"The degree to which a person believes that using a particular system would be free of effort" (Davis, 1985, p. 82).
Perceived usefulness (PU)	"The degree to which a person believes that using a particular system would enhance his or her job performance" (Davis, 1985, p. 82).
Perceived playfulness (PP)	People's perception of the holistic sensation that they feel when they act with total involvement (Csikszentmihalyi, 1975).
Affect towards use (AU)	"A feeling of joy, elation, or pleasure or depression, disgust, displeasure, or hate associated by an individual with a particular act" (Triandis, 1979, p. 211).
Relative advantage (RA)	"The degree to which using an innovation is perceived as being better than using its precursor" (Moore & Benbasat, 1991, p. 196).
Facilitating conditions (FC)	Objective factors that make an act easy to accomplish (Triandis, 1979).

As covered in 4.3., the user acceptance models outline the constructs which shape users' attitudes and intentions with respect to the use of technology and TIB highlights the presence of *facilitating conditions* which are necessary for a user's intention to result in actual behaviour and use of technology. Therefore, the project's pre-use attitude and intention to SALL model with its six constructs can be visualised as in Figure 4.4.

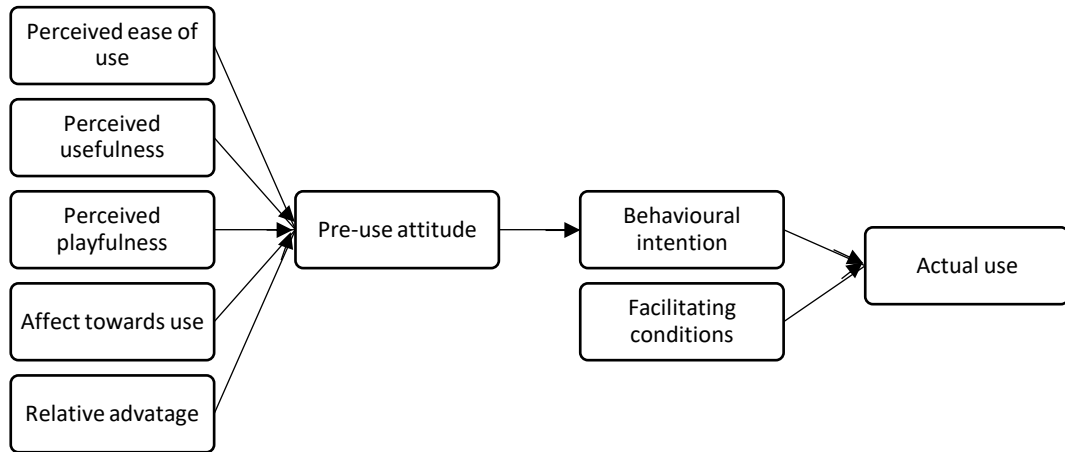


Figure 4.4: The projects' pre-use attitude and intention to SALL model with its six constructs

The technology acceptance literature has recommended an examination into the impacts of potential moderating factors that might influence people's attitudes and intentions to use technology (e.g., Moon & Kim, 2001; Sun & Zhang, 2006). Moon and Kim (2001) recommended to account for differences between technology types, participants' demographics, and study settings while hypothesising possible moderating factors of attitudes and intentions. They also suggested that researchers consider the impacts of externally controllable factors such as training, organisational support and policy, and individual as well as task characteristics on users' acceptance of the internet. Venkatesh et al. (2003) investigated the impacts of age, gender, experience, and voluntariness of use on employees' intention to use IT in workplaces, and Wang et al. (2009) examined the impacts of age and gender on user acceptance of m-learning. Both groups of researchers confirmed the significant impacts of the respective moderating factors which they tested.

Considering Moon and Kim (2001) recommendations above, study 1 of the project investigates the impacts of students' gender, English language proficiency, and amount of smartphone use on their attitudes and intentions to SALL. The result of this investigation helps inform teachers, material developers, and app designers

of the factors that they need to consider when designing tasks, activities, materials, and apps for students. Study 2 examines any correlations between EALD teachers' age, gender, qualification, teaching experience, and amount of smartphone use, and their attitudes and intentions to use the device for English language teaching. This result can assist English language institutions and their stakeholders in predicting the possibility of the implementation of SALL in their institution.

To be able to study EALD teachers' and students' post-use attitudes and intentions to SALL in study 1 and study 3, a separate model was generated. According to the EDT, the level of disconfirmation/confirmation of a person's expectations about a product determines their level of satisfaction, post-use attitude, and continuous intention and use. With regards to what the EDT explains, teachers' and students' confirmation of the six constructs used in the pre-use attitude model can reveal their satisfaction, post-use attitudes, continuous intentions and use of smartphones for educational purposes. Therefore, the projects' post-use attitude and intention to SALL can be visualised as in Figure 4.5.

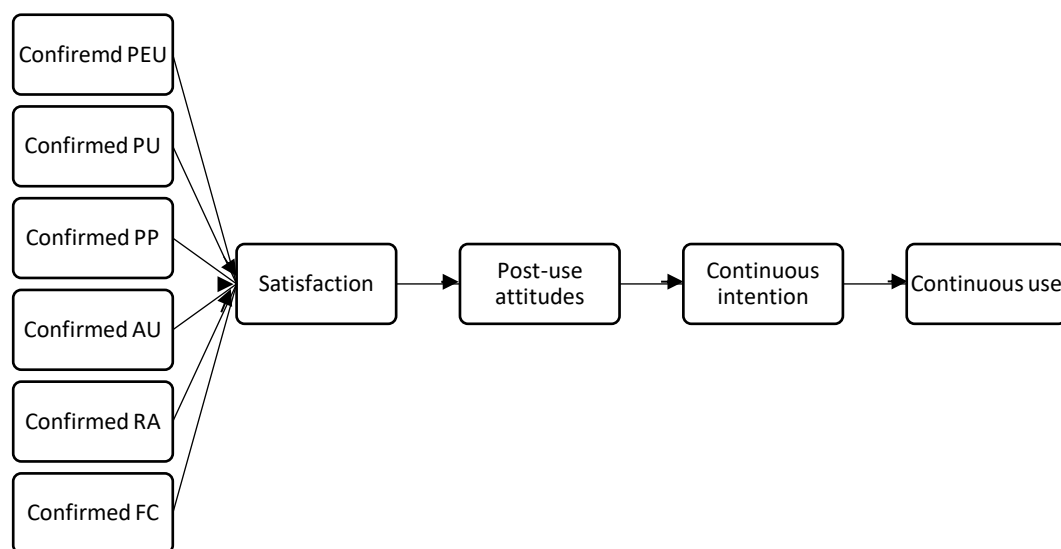


Figure 4.5: The projects' post-use attitude and intention to SALL model with its six constructs

The presented models with their six constructs – *perceived ease of use* (PEU), *perceived usefulness* (PU), *perceived playfulness* (PP), *affect towards use* (AU), *relative advantage* (RA), and *facilitating conditions* (FC) – guided the choice and adoption of Likert scale items in the pre- and post-use questionnaires used in the three empirical studies of the project (as will be detailed in Chapter 5, which outlines project's methodology). These models also guide the discussion of the results in these studies in Chapters 7, 8, and 9.

CHAPTER 5: METHODOLOGY

5.1. The Project Design

The current PhD project investigated the possibility of using smartphones for English language teaching and learning in EALD classroom settings from pedagogical and attitudinal perspectives. The project included a pilot study and three empirical studies. The pilot study and first empirical study (study 1) were both conducted at an Australian university English language centre. The pilot study was run prior to study 1 to allow the researcher to test the validity and reliability of the pre-use attitude questionnaires and to gain an impression of teachers' and students' attitudes towards SALL as well as their readiness to take part in study 1.

Study 1 looked at the possibility of the implementation of Smartphone Assisted Language Learning (SALL) by EALD teachers at the English language centre by examining teachers' and students' pre- and post-use attitudes towards SALL. Study 2 ran globally and investigated EALD teachers' current adoption and attitudes towards smartphone use for English language teaching. It also looked at the possible impacts on such attitudes of differences in teachers' age, gender, type of mobile phone, qualifications, teaching experience, and previous experiences in the use of smartphones for teaching English.

Study 3 examined the possibility of incorporating smartphone use into students' vocabulary and pronunciation learning in a communicative language teaching (CLT) classroom environment. A four-session course was designed and implemented by the researcher in a small class at the Australian university. Students' pre- and post-use attitudes towards the use of smartphones and their perceptions of the course were investigated. The course was also reviewed by two

CELTA/Delta experts, who provided their perspectives on the use of smartphones in the course.

5.2. Methodological Considerations

Study 1 and study 3 were quasi-experimental and each included an intervention, evaluating the impacts of a treatment on a target population, without random assignment (Dörnyei, 2007; Gribbons & Herman, 1997). According to Dörnyei (2007), a lack of random assignment is not a problem where studies are conducted in authentic educational settings with genuine students. Additionally, in their meta-analysis of the effect size of randomised experimental studies, Heinsman and Shadish (1996) reported that well-designed quasi-experimental research can yield accurate results that are comparable to those from randomised designs. The intervention studies in this project entailed in-group rather than between-group comparisons, since they examined the pre- and post-use attitudes of the same treatment or experimental group(s).

All three studies took advantage of the triangulation of data, specifically through using questionnaires, interviews and observations in studies 1 and 3, and questionnaires and interviews in study 2. Triangulation helps to overcome the weaknesses associated with limited data sources (Hammersley, 2008; Mackey & Gass, 2015). It also “improve[s] the validity of research and increase[s] the generalizability through the convergence and corroboration of the findings” (Dörnyei, 2007, pp. 43-47).

5.3. Research Ethics

The researcher obtained separate ethical clearances for the studies from the University of Adelaide’s Human Research Ethics Committee (HREC) prior to

conducting any relevant data collection. Ethical principles were respected thoroughly during the study procedures, including the respondents' right to be informed of the data collection and aims of the research, their right to privacy and anonymity and their right to withdraw, as well as the confidentiality of their responses.

5.4. Data Collection

5.4.1. Sampling Strategy

Convenience sampling was chosen as the most practical sampling strategy in all studies of the project including the pilot study, due to the challenges in finding participants for study 1 and study 3 and to the global nature of the data collection in study 2. Convenience sampling has been cited as the most feasible and least costly sampling strategy, making it the most common sampling approach in second language learning research (Dörnyei, 2007; Marshall, 1996; Miles & Huberman, 1994). According to Dörnyei (2007, p. 99), the willingness of the participants to partake in convenience sampling is “a prerequisite to having a rich dataset”.

5.4.2. Participants

The pilot study and study 1 were both carried out at an Australian university English language centre. The pilot study was carried out in term 9 (November 2018) and study 1 was conducted in terms 8 and 9 (From October to December 2019). Invitation emails were sent to all teachers and students in level 3B and above. The students' coursebook for level 3B – *Global intermediate course book* – showed that level 3B in this language school matches intermediate or level B1 in the Common European Framework of Reference (CEFR). Level 1 and 2 students were not invited

to participate, as their level of English would not have been sufficient for them to answer the study's pre-use questionnaire.

Participants in the pilot study were seven teachers and 55 students (following data screening). Four teachers and 138 students completed the study's pre-use attitude questionnaire and all four teachers (with their 47 students) agreed to take part in the intervention and the rest of the study. However, only three teachers and 19 students downloaded and used the recommended app during the intervention period. These three teachers also attended the pre- and post-use interviews. Of the 19 students who used the app, five took part in the pre-use interview and six in the post-use interview.

The data for study 2 were collected globally, and EALD teachers from different parts of the world, who had been teaching students over the age of 18 within the last five years, were invited to take part in the study. The quantitative data for this study, collected through online questionnaires using the Qualtrics platform, comprised 117 completed questionnaires. Thirty-three questionnaires, which were more than 50% incomplete, were excluded and the remaining 84 were analysed. Of the 84 teachers who submitted these responses, 37 expressed their willingness to take part in an interview and nine eventually participated.

Study 3 was carried out at the same Australian university as study 1. A smartphone-assisted vocabulary and pronunciation learning course with four 90-minute sessions was designed for EALD students completing their bachelor or master's degrees at the university. Three master's degree students volunteered to participate in the pre-use data collection, the course (intervention), and the post-use data collection. The pre-use interview was conducted face to face and the rest of the data was collected through online questionnaires and interviews. The short

length of the course and the limited number of participants were due to the COVID-19 lockdown enforced in Australia at the time of data collection (at the end of summer and the beginning of spring in 2020).

After the post-use data collection, invitation emails were sent to CELTA/Delta training centres worldwide, inviting their specialists to review and provide feedback on the course. Two experts, each with more than 10 years' experience in teaching Cambridge teacher training courses such as CELTA, ICALT, and Delta, reviewed and evaluated the course after its implementation and took part in online interviews to discuss their perspectives on the use of smartphones in language teaching.

5.4.3. Instruments

Questionnaires, interviews, observations, and feedback sheets were used as the sources of data in this project. The teachers' and students' preliminary pre-use questionnaires were tested in the pilot study. In study 1, pre-study observation was used to identify the tasks and activities with which smartphones could be integrated. Questionnaires and interviews were used to collect pre-and post-use data, and observation were used to follow teachers' and students' use of smartphone apps and features which were recommended by the researcher inside the classroom and during the intervention.

In study 2, questionnaires and interviews were used to collect information globally about EALD teachers' usage and attitudes towards smartphones as educational devices that can be used for English language teaching and learning. In study 3, questionnaires were used to collect pre- and post-use data from the students. The course was taught by the researcher, so that all the class tasks and activities were observed by her at the same time. Students used a feedback sheet which was shared with them online, allowing them to provide instant feedback on

the lessons. Feedback sheets were used to gain CELTA/Delta experts' perspectives on the course, and interviews were used to investigate their attitudes towards the use of smartphones for teaching English.

5.4.3.1. Questionnaires

Questionnaires are defined as “any written instruments that present respondents with a series of questions or statements to which they are to react either by writing out their answers or selecting from among existing answers (J. D. Brown, 2001, p. 6). Questionnaires generally gather three types of information from their respondents – factual, behavioural, and attitudinal – and are structured, with closed-ended questions; unstructured, with open-ended questions; or semi-structured, with a combination of both (Dörnyei & Taguchi, 2009).

Structured questionnaires provide the most suitable data for quantitative and statistical analysis (Cohen et al., 2013; Dörnyei, 2007); however, to give the participants a chance to express answers and ideas which were different from the questionnaire choices, semi-structured questionnaires were used in this PhD project. A range of advantages have been attributed to the use of questionnaires, including ease of constructing, affordability, wide coverage, rapidity, and anonymity (Cohen et al., 2013; Dörnyei, 2007; Oppenheim, 1992; Wilson & McClean, 1994).

Four separate semi-structured preliminary questionnaires were designed which included students' pre- and post-use attitude questionnaires (Appendices A1 and A3), and teachers' pre- and post-use attitude questionnaires (Appendices A5 and A7). The pre-use questionnaires were tested in the pilot study. These preliminary questionnaires were adapted and used in the three studies of the project, either on paper or online, depending on the study, its context, the participants, and conditions.

All questionnaires started with an introduction section including the researcher's name, a short description of the aims and objectives of the study, and a sentence assuring participants of the confidentiality of their responses. The participants were also informed that the completion of the questionnaire would be taken to indicate consent to the use of their data.

Both teachers' and students' pre-use attitude questionnaires consisted of two main sections. Section A included close-ended questions with the choice of 'other' and a text box as the final option, allowing participants to specify their response if it was different from the given options. The final question in section A of the students' questionnaire was presented in the form of a matrix and included 19 pre-defined specific uses of smartphones in relation to language learning, based on students' weekly use of their smartphones.

Section B consisted of a set of 12 Likert scale questions related to the respondents' attitudes towards using their smartphones for language learning. The scale was designed with six points: "strongly agree", "agree", "neither agree, nor disagree", "disagree", "strongly disagree", and "not applicable". According to Taylor and Heath (1996), Likert scales are the most dominant method of measuring social and political attitudes. In addition, while Likert scale questions are simple and easy to answer (Neuman, 2000), "[their] responses give a wider range of possible scores and increase ... the statistical analyses that are available", making them suitable for correlation analysis (Pallant, 2013, p. 9).

The students' post-use questionnaires included two parts. Part A consisted of a range of questions in relation to students' use of smartphones in their class during the intervention and the problems they faced. Part B included 12 Likert scale questions related to their post-use attitudes towards using their smartphones for

language learning. The scale was the same as that used in the pre-use questionnaires. The teachers' post-use attitude questionnaire consisted of 12 Likert scale questions asking them about their post-use attitudes.

The pre- and post-use attitude and intention models of the project directed the choice of Likert scale items/questions. The items were chosen from the most used items in the previous user acceptance studies and were adapted to match the technology employed in this project's studies (smartphone), context of the studies (ELT settings), and the post-use attitude model (confirmation of the expectations and beliefs of the participants). Two items were chosen and used for each construct of attitude and intention in the pre-use and post-use models, taking the number of items in the Likert scales to 12. For instance, the item "It is easy for me to become skilful at using WWW" in Moon and Kim's (2001, p. 228) questionnaire, which evaluated participants' perception of ease of use of the internet, was adapted and changed in the students' pre- and post-use questionnaires on attitudes and intentions with respect to SALL.

The adapted item in the pre-use questionnaire was as follows:

"It is/would be easy for me to become very good at using my smartphone for English language learning".

The adapted item in the post-use questionnaire was as follows:

"Becoming skilled at using my smartphone for English language learning was easy".

5.4.3.2. Interviews

An interview is defined as a structured and purposeful conversation which "goes beyond the spontaneous exchange of views and becomes a careful questioning and listening approach with the purpose of obtaining thoroughly tested knowledge"

(Kvale & Brinkmann, 2009, pp. 5-6). Similar to questionnaires, interviews can be structured, unstructured, or semi-structured depending on the focus of study.

The advantage of interviews is that they produce in-depth data, the possibility for clarification from the interviewer, and chances of elaboration from the interviewee. Fraenkel and Wallen (2006) focus on the importance of following questionnaires with interviews. Therefore, in all three studies of the project, the questionnaires were followed by online or face-to-face semi-structured interviews (Appendices A2, A4, A6, and A8) with the participants, either individually or in groups. This gave them the chance to “elaborate on the issues [freely and] in an exploratory manner” (Dörnyei, 2007, p. 136).

5.4.3.3. Observations

Observation is a method of generating data in which the researcher is engaged in the research setting to observe “social actions, behaviour, interactions, relationships, events, as well as spatial, locational and temporal [...] dimensions in and out of that setting” (Mason, 2017, p. 84). Depending on the aims and objectives of the data collection, the observer can act as a peripheral member/complete observer, an active member who can be added to the data, or a complete participant who is fully immersed in the group and is part of the data (Adler & Adler, 1987).

Observations can also be structured, semi-structured, or unstructured. In structured observation, the observer uses a specific observation protocol which is usually completed by ticking boxes, whilst in the unstructured observation, the observer needs to narrate everything in the form of notes, maps, and diagrams. Semi-structured observation, is a combination of both (Dörnyei, 2007). Observation is a valuable data collection instrument for providing contextual information and

“it allows the researchers to see directly what people do without having to rely on what they say they do” (Dörnyei, 2007, p. 185).

Two observations were carried out in this research project. These were “semi-structured with a prepared protocol”, which included tick boxes and open boxes for discussion points (Appendix A9). The first was carried out prior to study 1, with the researcher observing a course at the Australian university English language centre of the study for four weeks to become familiar with the course and its contents and to find out which activities and tasks might benefit from the use of smartphone features and apps. The second observation was carried out during the incorporation of SALL in study 1 and study 3, to see how the researcher’s recommended smartphone features and apps were used by the students.

5.4.3.4. Feedback Sheets

In study 3, the students provided instant feedback about the lesson to the teacher at the end of each session, answering feedback questions shared with them via their smartphones (Appendix D6). At the end of course, the course contents were sent to two CELTA/Delta experts for their feedback. The experts were asked to complete the related feedback sheet which was sent to them (Appendix D8) and to annotate the course file if necessary.

5.5. Data Analysis

In all three studies, statistical package for the social sciences (SPSS) version 26 was used to analyse the questionnaire data whenever the number of the participants was appropriate for such analyses. Otherwise, Microsoft Excel was used simply to find the sum and mean. Microsoft Excel was also used to design related graphs and

charts. NVivo version 12 was used to analyse the responses to open-ended questions in the questionnaires and the interview data.

5.5.1. Quantitative Data Analysis Procedures and Techniques

First the data was coded and entered onto the software platform. Since the questionnaires were almost structured, meaning that most of the response choices were predefined, their coding was carried out based on the number of response choices for each question. For instance, the three response choices for the participants' gender were coded from 1 to 3 as follows: 1 (Female), 2 (Male) and 3 (Other). Likewise, participants' choices in the question on participants' weekly smartphone use, which was presented in the form of a matrix, ranged from 1 (never) to 5 (more than 30 times), and the Likert scale anchors ranged from 1 (strongly disagree) to 5 (strongly agree). As there were no negatively worded items in the scale, there was no need to reverse any point values. For open-ended questions, all participants' responses were scanned, and common themes or similar responses were grouped and coded.

Descriptive statistics were used to analyse the participants' responses to most questions in part A. The analysis of the final question of section A of the students' and teachers' pre-use questionnaires, which was presented in the form of a matrix and asked about participants' weekly specific uses of their smartphones in relation to English language learning, had more steps. A descriptive analysis was carried out to ascertain the frequency and percentage of the respondents' smartphone use in relation to English language learning. A descriptive analysis was also carried out to calculate participants' average usage for each smartphone activity.

Finally, to find out about the participants' smartphone use habits in regard to English language learning, participants' total scores for each predefined usage type

were calculated. The value of the number of the questions in the matrix which were answered by the participants [e.g., 16 out of 19 different uses in students' questionnaires x 1 (never) = 16], which was a fake value, was deducted from each individual total score, and the new result was coded again. The new codes ranged from 1 (zero/never) to 4 (more than 30 times). Four kinds of participants were also defined based on their weekly amount of smartphone use in regard to language learning as follows: non-users (0 time), Occasional users (1 to 15 times), Frequent users (16 to 30 times) and extensive users (more than 30 times). Finally, to ascertain the frequency and percentage of each type of user, the new coded data were analysed using descriptive statistics.

Whenever the number of the participants was sufficient to permit the running of statistical analyses, reliability and validity tests were carried out, and the mean and standard deviation were checked to investigate participants' attitudes. The normal distribution of the data was also checked to assist in choosing appropriate techniques for checking the significance of the results and running correlation tests to check the impacts of factors such as age, gender, level of English language proficiency, teaching experience, smartphone type, and amount of smartphone use on participants' attitudes and intentions to use smartphones for language educational purposes.

One-sample t-tests were conducted to check if the results of the descriptive analysis of the Likert scale data was significant. Independent-samples t-tests were conducted to explore the impact of the variables for two groups (e.g., gender or type of smartphone) on attitudes. One-way between-groups analysis of variance (one-way ANOVA) was used to explore the impacts of variables with more than two groups (e.g., age and years of teaching experience) on attitudes. If the number of

participants was small, the necessary analysis, which mostly included finding the sum and/or mean, was carried out in Microsoft Excel.

5.5.2. Qualitative Data Analysis Procedures and Techniques

According to Dörnyei (2007), vignettes, short story-like narratives that provide focused descriptions of participants' experiences, are an essential analytical tool in qualitative content analysis. Therefore, the interview data were transcribed in the form of vignettes that included important notes and quotes from the interviews. These vignettes were reviewed, coded and thematised either manually or using NVivo. For each study, the first two interviews were reviewed, the main nodes/codes were highlighted, and sub-themes and themes were extracted. The extracted themes and sub-themes were reviewed, commented on, and validated by the researcher's three supervisors, and the remaining interviews were thematised based on the approved themes and sub-themes (see Table 5.1).

Table 5.1 : Examples of thematising and coding development in interview data

Samples of data	Codes/Nodes	Sub-themes	Themes
<i>"I think that screen size is a real disadvantage. The students often access their e-text using their mobile phone and it is very slow and difficult to navigate on such a small screen and I also think the reading experience is different from reading on paper and I think that is one of the biggest disadvantages for language learning. in fact, that reading is quite unsatisfactory I think on a small screen, even on a big screen I don't think it's really the same as reading paper."</i>	Small screen size	Smartphone disadvantages	Relative advantages (attitude towards SALL model construct)
<i>"The bad side is it can be a huge distraction if for example I am trying to do something and the phone is being a desk and then they get messages from mates or whatever and it's hard for me to know if they are genuinely studying, especially some of the young ones I don't know if they're doing what they should be doing, Coronavirus alert you know today that was an example."</i>	Distraction		
<i>"Another disadvantage is that they are not reliable very often. Maybe the phone is not charged up and students need to find a place to be able to charge their phone and they might not find a plug socket."</i>	Not reliable		

The observation data in this project were also semi-structured. An observation protocol (appendix A9) was used to record all the necessary information in relation to the teachers' and students' use of smartphones in class during the intervention and the observation notes were used to support questionnaire and interview results in the discussion sections of study 1 and study 3.

5.6. Validity and Reliability

Validity is referred to as the degree to which the measurement instruments measure what are intended (Dörnyei, 2007; Kimberlin & Winterstein, 2008; Pallant, 2013). Different forms of validity have been introduced in the literature: face validity, content validity, criterion validity, concurrent validity, and construct validity). Face, content, and construct validity assessments were carried out in this PhD project.

The first step towards ensuring content validity is to carry out a comprehensive literature review to extract your Likert scale items (Taherdoost, 2016). To ensure the content validity of the pre-and post-use attitude towards use scales, the Likert scale items in the project's questionnaires were adapted from the items used in the previously validated user acceptance models reviewed in Chapter 4. Face and content validity are also usually assessed qualitatively through experts' and nonexperts' subjective opinions (Burton & Mazerolle, 2011; Drost, 2011; Morrison, n.d.; Taherdoost, 2016). Therefore, all the data collection instruments – questionnaires, the interview questions, observation protocols, and feedback sheets – were sent to the researcher's supervisors for their expert opinion, and the questionnaires were trialed by four PhD candidates at the University of Adelaide for face and content validity.

Construct validity, referring to the degree to which a survey measures its theoretical constructs, is an assessment which is carried out through factor analysis (Burton & Mazerolle, 2011; Pallant, 2013). Factor analysis comes in two forms: exploratory, which is used to examine the correlation among variables; and confirmatory, which is used to examine “the underlying structure of a set of variables” (Pallant, 2013, p. 188). As explained, the attitude and intention constructs in the study models were chosen from among the verified constructs used in the existing user acceptance models and the Likert scale items were also chosen from the verified items used in these studies. Therefore, this study used principal component analysis (PCA), a common exploratory factor analysis method, to reconfirm that all the items in the pre- and post-use attitude and intention scales of the questionnaires correlated to one another and measured teachers’ and students’ attitudes and intentions, and their acceptance of the technology.

Reliability, which is defined as the consistency of a measurement over time or a variety of conditions, is most commonly estimated by analysing the correlation between two or more variables measuring the same thing (Drost, 2011; Rosenthal & Rosnow, 2008). This means that “equivalence, stability over time, and internal consistency” are what matters in such an assessment (Drost, 2011, p. 108). Various methods such as test re-test reliability, alternative forms, split-halves, inter-rater reliability, and internal consistency (Drost, 2011; Mohajan, 2017), have been designed to indicate the reliability of a chosen scale, or, in other words, “how free it is from random error” (Pallant, 2013, p. 6).

The two most commonly used methods to assess the reliability of a scale are internal consistency and test re-test reliability (Dörnyei, 2007; Howitt & Cramer, 2007; McCrae et al., 2011; Pallant, 2013). Internal consistency is measured by

assessing the Cronbach's alpha coefficient and test re-test reliability (which determines long-term stability and internal consistency) is measured by assessing the correlation between scores received from the same sample using the same scale on two different occasions (Pallant, 2013). However, as explained in Chapter 3, attitude changes, meaning that test-retest reliability was not an appropriate reliability test in the current project. Therefore, this project tested reliability using Cronbach's alpha coefficient. As explained, the pilot study in the project gave the researcher the opportunity to examine the validity and reliability of the teachers' and students' preliminary pre-use questionnaires. Chapter 6 presents the pilot study.

CHAPTER 6: PILOT STUDY

6.1. Introduction

Carrying out a pilot study, a small version of a study that helps with testing different aspects of that study and identifying its potential deficiencies is recommended by research methodologists (Dörnyei, 2007). Accordingly, a small-scale study was run to examine the pre-use questionnaires and validate the constructs of the project's attitude models. The results of this study provided initial impressions of the teachers' and students' attitudes towards the implementation of SALL.

6.2. Theoretical Framework

As explained in Chapter 4 section 4.6., the researcher created her own pre- and post-use attitude models with six constructs that were extracted from the EDT, TIB, and user acceptance models. The pre-use model presented *perceived ease of use* (PEU), *perceived usefulness* (PU), *perceived playfulness* (PP), *affect towards use* (AU), and *relative advantage* (RA) as the five determinants of attitudes to using smartphones, and considered *behavioural intentions* and *facilitating conditions* (FC) as the direct determinants of the actual use of smartphones for educational purposes (Chapter 4; Figure 4.4). The post-use model showed that the confirmation of these six constructs reflects the users' satisfaction and their post-use attitudes and intentions which allow their continuous use of smartphones for language teaching and learning purposes (Chapter 4; Figure 4.5).

These six constructs directed the choice of Likert scale items in the pre- and post-use questionnaires used to collect data in the three empirical studies of the thesis including the Likert scale items in the preliminary teachers' and students'

pre-use questionnaires examined in this pilot study. The constructs and their underpinning models and theories – user acceptance models, the TIB, and the EDT – also allowed the researcher to discuss the results of the studies and the participants’ attitudes and intentions to use smartphones for educational purposes.

6.3. Data Collection

The pilot study was carried out in November 2018. All teachers (N = 12) and students who were in level 3B, 3A and 4/5 (N = 75) were invited to take part in the study and answer their related pre-use attitude and intention questionnaire. Eight teachers and 66 students returned their questionnaires; however, one teacher’s questionnaire and eleven students’ questionnaires were incomplete and, as a result, they were excluded from the pilot study data analysis. Therefore, seven teachers and 55 students made up the sample participants in the pilot study.

6.4. Data Analysis and Results

SPSS version 26 was used to analyse the questionnaire data collected for the purpose of the study following the data analysis procedures explained in Chapter 5.

6.4.1. Teachers’ and Students’ Demographics

All seven participating teachers and 32 (58.2%) of the participating students were female. All the teachers were above 35 years of age while the majority of the students (n = 53; 96.5%) were under 35, with 45 (82%) between 18 and 25 years of age.

6.4.2. Teachers’ and Students’ Smartphone Ownership and Use

All the teachers and students had a smartphone, with ten (18.2%) students having more than one. All the teachers’ and 98.2% (n = 54) of the students’ smartphones ran Android or iOS operating systems. Furthermore, results showed that the

majority of the teachers ($n = 6$) used their phone less than three hours a day, with four of them using it for only one hour in comparison to 87% ($n = 48$) of the students who used their phone for more than 3 hours.

Students' responses in relation to their weekly English language learning-specific uses of their smartphones showed that they were more or less familiar with many of the ways they could use their phones for language learning. There was no application among the 19 applications in the matrix which had not been used by the students at all. The results in the matrix also indicated that the students most commonly used their phone for "looking at a bilingual dictionary" ($M = 4.04$), "talking to people in English" ($M = 3.96$), and "reading texts in English" ($M = 3.71$) and least commonly for "looking at grammar reference websites" ($M = 2.64$), "looking at a thesaurus" ($M = 2.33$), and "looking at a concordancer" ($M = 2.25$). The mean score for all the 19 applications in the matrix is presented in Figure 6.1.

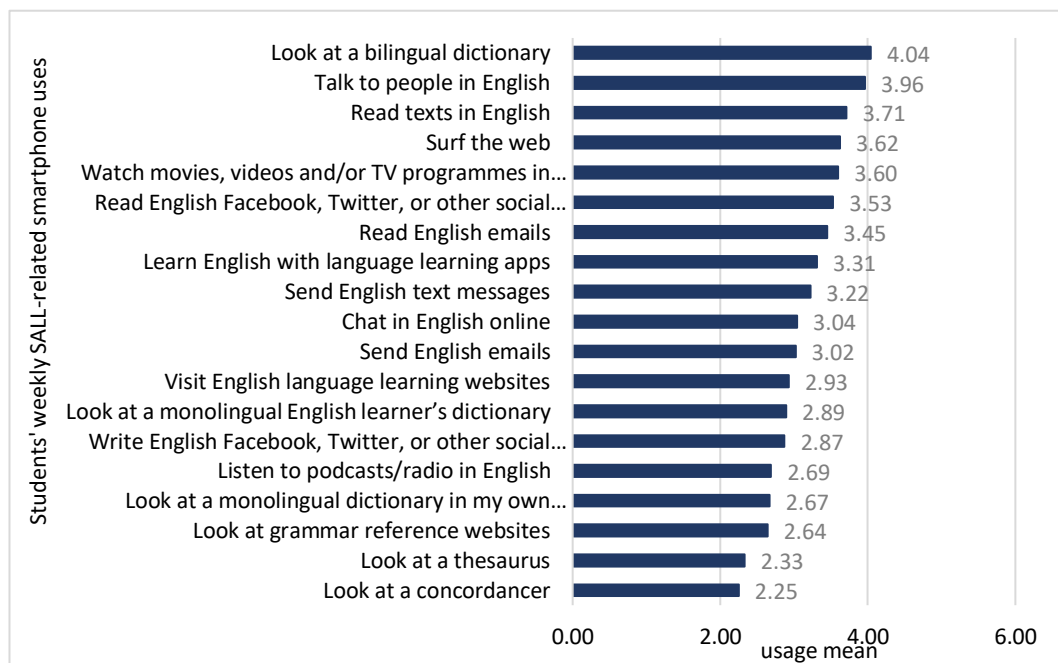


Figure 6.1: Pilot study – Smartphone specific uses (mean)

Four kinds of participants were also defined based on their weekly amount of smartphone use in regard to language learning as follows: non-users (0 times), occasional users (1 to 15 times), frequent users (16 to 30 times), and extensive users (more than 30 times; Chapter 5). The pilot study results showed that most students ($n = 44$; 80%) could be counted as extensive users of smartphones for autonomous English language learning.

6.4.3. Validity and Reliability of the Likert Scale Items

As explained in Chapter 5, face, content, and construct validity assessments were carried out in this project. For face and content validity assessment, the data collection instruments – questionnaires, the interview questions, observation protocols, and feedback sheets – were sent to the researcher’s supervisors for their expert opinion and the questionnaires were trialed by four PhD candidates at the University of Adelaide. In addition, the Likert scale items in the pre- and post-use attitude models of the project were adapted from the items used in the previously validated user acceptance models.

For construct validity assessment of the students’ Likert scale, an exploratory factor analysis was carried out using PCA via SPSS. The KMO and Bartlett’s test results indicated a KMO value of .774, exceeding the recommended value of .6 (Kaiser, 1970) and Bartlett’s test $p < .05$ reached statistical significance, indicating that the data was suitable for factor analysis. The component matrix table (Table 6.1) revealed the presence of a simple structure, with all 12 components showing substantially strong loading on component one. This suggested that all components were measuring one construct: students’ attitudes and intentions and their acceptance of SALL.

Table 6.1: Pilot study – Validity test (component matrix)

Scale items	Component		
	1	2	3
PU 2	.816		
PP 2	.723		-.371
PP 1	.716		-.447
PEU 2	.715		
PU 1	.688		
PEU 1	.624		
AU 1	.619		
RA 2	.483		.390
FC 2	.366	.710	
AU 2	.365	.691	
FC 1	.355	-.536	
RA 1	.528		.690
Extraction Method: Principal Component Analysis.			
a. 3 components extracted.			

A reliability test was also carried out to assess the internal consistency of the scale. The result indicated a Cronbach's alpha value of .813 (Table 6.2), suggesting a very good internal consistency (Pallant, 2013).

Table 6.2: Pilot study – Reliability test

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.813	.827	12

The results also indicated a strong relationship among the items of the scale, as almost all the values in the inter-item correlation matrix were positive. The corrected item-total correlation values in the item-total statistics table were also checked and the results showed a value of less than .3 for FC 1 and FC 2, proposing that the items making up *facilitating conditions* (FC) were measuring something different from the rest of the scale. The inter-item correlation matrix and item-total statistics tables are presented in Appendix A1. However, there was no need to

remove the items (FC1 and FC2) as the scale's overall Cronbach alpha was above .7 (Pallant, 2013). In addition, as shown in the study model, the first five constructs (PEU, PU, PP, AU, and RA) of the model and their items reflected the users' attitudes and intentions towards using SALL, and the sixth construct (FC) and its items confirmed the actual use of smartphones.

6.4.4. Test of Normality and Students' Attitudes Towards SALL

To find out about the participating students' attitudes and intentions with respect to using smartphones for language learning, the attitude mean for all the individual participants was calculated and a test of normality was carried out to help choose the appropriate technique for further analysis of the data collected from the Likert scale items. The result from Kolmogorov-Smirnov statistics was $p = .046 < .05$ (Table 6.3). However, the histogram (Figure 6.2) indicated a symmetrical bell-shaped curve with the greatest frequency of scores in the middle and smaller ones towards the extremes, suggesting that the data was normally distributed. The normal distribution of the data suggested the possibility of using parametric techniques to analyse the Likert scale data and assess the statistical significance of students' attitude and intention results (Dörnyei, 2007; Pallant, 2013).

Table 6.3: Pilot study – Test of normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Students' attitude scale	.120	55	.046	.963	55	.088
a. Lilliefors Significance Correction						

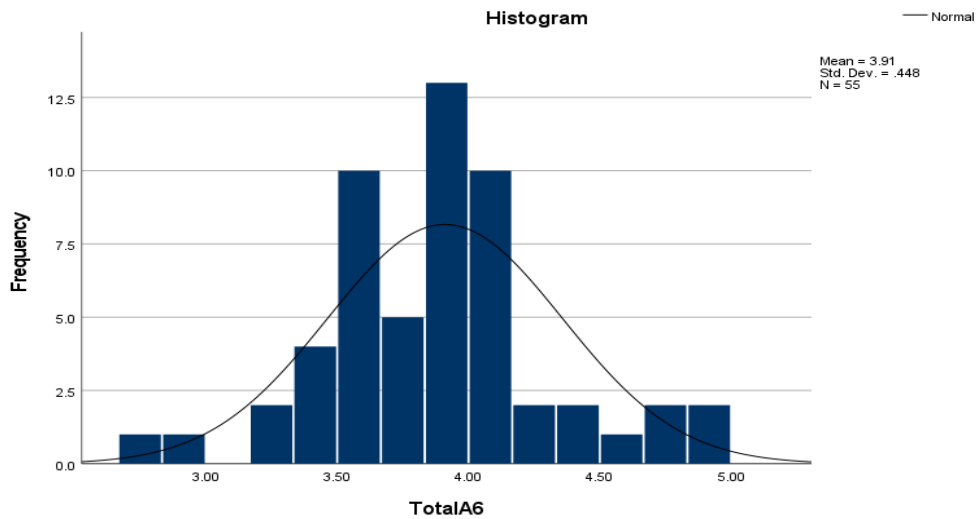


Figure 6.2: Pilot study – Total attitude histogram

Treating the choice of “not applicable” in the six-point Likert scale of the questionnaire as a missing value, the test value/mean score of the Likert scale was calculated as $\mu = 3$. The descriptive analysis of the Likert scale data indicated that the mean for all participants was typically greater than the test value for each individual item in the scale. A one-sample t-test was also run and the results showed $p < .05$ for the sig. (2-tailed) for each individual item in the scale, reflecting the positive mean difference was significant for all the 12 items of the scale (Table 6.4). This result confirmed the students’ higher agreement with all the items of the Likert scale and reflected their positive attitudes and intentions to SALL.

Table 6.4: Pilot study – One sample t-test results (students’ attitudes)

Scale items	Test Value = 3					
	df	Sig. (2-tailed)	Mean	Std. Deviation	95% Confidence Interval of the Difference	
					Lower	Upper
Perceived Ease of Use (PEU1)	54	.000	4.24	.543	1.09	1.38
Perceived Ease of Use (PEU2)	54	.000	3.96	.693	.78	1.15
Perceived usefulness (PU1)	54	.000	4.33	.668	1.15	1.51
Perceived usefulness (PU2)	54	.000	3.96	.769	.76	1.17
Perceived playfulness (PP1)	54	.000	3.78	.762	.58	.99
Perceived playfulness (PP2)	54	.000	4.15	.678	.96	1.33
Affect towards use (AU1)	54	.000	4.05	.705	.86	1.25
Affect towards use (AU2)	54	.000	3.51	.836	.28	.74
Relative advantage (RA1)	54	.001	3.53	1.069	.24	.82
Relative advantage (RA2)	54	.002	3.42	.937	.16	.67
Facilitating conditions (FC1)	54	.000	4.36	.649	1.19	1.54
Facilitating conditions (FC 2)	54	.000	3.64	.930	.38	.89

6.4.5. Teachers’ Attitudes Towards SALL

Due to the limited number of teacher participants (N = 7), statistical tests – validity, reliability, normal distribution, and t-test – were not conducted. Instead, the mean for each item of the Likert scale for all seven participating teachers was calculated and the results are presented in Table 6.5. The test value was $\mu = 3$, the same as that for the students.

Table 6.5: Pilot study – Teachers’ attitudes (test value = 3)

Scale Items	PEU 1	PEU 2	PU 1	PU 2	PP1	PP 2	AU 1	AU 2	RA 1	RA 2	FC 1	FC 2	Total
N	7	7	7	7	7	7	7	7	7	7	7	7	4
Mean	3.86	4.00	3.14	3.14	<u>2.71</u>	3.43	3.29	<u>2.57</u>	<u>2.57</u>	<u>2.00</u>	4.43	3.29	<u>3.20</u>

The comparison of the mean for each item with the test value revealed teachers' more agreement with most of the items of the scale, except with PP 1, AU 2, RA 1 and RA 2 that their mean was below 3 and reflected more disagreement.

6.5. Discussion

The pilot study results confirmed 100% smartphone ownership by the teachers and the students who participated in the study and therefore confirmed the possibility of conducting study 1 in the English Language Centre. They also indicated that the researcher only needed to consider iOS and Android operating systems when choosing an app or feature to design smartphone-assisted tasks and activities for the purpose of study 1, providing the participants with the necessary use instructions, and dealing with their technical issues during the intervention.

Furthermore, the results demonstrated the students' familiarity with the many ways they could take advantage of their phones to advance their English language learning. They also showed that students spent more time on their smartphones in comparison to their teachers. These results may indicate that students were more familiar with smartphones in comparison to their teachers, leading the researcher to hypothesise that the teachers might need more support with the use of smartphones during the intervention in study 1.

The results of the validity and reliability tests showed that the items of the Likert scale in the students' questionnaire functioned well, and the pre-use model constructs and their items appeared to measure the students' attitudes and intentions to use SALL. This result, in addition to face and construct validity tests of the questionnaires which were completed prior to the conduct of the pilot study, reflected the validity and reliability of both teachers' and students' preliminary pre-use attitude questionnaires.

Finally, the results revealed the students' and teachers' positive attitudes towards the use of smartphones for English language teaching and learning. The teachers' agreement with eight items out of the 12 items of the Likert scale was also counted as evidence of their positive attitudes and intentions to use smartphones for language teaching, as the total mean of the scale for all seven teachers was still higher than the test value. From a theoretical perspective, and according to the project's pre-use attitude and intention model presented in Figure 4.4, Chapter 4, teachers' and students' positive attitudes and intentions to use SALL could result in the actual use of smartphones for language teaching and learning in the light of the presence of the FC. However, teachers' disagreement with RA 1 and RA 2 reflected that the majority of the teachers did not prefer the use of smartphones to desktop or laptop computers and/or to a traditional classroom.

CHAPTER 7: STUDY 1

AN INVESTIGATION INTO THE POSSIBILITY OF IMPLEMENTING SALL IN AN AUSTRALIAN EALD CLASSROOM SETTING

7.1. Introduction

This chapter describes study 1, a mixed-methods quasi-experimental study that examined the practical use of smartphones for educational purposes as a part of English as an Additional Language or Dialect (EALD) courses. The study was conducted at an Australian University English Language Centre and entailed a specific focus on the use of the Evernote notetaking app by students for the creation of electronic vocabulary notebooks. The study used activity theory (AT) to describe the pedagogy underpinning the use of smartphones based on cognitivist and constructivist theories. Furthermore, it employed and used the pre- and post-use attitude models generated with reference to the user acceptance models, the theory of interpersonal behaviour (TIB), and expectation disconfirmation theory (EDT; as described in Chapter 4 section 4.6.), with the purpose of investigating the perspectives of EALD teachers and students on SALL, both before and after the intervention.

7.2. Objectives

The following objectives were pursued in the study:

- To integrate the use of a smartphone app and its features into the students' tasks and activities in an EALD course
- To investigate any possible changes in teachers' and students' attitudes and intentions towards the future use of smartphones in language teaching and learning

7.3. Research Questions

The following research questions were examined:

1. For what educational purposes do EALD students use their smartphones?
2. What were EALD students' attitudes and intentions towards the use of smartphones before the intervention and formal integration of SALL into their vocabulary notebook task?
 - 2.1. Did the students' gender, English language proficiency, and amount of smartphone use have any impact on their attitudes towards SALL?
3. What was the students' experience with the use of smartphones and the researcher's recommended app in the intervention and what were their attitudes and intentions to SALL after that stage?
4. For what educational purposes do EALD teachers use their smartphones?
5. What were EALD teachers' attitudes and intentions towards the use of smartphones before the intervention and formal integration of SALL into their students' vocabulary notebook task?
6. What was the teachers' experience with the use of smartphones and the researcher's recommended app in the intervention and what were their attitudes and intentions to SALL after that stage?

7.4. Theoretical Framework

From a pedagogical perspective, the implementation of SALL was supported by AT. Students used the Evernote notetaking app in integration with the search engines and online dictionaries to create a personal electronic vocabulary notebook. This process is illustrated in Figure 7.1.

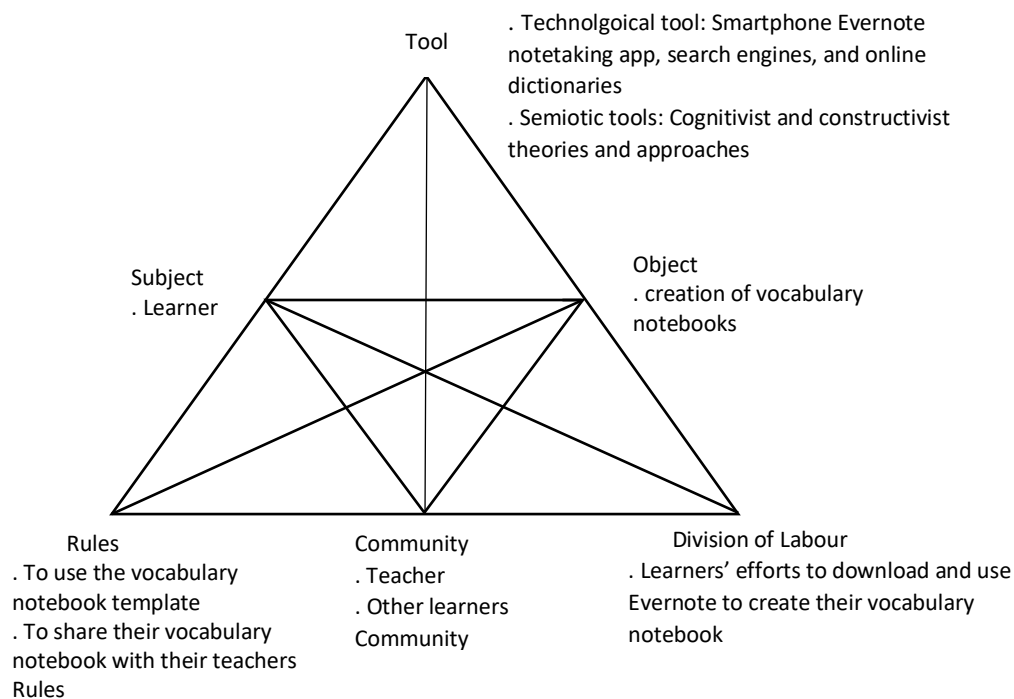


Figure 7.1: Study 1 and SALL

In Chapters 2 and 3, it was explained that creating and using a vocabulary notebook is a useful cognitive strategy which encompasses other vocabulary learning strategies and is underpinned by cognitivist theories. Looking at creating vocabulary notebooks as an objective which is achieved with the mediation of the community – the students’ peers, teachers, and the researcher – and through interactional communication with them in an activity system, the use of smartphones also helped with the implementation of constructivist theories in the current study. The rule in this activity system was defined by the teachers. According to this rule, students should use the same template they had for creating their paper vocabulary notebook and should share their notebook with their teachers for assessment. The division of labour included the students’ efforts in learning how to use Evernote to create their vocabulary notebook and review their work. Students were free to put in extra effort and information if they wanted to.

The study design and its attitude models were informed by the EDT, TIB, and user acceptance models. As outlined in Chapter 4 section 4.6., the researcher used *perceived ease of use* (PEU), *perceived usefulness* (PU), *perceived playfulness* (PP), *affect towards use* (AU), and *relative advantage* (RA) from user acceptance models, and *facilitating conditions* (FC) from the TIB, adopting them in accordance with the EDT to create two separate models to study teachers' and students' attitudes towards SALL. These models directed the design of the Likert scale items, as well as being referred to during the discussion of the study's findings. It was also explained that it is important to examine the impacts of potential factors that might influence people's attitudes and intentions (Moon & Kim, 2001; Sun & Zhang, 2006); therefore, this study also looked at the impact of students' gender, English language proficiency, and amount of smartphone on the students' attitudes towards SALL. The relevant results can provide teachers, materials developers, and app designers an impression of the factors they need to consider for the implementation of SALL.

7.5. Methodology

Formal permission to conduct the study was granted from the language school and ethical clearance was obtained from the University of Adelaide's Human Research Ethics Committee (HREC) prior to data collection (Appendix B1). The study included four stages as depicted in Figure 7.2.

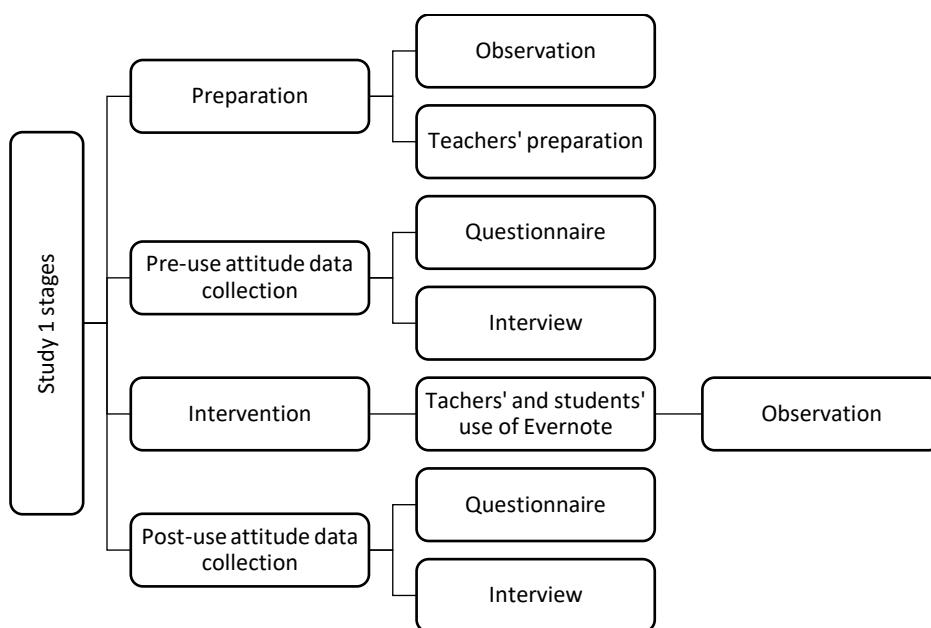


Figure 7.2: Study 1 stages

7.5.1. Preparation Stage





















An EALD class in an Australian University English Language Centre was observed for 13 sessions and details of the observation were recorded using an electronic form (Appendix A10). The class was co-taught by two teachers, each teaching for two days a week. Observations showed that the teachers did not use their phones in class, neither for language teaching nor for other purposes. The students used their phones to look up the meaning of new words, search the internet for information, or take a picture of the board (which included lesson contents and details regarding their homework). They also used their phones to check messages or chat with their family and friends when they had finished an activity and were waiting for the rest of the class to finish.

It also showed that there were three main tasks which were similar in all EALD courses in the English Language Centre and were therefore suitable for adaptation to smartphone learning for the purposes of the study: a vocabulary notebook task and two research projects. In the vocabulary notebook task, students were given 8-

12 new words daily. These words were chosen from their lessons in class, and students were required to write them down in a paper vocabulary notebook and add specific information about the words mostly at home. The research projects were already technology assisted, as students were taken to the English Language Centre's computer room twice every term to work in pairs or groups and find information about their topic to prepare their presentation. The teachers did not agree to replace the use of computers with smartphones, as they saw the use of smartphones as a barrier to their students' pair/group work. Therefore, the vocabulary notebook task was chosen to be adapted for smartphone use for the purposes of this study.

Following it, the researcher chose the most appropriate smartphone app that could be used by the students for the purposes of creating an electronic vocabulary notebook. The app had to be free to download and function in both iOS and Android operating systems. Notetaking apps offer a variety of options that make them suitable for the creation of vocabulary notebooks in conjunction with other apps e.g., search engines and dictionaries. Ten best-reviewed notetaking apps were reviewed in order to find an app with a high degree of functionality. Four apps – Squid, Bear, Notability, and Notes – were removed from further analysis as they were designed either for Android or iOS platforms exclusively. The six remaining apps – Simplenote, Evernote, Google Keep, OneNote, Notebook, and Dropbox Paper – were downloaded, tested, and compared. Table 7.1 compares the apps' functionalities.

Table 7.1: Study 1 – Notetaking apps’ specifications

Apps	Features	Android & iOS smartphone versions	A web version for Windows and Mac PCs	Notes in text format	Notes in handwriting format	Notes in image format	Notes in voice format	Reminder	Access Google Search using Gboard via the app	Sync across devices	Sort notes into notebooks	Sort notes into different categories	Chatting platform	Sharing and working on notes in collaboration	Free download
															
 Evernote		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
 Simplenote		✓	✓	✓	✗	✗	✗	✗	✓	✓	✗	✓	✗	✓	✓
 Google Keep		✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓
 OneNote		✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✗	✗	✓	✓
 Notebook		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗	✓
 Dropbox Paper		✓	✗	✓	✗	✓	✗	✗	✓	✓	✗	✓	✗	✓	✓

The above table shows that Evernote had all the features of the other five apps in addition to a chatting platform which made it the most functional and interactive notetaking app for the purpose of the study. Functions such as the ability to create notes in text, handwriting, voice, or image formats at the same time give the students the opportunity to take advantage of more than one source of instructional information, and this can maximise their information processing and learning, which is cognitively beneficial (Paivio, 1979). In addition, the Evernote Work Chat option allowed students to interact with their peers and their teachers, and to share their work and discuss their problems or questions. Such interaction is at the heart of social constructivist theories and activity theory.

Table 7.2 summarises more information in relation to the task; its matching apps and features and the way they were expected to be used by the students; the roles that they played in the students' vocabulary learning; and related language learning theories.

Table 7.2: Study 1 – EALD students' vocabulary notebook task and its matching apps, uses, and theories

Task	Apps and features needed	Apps & features usage(s)	Smartphone roles in students' vocabulary learning and their matching theories
Create a vocabulary notebook	Evernote	To create an electronic vocabulary notebook To share their vocabulary notebooks with the teachers and the researcher and communicate with them whenever necessary	Smartphone as a tool (cognitivist theories) Smartphone as a means of communication (constructivist theories)
	Search engines	To search for the necessary information (e.g., pictures representing the meaning of the new words)	Smartphone as a source of information (cognitivist theories)
	Dictionaries	To find information in relation to the new words	Smartphone as a tool (cognitivist and constructivist theories)

Finally, the teachers who were going to teach level 3B and above in the upcoming term were all invited to take part in the study. Two information sessions were held to familiarise them with the study and address their questions and concerns. In the first meeting, the details of the study were explained and the apps and the tasks for which they could use smartphones were introduced. The teachers indicated that they were unwilling to replace the use of computers in the computer room with the use of smartphones in class for their research tasks, expressing their belief that smartphones were unsuitable for pair and group work. They also expressed some uncertainties concerning the efficacy of students creating and using electronic vocabulary notebooks and their copying and pasting new vocabulary related information on the app and missing the physical writing aspect of the work, and the possibility of having the same template and assessment rubric as their paper versions through Evernote, assessing and marking students' vocabulary notebooks on the app, and keeping a record of them.

In the second session, the teachers' concerns were addressed. To this end, a set of specific instructional PowerPoint slides (Appendix B2) was created by the researcher to present the teachers with literature on students creating and using vocabulary notebooks and the advantages that an electronic version of vocabulary notebooks could offer them. The students' paper vocabulary notebook template and assessment rubric converted for use in the Evernote app were presented to the teachers.

More columns were added to vocabulary template to give students the opportunity to become involved in more elaborate processing of the new words by using the extra functions (e.g., adding images, pronunciation, etc.) provided by Evernote. However, students were free to choose whether they wanted to add extra

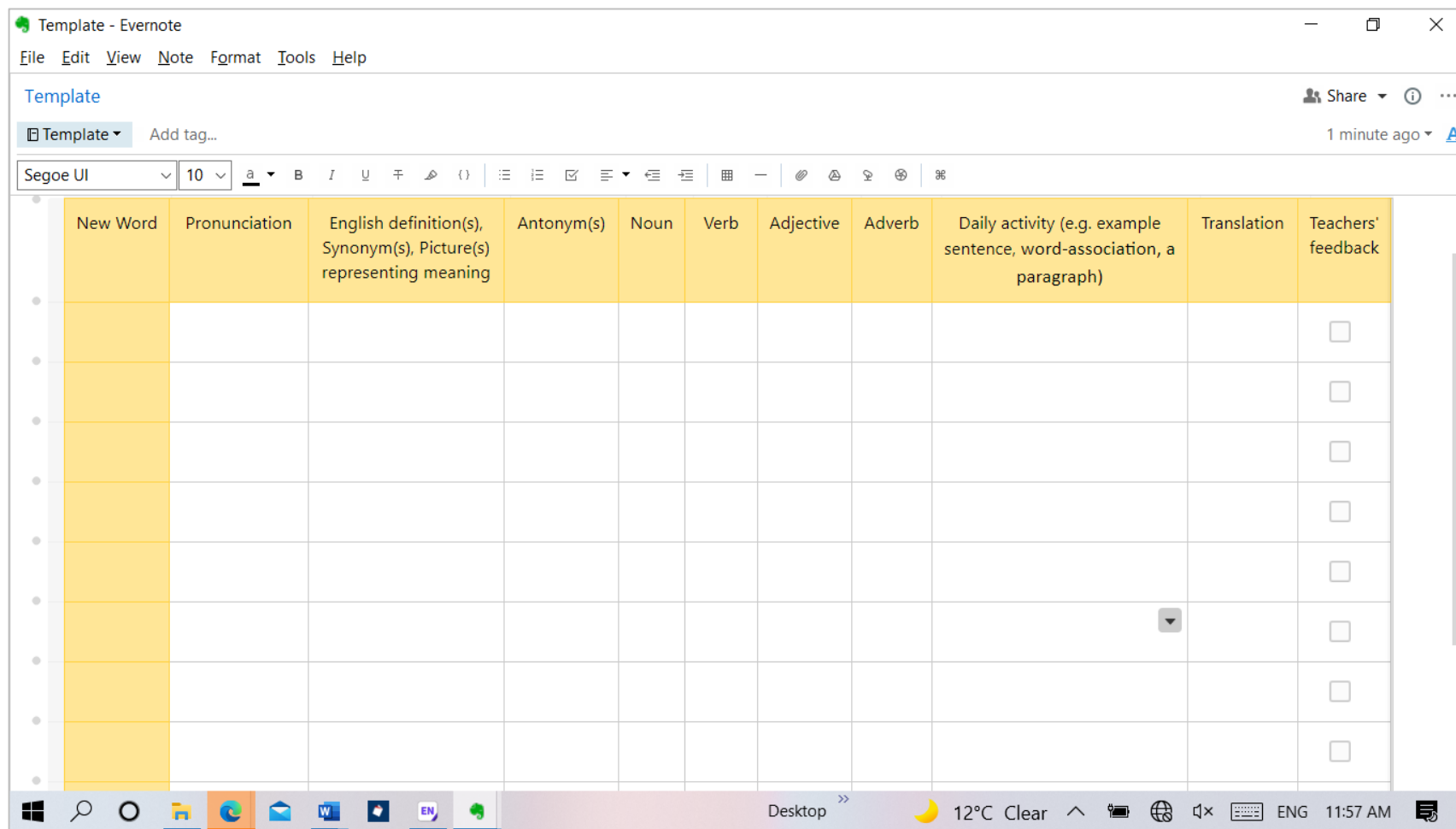


Figure 7.4: Study 1 – GEAP students’ electronic vocabulary notebook template in Evernote

7.5.2. Pre-use Attitude Data Collection Stage

Pre-use attitude data was collected from the teachers and students at the beginning of term 8 and term 9 in October and November 2019 using semi-structured questionnaires (Appendices B4 & B8) and interviews (Appendices B5 & B7). Both teachers' and students' pre-use questionnaires were adapted from the piloted questionnaires and consisted of two sections. Section A included questions relating to the participants' demographic information and their smartphone ownership and use. In this section, a question was added to the students' questionnaire which asked them to specify the reason behind the language setting they had selected on their smartphones. Two questions were also added to both the teachers' and students' questionnaires to see which smartphone apps and features they usually used inside and outside the classroom. Section B included a Likert scale which examined the participants' attitudes and intentions towards using SALL.

From the teacher and student population of the English Language Centre in terms 8 and 9, four teachers who agreed to take part in the intervention and 138 students completed the pre-use questionnaires. The official total student population was not provided by the language school, but it is estimated that around two thirds of the students participated in the pre-use data collection stage of this study. Three of the teachers and eight students from the three classes involved in the intervention attended the pre-use interviews. In total, three individual teacher interviews, three individual student interviews and two student focus group interviews were held.

7.5.3. Intervention Stage

Four teachers (with their three classes, comprising 49 students) participated in the intervention. Two teachers were in charge of one class (level 3A) in term 8 (October 2019) and all four teachers were in charge of two classes (one 3B and one 3A) in

term 9 (November 2019). Each class was co-taught by two teachers. The teachers were already informed about the task and the app, and three of them downloaded and used the app. One teacher discontinued their participation after the study began.

Two of the teachers, who felt more confident with the use of Evernote, took responsibility for the first instructional sessions in the class. The researcher was present from the beginning of the intervention and instructed students on downloading and using Evernote to create their own vocabulary notebook, using the related instructional PowerPoint slides (Appendix B3). She shared the vocabulary notebook template with the students and taught them how to use the template and the app functions to create their own vocabulary notebook pages. With the assistance of the teachers, she also helped the students with their problems and questions. She was present in all sessions to help teachers and students with questions and problems and to observe the use of the app in class. Evernote was new to almost all the participants.

7.5.4. Post-use Data Collection Stage

In the final stage of study 1, the three teachers who downloaded and used the app completed a post-use attitude questionnaire and took part in a follow-up interview. All 49 students completed the post-use attitude questionnaire and six took part in the interview, one individually and five in two focus groups. The students' post-use questionnaire (Appendix B6) consisted of two parts. Part A contained questions about the apps and features that they had used and the problems they faced. Part B presented them with a Likert scale table asking them about their post-use attitudes and intentions with respect to smartphone use. The teachers' post-use questionnaire (Appendix B10) contained Likert scale items designed to collect data on their post-

use attitudes and intentions. Students' and the teachers' post-use interview questions are presented in Appendices B7 and B11, respectively.

7.6. Data Analysis Results

Questionnaires, interviews, and observations were the main sources of data for the study. The data analysis was conducted using the techniques and procedures outlined in Chapter 5. SPSS version 26 and Microsoft Excel were used to analyse the questionnaire data and design the relevant graphs and charts. NVivo version 12 was used to analyse responses to open-ended questions from the questionnaire and the interview data. Descriptive analysis was used to analyse student data collected from section A of the questionnaire and to investigate student attitudes and intentions in section B. T-tests and ANOVA were used to check the significance of the Likert scale results, as well as to detect possible impacts of students' age, English language proficiency and amount of smartphone use on their attitudes.

The interview data was transcribed into the form of vignettes which were reviewed, coded, and thematised manually. Emergent themes were used to supplement questionnaire results. The observation notes were used to support discussion of the results from both the questionnaire and the interview data.

7.6.1. Students' Pre-use Data Analysis Results

The students' pre-use results are presented in two sections: results pertaining to students' smartphone ownership and usage, and results pertaining students' pre-use attitudes. The results of all three sources of data – questionnaire, interview, and observation – are combined to address research question 1 in section 7.5.1.1. and research question 2 and its sub-question in section 7.5.1.2. Questions 1–4 asked

about the students' demographic information and the related results are summarised in Table 7.3.

Table 7.3: Study 1 – Students' demographic information (N = 138)

Q	Field	Category	Number	Percentage
1	Gender	Female	86	62.3%
		Male	52	37.7%
2	Age	18-25	109	79%
		26-35	22	15.9%
		35+	7	5.1%
3	First language	Chinese	101	74%
		Other (Japanese, Spanish, Arabic, Korean and Thai)	36	26%
4	English language proficiency	Intermediate	122	88.5%
		Upper-intermediate or advance	16	11.5%

7.6.1.1. Students' Smartphone Ownership and Use

The analysis of questions 5–13 from section A of the students' questionnaire provided information on the extent of students' smartphone ownership and usage and helped to address research question 1. Consistent with the pilot study, the analysis of questions 5 and 6 revealed 100% smartphone ownership by the student participants, with 26.1% possessing more than one smartphone. Results also showed that participants' smartphones were all either iPhone or a type of Android phone (Figure 7.5).

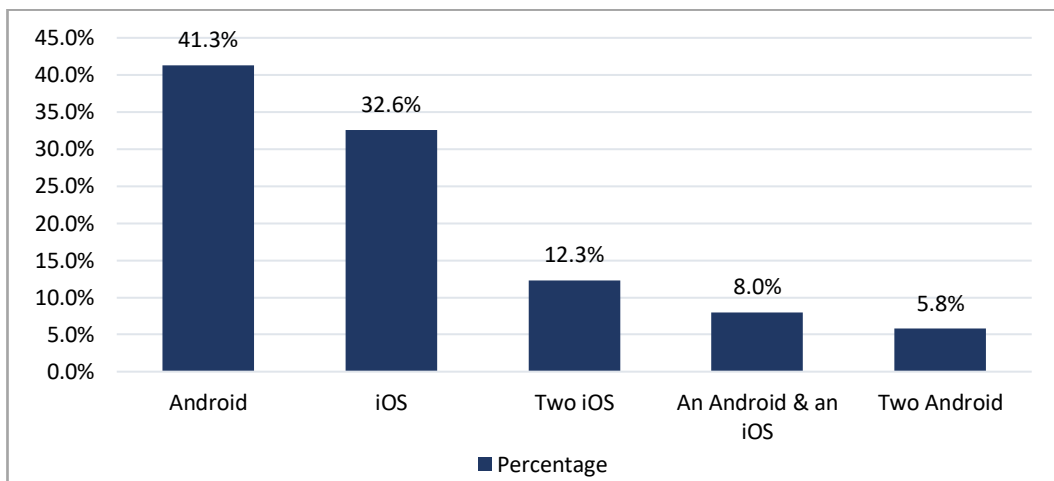


Figure 7.5: Study 1 – Students' type of smartphones

Interview results revealed that the language centre was equipped with computers that could be used at any time by the teachers but not as often by the students, as there were limited number of computers and restrictions with their use. For instance, students explained that the computer room in the Language Centre was only accessible under the supervision of their teachers, for a maximum of three hours per term, and the computers in the University library were often occupied. All interviewed students (n = 8) confirmed that they had their own laptop, but only three had a tablet. Most explained that tablets and laptops were heavy and hard to carry and they preferred not to take them to the Language Centre. Overall, these results indicated that smartphones were the most form of technology available to the students in the Language centre, and this was confirmed by the observation.

While setting one's smartphone menu to English could be a useful way of facilitating English language practise, responses to question 7 indicated that 92 of the students (73.6%) used their first language on their smartphone menu. In general, they reported doing so because they found their first language easier to understand, and because it allowed them to connect with their families and friends

in their home country. Figure 7.6 and Figure 7.7 show the students' reason underpinning their choice of language on their smartphone menu.

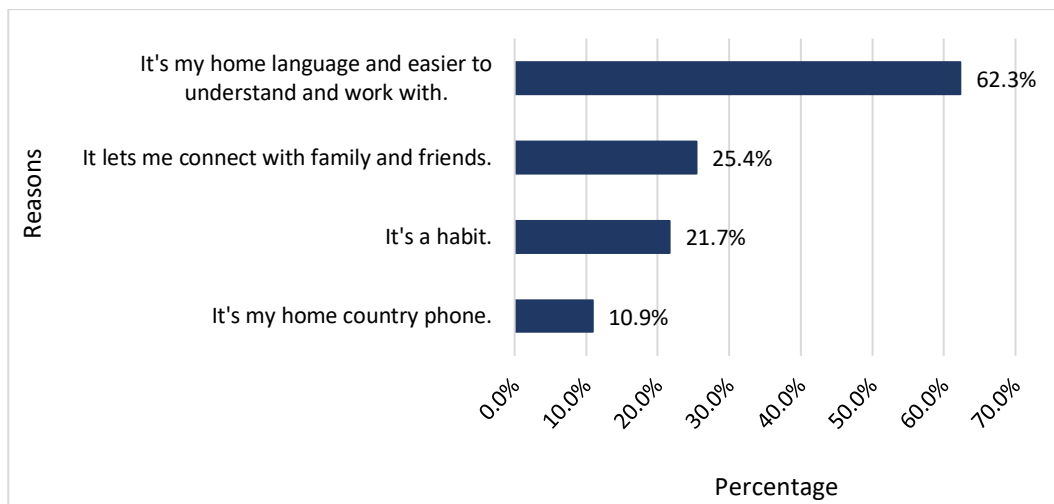


Figure 7.6: Study 1 – Students' reasons for using first language on smartphone menu

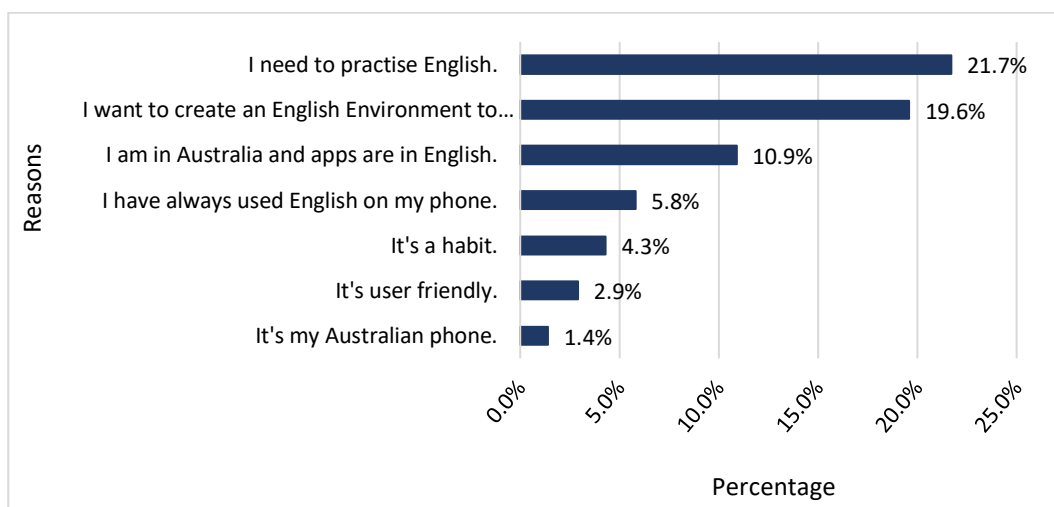


Figure 7.7: Study 1 – Students' reasons for using English language on smartphone menu

Questions 8–12 helped provide a picture of students' smartphone use habits in relation to language learning, both inside and outside their classroom. The results revealed information about the number of hours they spent using their smartphones each day, the extent of their smartphone use for English language learning inside and outside the classroom, and their most used apps. Responses to question 8 showed that 83.2% of the students used their smartphones more than three hours a

day (see details in Figure 7.8).

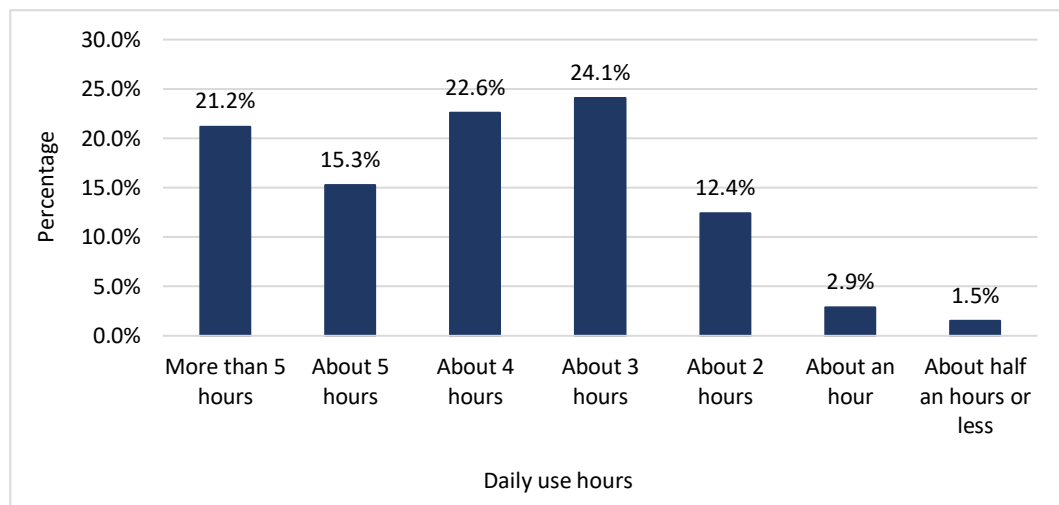


Figure 7.8: Study 1 – Students' daily smartphone use (hours)

Responses to questions 9 and 11 indicated that 98.8% of students used their phone for language learning inside the classroom. The percentage reached 100% for the use of smartphones in relation to language learning outside the classroom. Responses to questions 10 and 12 revealed that online dictionaries, internet search engines, and email were the three apps which were most commonly used by students inside and outside the classroom (in descending order of popularity). Notepads, audio recording features, and online learning platforms such as Canvas and Moodle were their three least used apps (Figure 7.9).

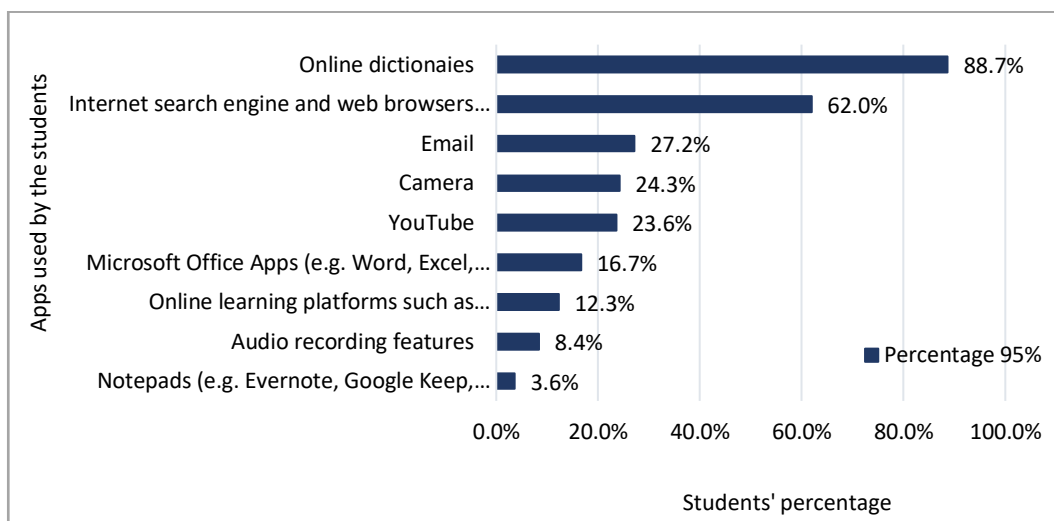


Figure 7.9: Study 1 – Apps used for English language learning by the students inside and outside the classroom

All the students who participated in the interview confirmed that they used their phone for English language learning both inside and outside the classroom, except for Student 2, who described herself as not being smartphone-addicted and stated that she preferred to use her phone mostly to relax, play games, or watch news when she was outside the classroom. The interview data also showed that when participants and their peers used their phones for language learning, their preferred apps were online dictionaries (Youdao), Google Translate, and search engines which were sometimes accompanied by the use of vocabulary-learning apps (e.g., Tutor ABC) outside the classroom. For instance, Student 1 explained:

The dictionary app that I use is in Chinese. It gives me the information that I need including example sentences for the new words, but it does not give an English definition. I would like my teacher to recommend a Cambridge dictionary as there is a website but I could not find any app.

Students' use of the aforementioned apps inside the classroom was confirmed by the observational data, and as the majority (74%) of the students who

participated were Chinese, the dominant bilingual dictionary used in class was probably Youdao.

Overall, the above results indicated that although student participants were allowed to use their smartphones for English language learning inside the classroom, most of their uses were informal, not teacher-directed, and limited to the use of a few simple apps such as bilingual dictionaries, Google Translate, and search engines. As reviewed in Chapter 3, Kondal's (2018) study results showed the unfamiliarity of students with different types of dictionaries and their uses, suggesting the necessity of familiarising students with dictionaries and their uses. Student 1's request for his teachers to introduce them to a free monolingual dictionary app bears this out, as such apps are readily available for iOS and Android phones.

The results also showed that most of the students did not use notetaking apps such as Evernote; therefore, they were unfamiliar with these apps and their functions. Consequently, it was to be expected that they might face problems with the use of Evernote during the intervention.

Question 13 asked students about the extent of their weekly use of their smartphones in relation to language learning. The analysis of the students' responses to this question confirmed the above results, indicating that they mostly used their smartphones for consulting bilingual dictionaries and surfing the web. The results showed that students paid much less attention to the use of monolingual dictionaries and reference tools such as concordancers or thesauri in comparison to other smartphone applications defined in the question (Figure 7.10).

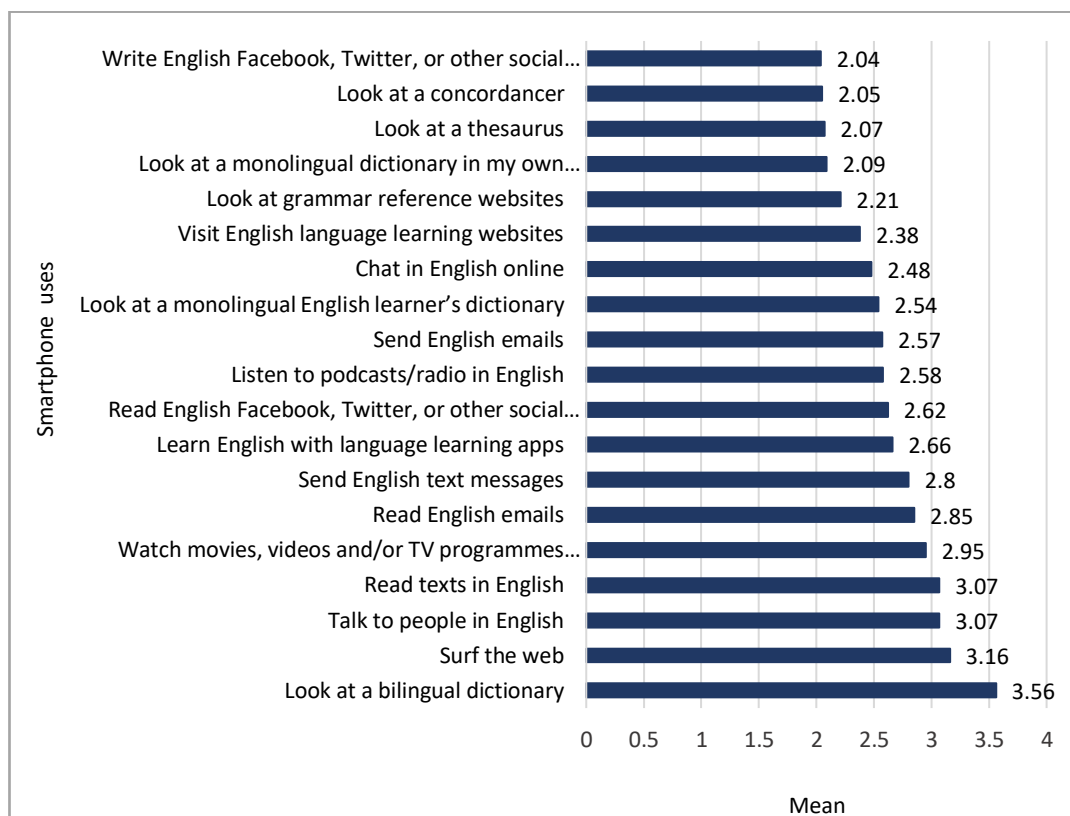


Figure 7.10: Study 1 – Usage mean for individual smartphone apps

Furthermore, the results showed fewer extensive users of smartphones compared to the pilot study, which classified most of the student participants of that study (80%) as extensive users of SALL; however, 94.3% of the students participating in study 1 could still be categorised as either frequent or extensive users (Figure 7.11). This classification was used to compare students' attitudes towards SALL based on their amount of use and it is explored in the next section which reports students' pre-use attitude results.

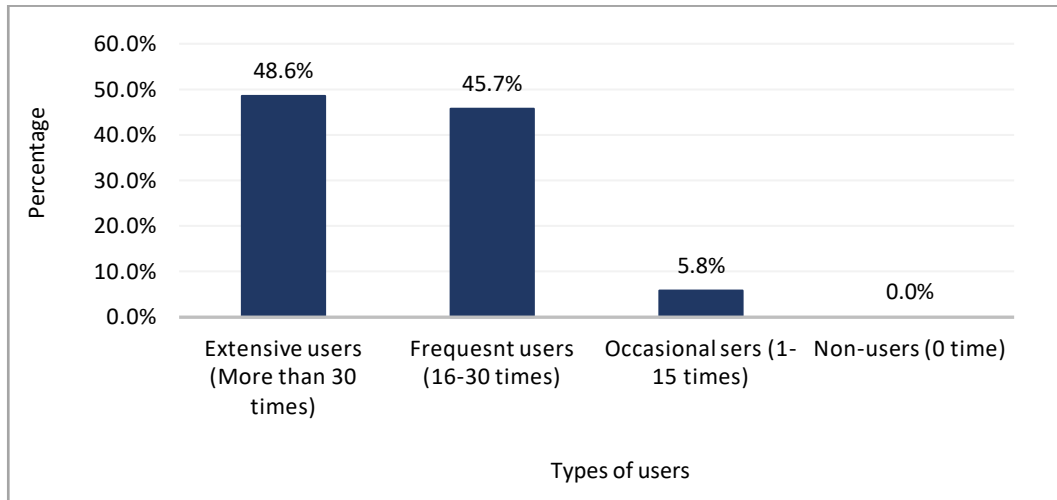


Figure 7.11: Study 1 – Students' SALL-related use habit

7.6.1.2. Students' Pre-use Attitudes Towards SALL

To address research question 2, students' attitudes and intentions towards SALL prior to using Evernote were measured using 12 Likert scale items. These items examined six constructs, including *perceived ease of use* (PEU), *perceived usefulness* (PU), *perceived playfulness* (PP), *affect towards use* (AU), and *relative advantage* (RA). The validity and reliability of the Likert scale items and the project's pre-use attitude model constructs were checked in the pilot study. PCA test results suggested a simple structure, with all 12 components demonstrating fairly strong loading on one component, meaning all the items measured one construct; students' intentions to use SALL. Reliability test result indicated a Cronbach's alpha value of .813, suggesting a very good internal consistency (Pallant, 2013).

The normal distribution of the data was checked, and the results of Kolmogorov-Smirnov statistics indicated $p = .200 > .05$ and confirmed the normal distribution of scores. Consistent with the pilot study, the choice of "not applicable" on the questionnaire's six-point Likert scale was treated as a missing value so that the Likert scale test value was set as $\mu = 3$. The descriptive analysis of the students'

responses to the Likert scale items indicated that the mean and standard deviation scores of all the items were higher than the test value, and the one-sample t-test results showed $p < .05$ for the sig. (2-tailed), meaning that this mean difference was statistically significant (Table 7.4).

Table 7.4: Study 1 – Students’ pre-use attitudes towards SALL (one-sample statistics)

Scale items	Test Value = 3					
	df	Sig. (2-tailed)	Mean	Std. Deviation	95% Confidence Interval of the Difference	
					Lower	Upper
Perceived Ease of Use (PEU1)	135	<u>.000</u>	4.17	.663	1.03	1.27
Perceived Ease of Use (PEU2)	135	<u>.000</u>	3.93	.777	.81	1.07
Perceived usefulness (PU1)	135	<u>.000</u>	4.22	.708	1.13	1.37
Perceived usefulness (PU2)	134	<u>.000</u>	4.11	.743	1.02	1.27
Perceived playfulness (PP1)	133	<u>.000</u>	3.68	.900	.55	.86
Perceived playfulness (PP2)	132	<u>.000</u>	3.86	.790	.74	1.01
Affect towards use (AU1)	134	<u>.000</u>	3.84	.844	.69	.98
Affect towards use (AU2)	130	<u>.000</u>	3.38	1.052	.18	.55
Relative advantage (RA1)	133	<u>.000</u>	3.37	1.051	.17	.53
Relative advantage (RA2)	129	<u>.000</u>	3.32	1.027	.15	.51
Facilitating conditions (FC1)	134	<u>.000</u>	4.03	1.126	.86	1.25
Facilitating conditions (FC 2)	131	<u>.000</u>	3.41	1.127	.20	.59

The above results confirmed the students’ overall agreement with all the items of the Likert scale. Their agreement with PEU, PU, PP, and AU items reflected their belief in the ease of use, usefulness, and playfulness of smartphones, and is indicative of their affect towards the use of the device. Their agreement with the two RA items indicated that the majority of them preferred to use smartphones rather than their desktop/laptop computers, tablets, or traditional methods and the exclusive use of coursebooks and printed materials for language learning. Finally, their agreement with the two FC items indicated that the majority of students perceived free Wi-Fi and instructional and technical support as a prerequisite to the

formal use of smartphones for unfamiliar apps and features. Accordingly, it can be concluded that the majority wished to use their smartphones for English language learning in a more formal atmosphere which is directed by their teacher(s).

Following the above analysis, an independent-samples t-test was carried out to assess whether the student participants' gender had any impact on their attitudes towards using their smartphones to learn English. Levene's test was non-significant, $p = .71$, indicating that the assumption of homogeneity of variance had been met (Table 7.5). The results in the first row was also non-significant, $P = .35$, indicating no significant difference in males' ($M = 3.77$, $SD = 0.467$) and females' ($M = 3.84$, $SD = 0.461$) attitudes.

Table 7.5: Study 1 – Independent samples t-test results (impact of gender on students' attitudes)

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Total Attitudes	Equal variances assumed	.139	.710	.929	134	.354	.076	.082	-.086	.238
	Equal variances not assumed			.926	104.19	.357	.076	.082	-.087	.239

A one-way between-groups ANOVA was conducted to explore the impact of students' English language proficiency on their attitudes towards using their smartphone for English language learning. Based on students' answers to question 4, which asked them about their course level, 3 levels of English language proficiency were defined: group one (Level 3B), group two (Level 3A), and group three (Levels 4 & 5). Test of homogeneity of variances was non-significant ($p = .39$), indicating that the assumption of homogeneity of variance had been met. The

results showed no significant difference in the students' total attitude scores for the three groups (group one, $M = 3.84$, $SD = 0.480$; group two, $M = 3.81$, $SD = 0.473$; group three, $M = 3.73$, $SD = 0.367$; Table 7.6).

Table 7.6: Study 1 – ANOVA test (impact of students' English language proficiency on attitudes)

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.152	2	.076	.352	.704
Within Groups	28.764	133	.216		
Total	28.917	135			

A One-way ANOVA was also conducted to explore the impact of students' amount of smartphone use on their attitudes towards using their smartphone for English language learning. The analysis of question 13 categorised three kinds of users among the student participants: group one (occasional users), group two (frequent users), and group three (extensive users). No significant difference in the students' total attitude scores existed for the three groups (group one, $M = 3.58$, $SD = 0.442$; group two, $M = 3.75$, $SD = 0.470$; group three, $M = 3.90$, $SD = 0.445$; Table 7.7).

Table 7.7: Study 1 – ANOVA test (impact of amount of SALL use)

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.202	2	.601	2.884	.059
Within Groups	27.715	133	.208		
Total	28.917	135			

The above results show that the students had positive attitudes toward the use of smartphones for language learning, and their gender, level of English language proficiency, and previous amount of smartphone use did not have any significant impacts on their attitudes and intention towards the use of smartphones for English language learning. This result was supported by the interview results. The interview data indicated that the students were quite used to the presence of smartphones in

class and did not see them as a distraction even if they were used for purposes other than language learning. For instance, Student 1 stated:

I think I do not mind, Yah. If they are free, they can use it for other purposes, but in class, they had better use it for learning. But if they do not want to, it is not my business.

Student 2 also noted that she was never distracted by the other students' use of their phones for replying to calls or messages or even playing games, as it had not happened a lot.

We all have something back in China and some urgent messages or even calls might come from our family and friends which we need to be aware of and sometimes we might even need to send a reply or call them back and this has not happened a lot.

The students' positive attitudes towards the use of smartphones were also apparent when they listed anywhere and anytime availability, accessibility/handiness, rapidity, and notification features, as the advantages of smartphones. For instance, Student 1 stated:

The advantage of smartphone to learn English is that I can use it in a bus, in waiting room, or while waiting for some other things, like a line to a supermarket. I can use my smartphone to learn English like vocabulary. I can do it every day because smartphone will remind me like a ring. I think it is the advantage of smartphone learning.

Student 4 noted that

We cannot bring paper or pen anytime, but we can bring our phone anytime, so it is convenient.

7.6.2. Students' Post-use Data Analysis Results

The students' post-use data analysis results are presented in two sections: students' experience with Evernote and students' post-use attitudes to SALL. The results helped to address research question 3, which asked about students' experience with

the formal use of smartphones and Evernote, as well as their post-use attitudes towards SALL.

7.6.2.1. Students' Experience with Evernote

The descriptive analysis of students' responses to question 1 in the post-use questionnaire revealed that from among 49 students who participated in the intervention, only 18 students (36.7%) chose and used Evernote to create their vocabulary notebook (Table 7.8). Additionally, of these 18 students, one student created and used both paper and electronic versions.

Table 7.8: Study 1 – Students' choice of vocabulary notebooks

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Traditional (paper vocabulary notebook)	31	63.3	63.3	63.3
Evernote (Electronic vocabulary Notebook)	17	34.7	34.7	98.0
Both	1	2.0	2.0	100.0
Total	49	100.0	100.0	

The observation also showed that while the majority of students seemed keen to use Evernote to create a personal electronic vocabulary notebook, a large number of students in these classes stopped using Evernote by the end of the second lesson. In total, only 18 students (five students from class 3A in term 8 as well as ten from class 3A and four from class 3B in term 9) used Evernote to create their vocabulary notebook. The data also showed that the use of Evernote was limited to ten or a maximum of 15 minutes each session, which only allowed students to enter their new words and a few meanings onto the app. As a result, students did most of their work on the vocabulary notebook on Evernote outside classroom hours.

Analysis of the students’ responses to question 2 showed that from 49 students who accepted to take part in the intervention, 30 students (61.3%) faced one or more technological problems (Figure 7.12).

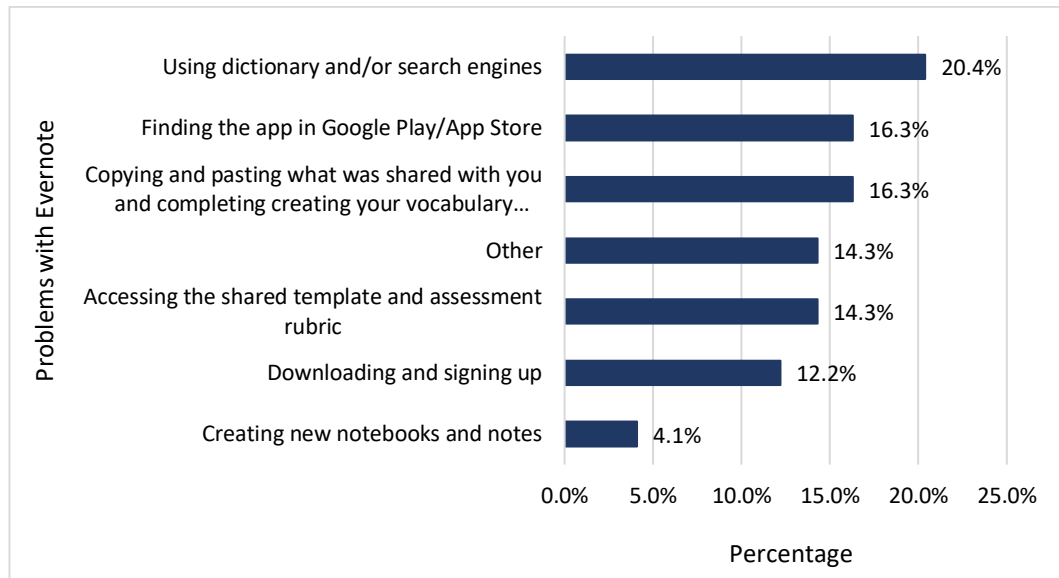


Figure 7.12: Study 1 – Problems faced with downloading and using Evernote

The problems that the students recorded in their responses to the choice of “other” in question 2 added some more technological problems: smartphones’ small screen, keypad, and storage size; arduous editing; sudden and unwanted deletion of work with a simple mistake; greater complexity than paper-and-pen work; and their slowness and time-consuming nature. Twelve students (40%) believed that they remembered better when they wrote down information. In addition, students’ responses to question 3 showed that 12 of them (40%) had not discussed their problems with their teachers, the researcher, or their peers, which could be counted as another reason underpinning their withdrawal.

The interview results showed that this was the students’ first experience with Evernote, and four of them confirmed that they faced problems with downloading and using the app. Student 1 explained that she had difficulty with verifying her

email while she was signing up for the app, but she resolved it with the help of the teacher. She also faced difficulties with adding a picture to describe the meaning of the words and adding pronunciation; therefore, the information she included in her vocabulary notebook was the same as what it would have been on a traditional paper version.

Students 2 and 6 faced problems with finding the English version of the app and were obliged to change their smartphone location to Australia in order to download it. Like Student 1, Student 2 also faced problems with adding a picture and pronunciation.

I was about to stop using the app that I was reminded by you I could go with the mandatory information if I wanted, and I did so. I also could not access dictionary and search engines directly via Evernote and I found it hard to type using the smartphone keypad, so I used my laptop for entering the information and my phone for reviewing the words. [Student 2]

Student 3 did not have any problems with downloading and signing up, and he even helped some of his classmates with their signing-up difficulties. However, he found it hard to copy and paste pictures onto his notebook using his phone, so (similar to Student 2), he used his laptop to enter information and his phone to review the words. He also explained that he copied and pasted some of the information (such as the link to the pronunciation or the English definition), but he typed the information manually while entering the word forms or doing the daily activity (e.g., writing example sentences). Student 5 also stated that he downloaded Evernote on his laptop and used his laptop to complete the work as it was easier, better and more convenient than using the phone. Almost all the problems reviewed by the students were observed by the researcher, and if discussed with her or the teachers either face-to-face or via Evernote Work chat, they were mostly resolved.

However, as the questionnaire results showed, there were students who did not discuss their problems at all.

The analysis of the students’ responses to question 4 showed that 14 out of 15 respondents to the question also downloaded and used the web version of Evernote (Table 7.9). The analysis of the responses to question 5 showed that 13 out of 14 respondents used their laptop or tablet more than their smartphone (Table 7.10).

Table 7.9: Study 1 – Students’ responses to question 4

Whether they also downloaded and used Evernote on their tablet or laptop					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	14	28.6	93.3	93.3
	No	1	2.0	6.7	100.0
	Total	15	30.6	100.0	
Missing	System	34	69.4		
Total		49	100.0		

Table 7.10: Study 1 – Students’ responses to question 5

Device more commonly used by students to complete their vocabulary notebook on Evernote					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	My smartphone	1	2.0	7.1	7.1
	My tablet/laptop	13	26.5	92.9	100.0
	Total	14	28.6	100.0	
Missing	System	35	71.4		
Total		49	100.0		

Interview results and the researchers’ observation data also showed that students preferred to use their laptop or tablet rather than their phone. All interviewed students explained that they preferred to use their laptop, so they entered the information onto the app at home. Student 4 and Student 6 mentioned that despite all their problems, they used their phone to enter the information onto

the app while they were inside the classroom, but not at home. However, Student 5 preferred to take his laptop to class and use it to enter the information. Overall, students' responses to this section of the questionnaire indicated three factors as barriers to the formal use of Evernote and smartphones for the creation of electronic vocabulary notebooks by the students. These were technological problems, students' beliefs in relation to their learning style (mindset), and students' unwillingness to communicate their problems with the researcher, their teacher(s), and their peers. The results also showed that the students who chose Evernote and created an electronic notebook preferred to use their laptop or tablet for more laborious work (such as entering information, adding pictures or voice, or amending their work) and use their smartphones for more effortless work (such as reviewing their words and information on Evernote).

Although the study results showed that students mostly used bilingual dictionaries, there was no major problem with the information that they provided in their electronic vocabulary notebooks, and overall, the teachers were satisfied with the students' work on Evernote. Figure 7.13. and Figure 7.14. are two examples of the students' work on Evernote which were reviewed and commented on by their teachers.

Day 1 vocabulary - Evernote

File Edit View Note Format Tools Help

Day 1 vocabulary

Share ⓘ ⋮

vocabulary notebook Add tag...

dictionary.cambridge.org 1 minute ago

Segoe UI 10 a B I U T P ()

Last edited by and shared with 1 more

New Word	Pronunciation	English definition(s), Synonym(s), Picture(s) representing meaning	Antonym(s)	Noun	Verb	Adjective	Adverb	Daily activity (e.g. example sentence, word-association, a paragraph)	Translation
sordid	/ˈsɔː.dɪd/	dirty and make people disgusting	clean,orderd			sordid		people living in sordid conditions may have their own reasons.	
dilapidated	/dɪˈlæp.ɪ.deɪ.tɪd/	old and poor condition	brand new,novel	dilapidation	dilapidate	dilapidated		This dilapidated house has been abandoned since the fire emergency.	破旧的
									Great!

Desktop 21°C Sunny 6:09 PM

Figure 7.14: Study 1 – Student Y – sample of work on Evernote

To get a better idea of what Youdao dictionary offers to its users and find out to what extent the students might have copied and pasted information from the dictionaries into their vocabulary notebooks, I compared the information that Students X and Y added to their templates (Figure 7.13 and Figure 7.14) with the entries in Youdao. Figure 7.13 confirms that Student X used Youdao and copied and pasted a link to Youdao for pronunciation. It also shows that he used search engines to find a relevant image for each word to represent its meaning, which would help him remember the words and their meaning better, according to Dual Coding Theory (Paivio, 1979). A comparison with Youdao of the synonyms that Student X provided for his new words shows that he did not copy and paste the English definition/synonyms only from that source, if at all (Figure 7.15).

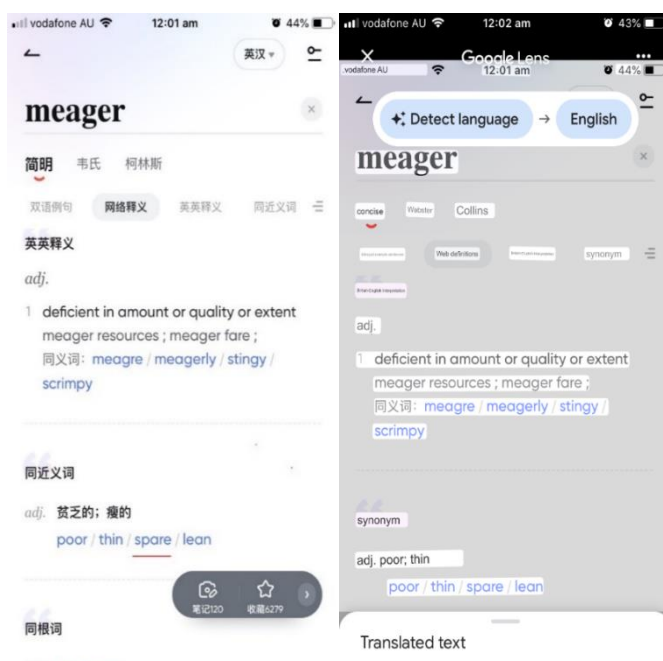


Figure 7.15: Study 1 – Definitions and synonyms provided by Youdao for “meager”

No antonym for the word *meager* is provided by Youdao, while Student X has recorded an antonym for it and the antonym that he has provided for the word *hopelessness* was exactly the same as what Youdao has presented. Similarly, his example sentences were not taken from Youdao (Figure 7.16) and as there are grammatical mistakes in his sentences, it seems that he has not copied and pasted his sentences from any dictionary.

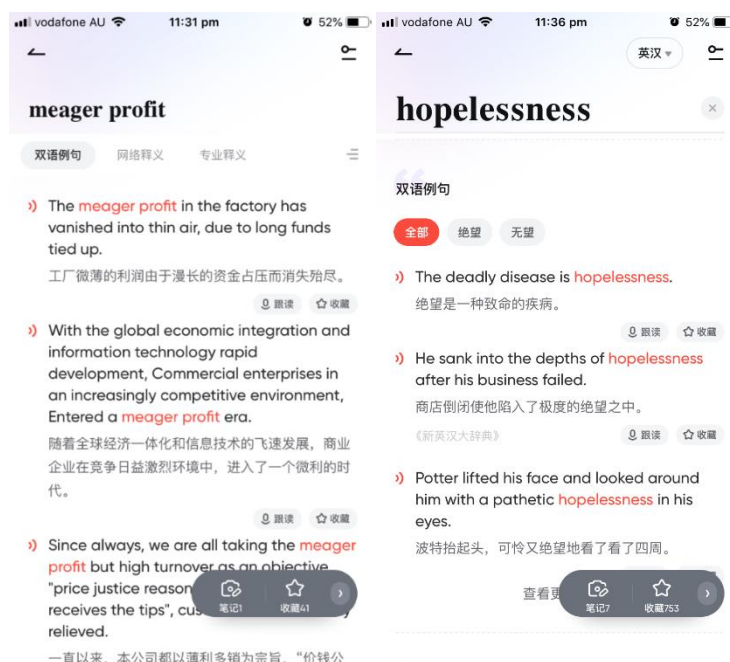


Figure 7.16: Study 1 – Example sentences provided for the words “meager” and “hopelessness”

Comparing Student Y’s work (Figure 7.14) with Youdao, it is hard to say whether he used Youdao or any other dictionaries. The definitions of the words and the antonyms are not from Youdao.

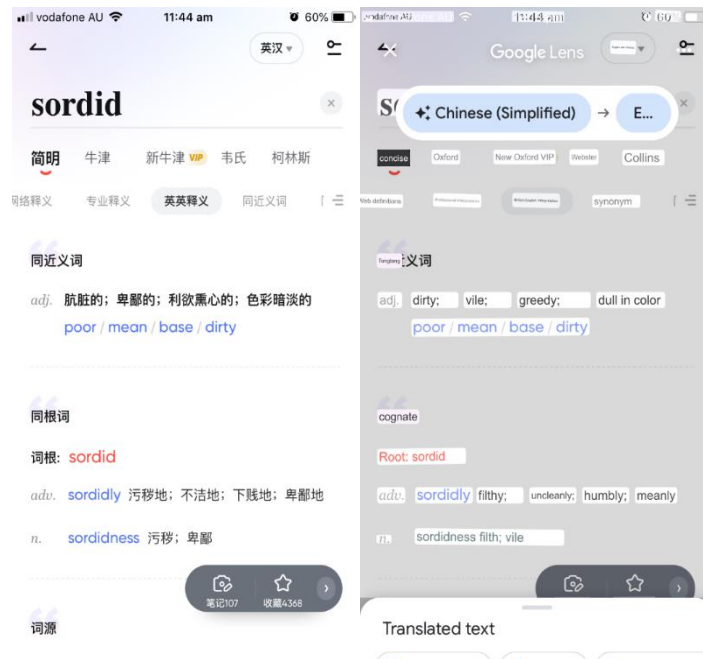


Figure 7.17: Screenshots of Youdao dictionary for entry word “sordid” with its translation by Google Translate

Similar to Student X, Student Y has not copied his sentences from the examples provided by Youdao and it seems that he has not copied them from any other dictionary entry as there are grammatical mistakes in his example sentences too.

Overall, the analysis of the students’ work shows that while they might have copied the pronunciation, definitions/synonyms, antonyms, and the word forms from Youdao or other dictionaries, they have not copied their example sentences from dictionaries. This accords with what student 3 explained in his interview in relation to the way he entered the new words’ information into Evernote and is important, as it shows that students have elaborated on the new words in sentences themselves.

7.6.2.2. Students’ Post-use Attitudes Towards SALL

Before analysing the Likert scale data in the post-use questionnaire, a validity and reliability test was carried out and the normality of the data’s distribution was

checked. The validity and reliability tests were carried out because the post-use attitude Likert scale items were different to the pre-use items. Where the pre-use items assessed students' expectations and beliefs in relation to SALL, post-use items addressed the extent to which these expectations and beliefs had been met and helped identify their level of satisfaction with the use of smartphones for English language learning.

A PCA test was carried out to check the validity of the post-use Likert scale items before analysing the students' post-use attitudes and their intention to SALL. Similar to pre-use PCA test results, the post-use test results confirmed the suitability of the Likert scale for factor analysis, with a KMO value of .674 and Bartlett's test p -value $< .05$ (Pallant, 2013). With a small difference, the component matrix results revealed the presence of a simple structure with 11 out of 12 components loading on component one, suggesting all items except FC1 were measuring one construct which was the students' intention to use SALL.

A reliability test was also conducted and the results confirmed that the scale had fairly good internal consistency in this sample. There was a strong relationship among the items of the scale with a Cronbach's alpha value of .802. Corrected item-total correlation values showed a value of less than .3 for FC1, confirming the results of the PCA and indicating FC1 was measuring something different from the rest of the items that measured attitudes towards SALL. However, FC1 and its data were kept and included in the result, as Cronbach's alpha for the overall scale was above .7 (Pallant, 2013). This result is in line with Triandis' (1979) TIB which introduces *facilitating conditions* (FC) as the condition that can confirm the actual use of smartphones (Chapter 4).

The Kolmogorov-Smirnov test also indicated the data was normally distributed, $D(48) = .067, p = .200 > .05$. Finally, the descriptive analysis of the Likert scale data indicated that the mean and standard deviation scores were higher than the test value ($\mu = 3$) for all items of the scale except, those measuring *relative advantage* (RA1 and RA2) for which values were lower than the test value. The results of the one-sample t-test showed that this mean difference was significant for all the 12 items of the scale at $p < .05$ for the sig. (2-tailed). This result still reflects the students' positive attitudes towards the use of smartphones, as it shows their agreements with 10 out of 12 items of the post-use Likert scale (overall mean = $3.58 > 3$ test value). Table 7.11 details the results.

Table 7.11: Study 1 – Students' post-use attitudes towards SALL (one-sample statistics)

Scale items	Test Value = 3					
	df	Sig. (2-tailed)	Mean	Std. Deviation	95% Confidence Interval of the Difference	
					Lower	Upper
Perceived Ease of Use (PEU1)	46	<u>.000</u>	4.09	.830	3.84	4.33
Perceived Ease of Use (PEU2)	46	<u>.000</u>	3.74	.793	3.51	3.98
Perceived usefulness (PU1)	46	<u>.000</u>	4.00	.780	3.77	4.23
Perceived usefulness (PU2)	46	<u>.000</u>	3.40	1.097	3.08	3.73
Perceived playfulness (PP1)	46	<u>.000</u>	3.57	.950	3.30	3.85
Perceived playfulness (PP2)	46	<u>.000</u>	3.66	1.027	3.36	3.96
Affect towards use (AU1)	46	<u>.000</u>	3.47	1.080	3.15	3.79
Affect towards use (AU2)	46	<u>.000</u>	3.28	1.057	2.97	3.59
Relative advantage (RA1)	46	<u>.000</u>	2.70	1.350	2.31	3.10
Relative advantage (RA2)	46	<u>.000</u>	2.79	1.267	2.39	3.10
Facilitating conditions (FC1)	46	<u>.000</u>	4.32	1.024	4.07	4.66
Facilitating conditions (FC 2)	46	<u>.000</u>	4.02	.737	3.78	4.22

The intervention students' agreement with the items of PEU, PU, PP, AU, FC, provided evidence that their expectations in terms of smartphones' ease of use, usefulness, playfulness, and availability and accessibility of the necessary facilities

(free Wi-Fi and educational and technical support) were met. The results also suggested that students still felt affect towards the use of smartphones for language learning. However, students' disagreement with RA items indicated that the majority of students did not prefer to use smartphones over their desktop/laptop computers or tablets, or traditional methods and use of coursebooks and printed materials of vocabulary learning following the intervention.

Analysis of students' interviews provided supporting evidence that, with respect to Evernote, they were satisfied, positive, and intended to continue using the app to keep a record of their new words both on their laptops/tablets and their phones. For instance, Student 1 explained that Evernote was a good and convenient app which was easy to use, and it allowed her to complete her vocabulary notebook and to access its information on her phone everywhere. She also added:

I can record my vocabulary forever and easily share them with whoever I like. If I had written them in a paper notebook, I would have put them aside and would have not got back to them and reviewed them at all. [Student 1]

Student 3 stated:

The idea of creating vocabulary notebook for learning vocabulary was good but doing it electronically using Evernote was even better because when I have a word that I do not know its meaning; I just look up for its meaning on my phone. Then I can do some notes on the Evernote. That is easier for me, and it is more convenient.

Student 3 also revealed he preferred typing to writing, as his spelling was not good. He believed the best way to remember words was to review rather than to write things down, as he never paid attention to what he wrote and therefore, the app worked for him as it gave him the chance to review words quickly whenever he was on the bus. Finally, he explained that he was happy about being able to access his vocabulary notebook on Evernote even while back in China, something

which he did not envision doing with the paper version. He stated an intention to continue using the app to keep a record of new vocabulary in the future, as he still needed to expand his knowledge of English vocabulary.

Students 4, 5, and 6 expressed a belief that Evernote was a convenient app, noting their satisfaction with its ease of use, as well as with the help they received from their teachers and the researchers. Student 6 explained:

The adding picture option of the app was very useful in helping me remember the meaning of the words.

To compare the pre- and post-use attitudes of students who took part in the intervention, their pre-use Likert scale data was analysed again, apart from that of remaining students who only completed the pre-use questionnaire and did not take part in the intervention. Figure 7.18 presents the compared results.

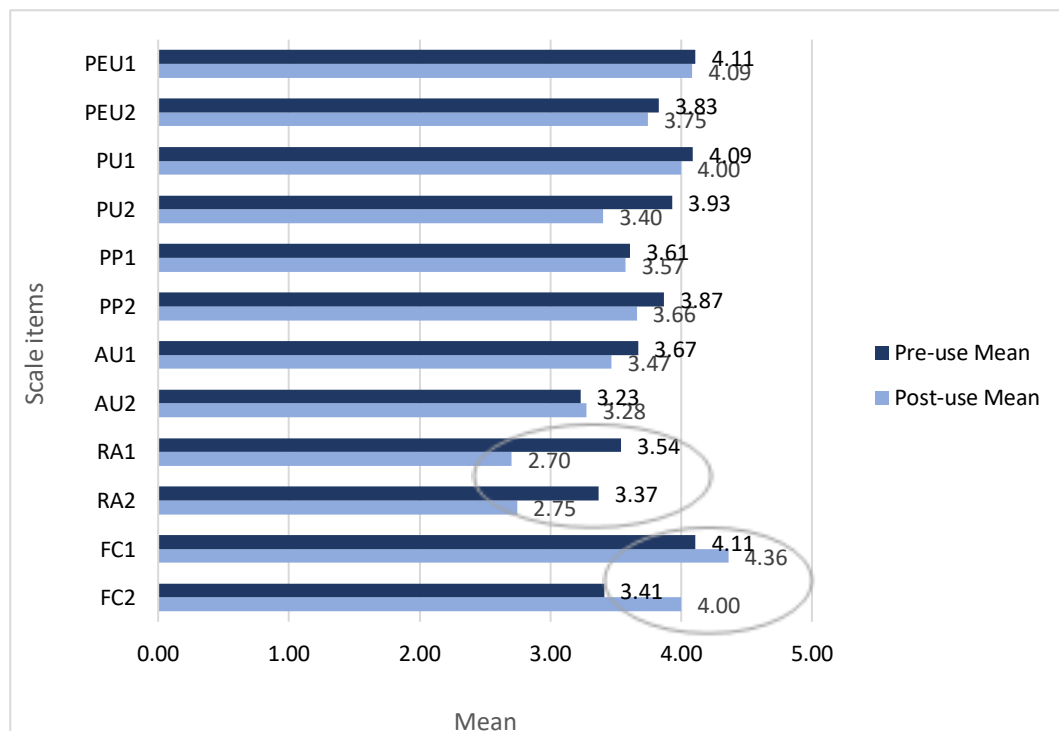


Figure 7.18: Study 1 – Comparison of students’ pre- and post-use questionnaires’ Likert scale mean values

The above comparison of the pre- and post-use Likert scale results shows a very small decrease in the mean for all the items of the scale from pre- to post-use, except for the items of *relative advantage* (RA1 and RA2) that this decrease represents a change from greater agreement to greater disagreement with the items. This means that the majority of students perceived that they preferred the use of smartphones to desktop/laptop computers or tablets and to the traditional methods and the use of coursebooks and printed materials before the intervention. However, the formal use of smartphones and Evernote app for creating an electronic vocabulary notebook was a different experience for them and resulted in a significant change in their perception. Unlike the rest of the items, the post-use mean for both facilitating *conditions* (FC1 and FC2) items shows an increase. This is indicative of students' high satisfaction with the availability and accessibility of free Wi-Fi and the instructional and technical support that they received from their teachers and the researcher.

7.6.3. Teacher's Pre-use Data Analysis Results

Teachers' pre-use data analysis results are also presented in two sections: teachers' smartphone ownership and use, and teachers' pre-use attitudes. The results of all three sources of data – questionnaire, interview, and observation - are combined to address research question 4 in the first section and research question 5 in the second section. The analysis of the responses to questions 1–7 in section A of the teachers' pre-use questionnaire facilitated the presentation of their demographic information; the relevant results are summarised in Table 7.12.

Table 7.12: Study 1 – Teachers’ demographic information

Demographics Teachers	Gender	Age	First language	Qualifications	Teaching experience	Courses taught
Teacher 1	Female	36-45	English	Bachelor of Education	< 10 years	GEAP
Teacher 2	Female	36-45	English	Bachelor of Education	> 10 years	GEAP
Teacher 3	Female	36-45	Vietnamese	Master of Linguistics	< 10 years	GEAP, EAP, ICC in ELT & Postgrad
Teacher 4	Male	36-45	Persian	Master of linguistics	< 10 years	GEAP, EAP, ESP, Exam preparation

7.6.3.1. Teachers’ Smartphone Ownership and Usage

Analysis of questions 8–15 in section A of the teachers’ pre-use questionnaire provided an overview of teachers’ smartphone ownership and use. Teachers’ responses to questions 8–13 which asked about their numbers and types of smartphones, the language on their smartphone menu, their smartphone use hours, and their students’ and their own use of smartphones for educational purposes in class are presented in Table 7.13.

Table 7.13: Study 1 – Teachers’ smartphone ownership and usage

	Smartphone Number	Smartphone type	Smartphone language	Use hours	Students’ smartphone use in class	Teachers’ smartphone use in class
Teacher 1	1	iOS	English	About 2 hours	✓	✓
Teacher 2	1	iOS	English	About 2 hours	✓	✓
Teacher 3	1	iOS	English	About 3 hours	✓	✓
Teacher 4	1	iOS	English	About 2 hours	✓	✗

Question 14 asked about the apps and features that the participating teachers had already incorporated into their lessons. An analysis of responses from the three teachers who had done so is presented in Figure 7.19.

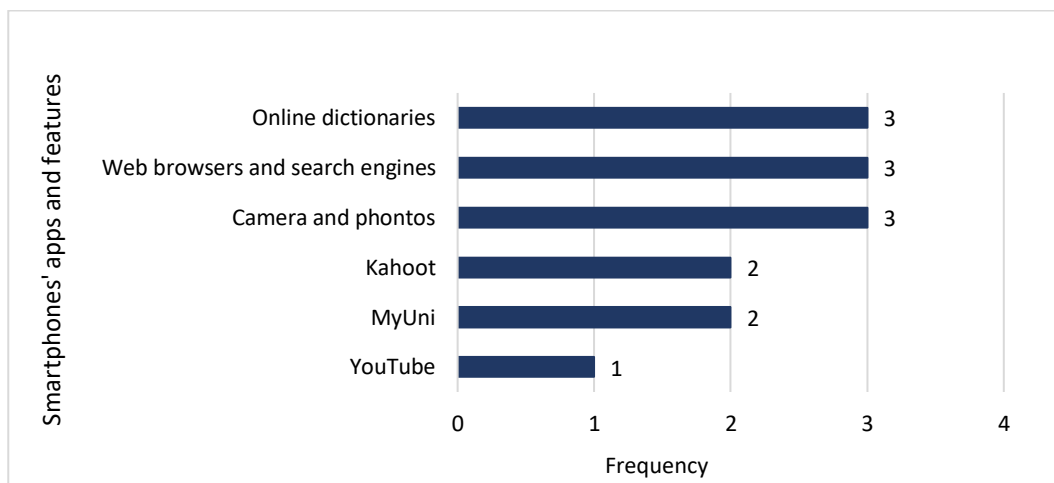


Figure 7.19: Study 1 – Teachers' already incorporated apps and features in their lessons

As explained in Chapter 5, four categories of participant were determined according to their weekly amount of smartphone use: non-users (0 times), occasional users (1 to 15 times), frequent users (16 to 30 times) and extensive users (more than 30 times). The analysis of teachers' responses to question 15 (which asked them about 15 specific uses of smartphones) showed that all four teacher participants could be categorised as frequent users of smartphones; although, their uses of their phone was not in relation to their language teaching and preparing their lessons. Figure 7.20 shows the teachers' use means for each specific feature or app use in question 15.

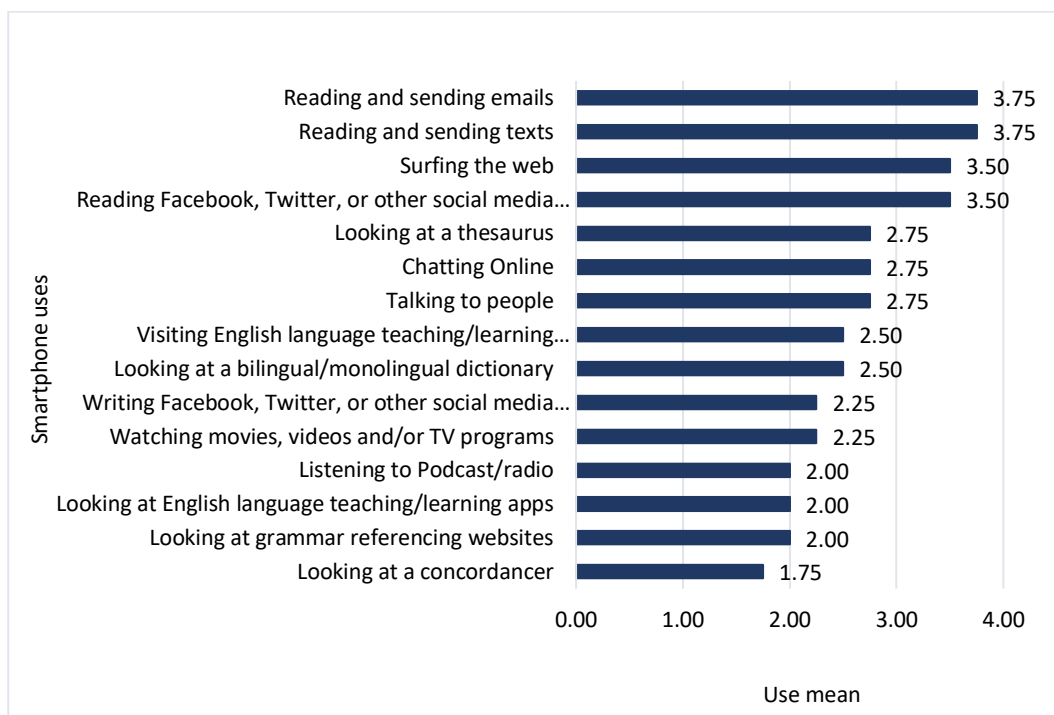


Figure 7.20: Study 1 – Teachers' usage means for 15 specific uses of their smartphones

Teachers' interview data showed that besides their smartphones, all the teachers had access to a desktop computer in the teacher's office for preparing materials. This access to an office computer might explain their low use of phones for preparation of materials. All three teachers used the classroom computer and projector to show their students videos, conduct listening activities, or show students information online whenever necessary. They confirmed that they took their students to the computer room twice a term to complete their research projects.

Teachers confirmed that they let their students use their smartphones for language learning inside their classroom, as they thought this was useful for students. Two of the teachers did not have any specific policies in this regard, but Teacher 3 believed in the necessity of defining rules for students' smartphone use in the first session of the course so that they would not use phones for purposes other than language learning. They all gave some example of the ways they themselves had already incorporated the use of smartphones into their lessons. For

instance, Teacher 1 explained that she asked her students to use their phone to search for specific information in relation to their lessons or use a dictionary to find the meaning of words whenever necessary. She had also used Kahoot (a game-based learning app which lets the users generate and participate in quizzes) a few times in her classes.

Teacher 2 explained that she asked her students to discuss a point of grammar, put that point in a context, and film themselves while using it, then upload the video and show it to the classroom. She thought the activity was “not great, but that was interesting and engaging”. Teacher 3 also explained that she always encouraged her students to search for the information they needed to prove their points in discussions. She also played the game “Taboo” with them, asking students to use their phone to look at the dictionary and find the right English word for a word they knew in their own language but not in English.

7.6.3.2. Teachers’ Pre-use Attitudes Towards SALL

The attitude mean for each individual teacher was calculated (Table 7.14) and compared with the test value ($\mu = 3$). The results showed that the individual teacher’s attitude mean was higher than the test value, indicating positive attitudes towards SALL among the teachers. The mean for each item of the Likert scale and the mean for the whole scale for all four teachers was also calculated, as shown in Table 7.14. A comparison of teachers’ responses’ mean with the test value indicated that teachers’ responses’ mean exceeded the test value for all the items of the scale, except for RA2 (Table 7.15). This shows that although the participating teachers had positive attitudes towards SALL, they did not prefer the use of smartphones for English language teaching over traditional classroom.

Table 7.14: Study 1 – Individual teacher’s pre-use attitude

Test value = 3	
	Total attitudes mean
Teacher 1	3.42
Teacher 2	3.75
Teacher 3	3.92
Teacher4	3.33

Table 7.15: Study 1 – Teachers' pre-use attitude results

Test value = 3														
Scale Items	PEU1	PEU2	PU1	PU2	PP1	PP2	AU1	AU2	RA1	RA2	FC1	FC2	Total attitudes mean	
N	Valid	4	4	4	3	4	4	4	4	4	4	3	3	4
	Mean	4.00	3.75	3.25	3.67	3.25	4.00	3.75	3.25	3.75	<u>2.50</u>	3.52	3.52	3.60

The interview data also supported the idea that teachers held positive attitudes towards the use of smartphones for English language educational purposes, and more specifically, towards the use of Evernote as a way for students to create a personal dictionary. For instance, Teacher 1 outlined some advantages respecting the use of Evernote and electronic vocabulary notebooks in her interview. These advantages were the possibility of regular review and learning pronunciation through vocal pronunciation rather than phonetic alphabet typing, quicker completion of tasks due to the speed of typing, and increased motivation for students to extend themselves. She also explained that if everything went well with the use of Evernote, she would ask her students to use it in her future classes.

Teacher 2 stated that she was sure of the students’ love for their smartphones, as a result of which she thought students would enjoy using Evernote to create their own electronic vocabulary notebooks. She also noted that if she could feel the benefits of the app, she would incorporate its use in all her future classes. Finally,

Teacher 3 explained that Evernote could be a very useful tool for teaching pronunciation to students. She recommended that:

Teachers can ask their students to use Evernote to record their pronunciation and then teachers can check them and record their own voice and asked students to repeat a few times after listening. This way it can be a very useful tool for learning and improving pronunciation, too.

In addition, all three teachers confirmed they did not have any concerns about the intervention, and they did not think that the use of the phone and the app might turn into an issue. Teachers 1 and 3 expressed their confidence in the technological aspects of the work. Teacher 2 was uncertain as to whether she was expected to instruct the students in downloading and using the app, so she stated she might need more instruction on how to download and use Evernote.

7.6.4. Teachers' Post-use Data Analysis Results

The three teachers who downloaded and used Evernote completed the post-use questionnaire and took part in the following-up interview. The teachers' post-use data analysis results are also presented in two sections: teachers' experience with Evernote and teachers' post-use attitudes towards SALL. The results helped in addressing research question 6, which asked about the teachers' experience with the formal use of smartphones and Evernote, as well as their post-use attitudes towards SALL based on their own experience.

7.6.4.1. Teachers' Experience with Evernote

Analysis of the post-use interview data showed that the teachers who downloaded and used the app did not face any major issues, especially as they had the support of the researcher whenever necessary. For instance, Teacher 2 explained:

Initially it was, because I was not familiar with the app, but once I became familiar with it, it seemed ok. [In addition], because you

instructed and forwarded the template to the students, it made it easier, but if I wanted to make it by myself, I am still not 100% sure.

The interview data also showed that Teacher 1 downloaded Evernote both on her smartphone and her office desktop computer. She used her phone to look at the students' work on Evernote at least once a week and leave comments and notes for them and used the Work Chat to answer the students' questions. She used her office computer to mark students' vocabulary notebooks at the end of the term, as the computer screen was bigger and she could see their entire notebook page at once on the screen.

Teacher 2 only downloaded Evernote on her phone and used it for both reviewing and marking the students' vocabulary notebooks. She looked at the students' work twice a week. She explained that she did not download the app on her office computer as it was easier and quicker to use the phone and only 3 or 4 students used the app each term, she also claimed that it was not that hard to mark this number of students' vocabulary notebooks on her phone, but she was sure that if the whole class had been using the app, she would have downloaded Evernote on her computer, too. Teacher 3 downloaded the app on her tablet and office desktop computer, where she used it to review students' work.

Teachers 1 and 2 (who helped the researcher with instructing students on how to download and use the app) reviewed a number of problems that the students faced while downloading and using the app in the first two sessions of the course. Both teachers believed that these problems were either technological, or they had emerged from the students' language learning habits and mindset. For instance, Teacher 2 explained students' problems as follows:

Probably, just you know, being used to using the book, and some of them said they like to hand write the words because it helps them

remember, and maybe just being scared of doing more work on the vocab app or being worried about not being able to do it.

The technological problems they reviewed included problem with finding the correct version of the app; difficulty with downloading and signing up stage and sharing their vocabulary notebook with their teachers and the researcher; the necessity of going in and out of the app to search for information and enter it onto the app; small screen size, and the logistics of scrolling up and down, left and right. In Teacher 2’s view, these problems resulted from the incompatibility of the students’ overseas smartphones with the app and slowed down the students’ work.

7.6.4.2. Teachers’ Post-use Attitudes Towards SALL

A descriptive analysis of teachers’ responses to the Likert scale questions is presented in Table 7.16. Comparison of the teachers’ mean with the test value ($\mu = 3$) showed their responses exceeded the scale mean for all the items of the scale and reflected their positive attitudes towards the use of smartphones for English language teaching after their experience.

Table 7.16: Study 1 – Teachers' post-use attitudes

Test value = 3													
Scale Items	PEU1	PEU2	PU1	PU2	PP1	PP2	AU1	AU2	RA1	RA2	FC1	FC2	Total attitudes mean
N	Valid	3	3	3	3	3	3	3	3	3	3	3	3
	Mean	4.50	4.50	4.00	4.33	4.00	3.50	3.50	4.00	3.00	3.00	3.83	3.83

The interview results also showed that Teachers 1 and 3 had more positive attitudes towards the use of smartphones and Evernote. For instance, Teacher 1 explained:

Once you get used to use to Evernote, it can definitely add to your lessons, to your classes and you know with communication, the instant one, students have access to you all the time and they can ask

their questions. In addition, you can trace their work on the app and if you see they are not doing it, you leave a little note for them to remind them to go on.

She also stated that she might consider using Evernote chat rather than the University's platform for instant chatting, as it was like an interactive tool in the classroom, and she thought students were more interested in it. This was exactly what one of the students (Student 2) recommended their teachers do in the post-use attitude interview. She thought it would be good if class activities could be transferred onto students' phones, as done with the vocabulary notebook task, because this saved paper and meant that students did not need to carry hand-outs into class. However, she explained that:

This transition is a hard work for teachers, as they need to spend lots of time to make this transition happen. [Teacher 1]

Teacher 3 stated that she was not sure whether the use of smartphones was a good idea or not, but she was certain that in reality smartphone use could not be stopped. In her view, phone use could be both positive or negative, depending on students and their ability to keep themselves from being distracted by their phone. She also explained that she had fun using the app and thought it was better if the use of the app was compulsory and students could get rid of their paper book in the following terms. From her perspective, the main advantages of using an electronic vocabulary notebooks were that students did not need to use paper and they could carry it everywhere, meaning that they had no excuse for forgetting to bring their notebook unless they forgot their phone. She also thought if the app could create automatic flashcards for reviewing the words, it would be even better. She said she did not mind recommending the use of Evernote to other teachers in the language school, but they needed to get rid of the paper vocabulary book first. She stated:

Most of the teachers hate marking the students' vocabulary notebooks, so they should be interested to go with the electronic version, but it depends how fast they can do it online.

Teacher 2 also had positive attitudes towards SALL and explained that she always encouraged her students to use their phone for dictionaries and research but thought that there must be a balance.

I wouldn't encourage to go paperless or anything like that because I do believe you need that interaction. That is why they are there. If they were learning from their phone, they could stay home, you know what I mean. The balance would be in favour of not using rather than using it, I think.

She also expressed the opinion that there are lots of apps and websites that can be used over the phone and can be incorporated into lessons, but that she liked to see her students communicating across the table rather than being stuck on the phone. She argued that:

Computer, data projector and access to the internet are necessary and if somebody gets my data projector and access to internet, that is a big thing and different. However, mobile phone is useful, but not necessary.

In her view, the paper version of the vocabulary notebook was better, as it allowed her to have everything on one page without needing to scroll up. She noted that she might introduce the app to her students or colleagues as an option, but she would not use it in her own class.

Teachers' pre- and post-use attitude results were compared as presented in Figure 7.21.

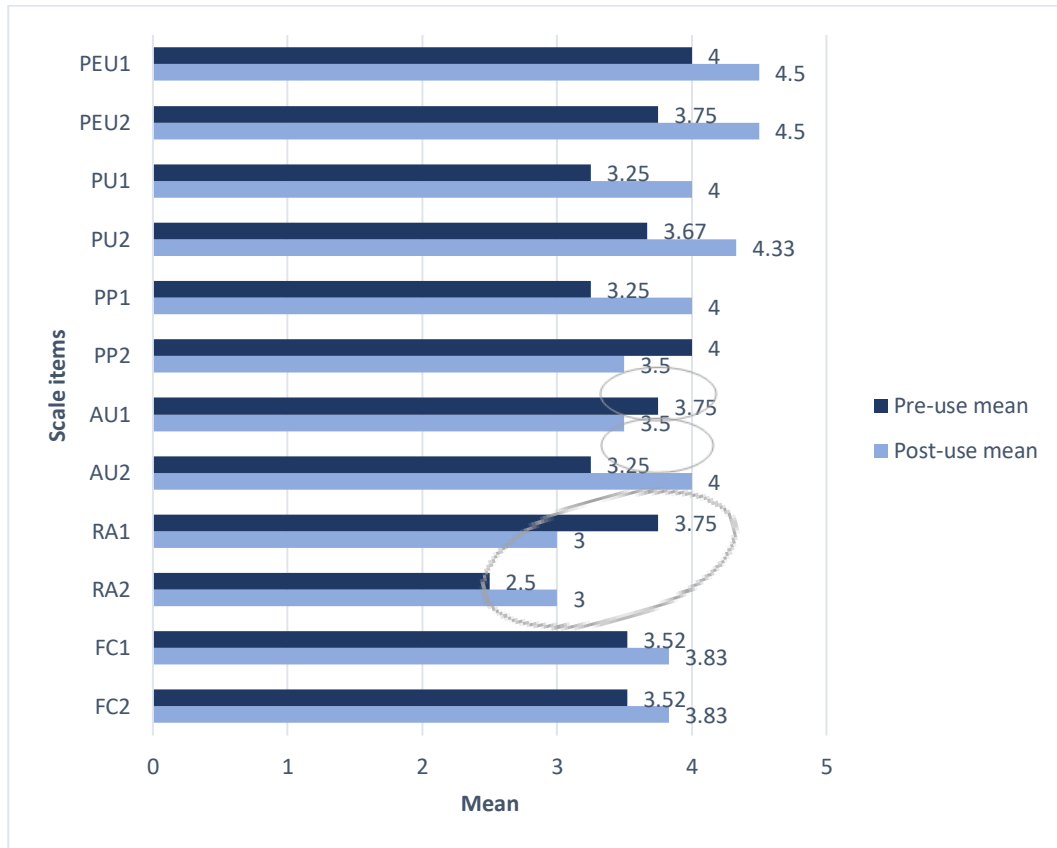


Figure 7.21: Study 1 – Comparison of teachers’ pre- and post-use questionnaires’ Likert scale mean values

The comparison of the teachers’ pre- and post-use Likert scale results shows an increase in the mean for 9 out of 12 items of the scale. The mean for PP2, AU1 although shows a decrease, is still above the test value. Overall, this result indicates the teachers’ overall satisfaction with the use of smartphone. However, similar to the students’ results, it can be seen that there was a decrease in the teachers’ agreement with the RA1, and the mean for both RA1 and RA2 is equal to test value, suggesting the teachers were not sure about whether they preferred the use of smartphones to their computer or tablet or their traditional methods of teaching after having tried it.

7.7. Discussion and Conclusion

The current study examined the possibility of implementing SALL in the classroom settings of EALD courses in an Australian University English Language Centre. To gain a better understanding of this possibility, this section of the study discusses the results from pedagogical and attitudinal perspectives. It also proceeds in the context of activity theory, and the projects' models of pre- and post-use attitude towards SALL, and the theoretical models (user acceptance, the TIB and the EDT) from which they originated. The ubiquitous nature of smartphone ownership will be discussed first, as this is a pre-requisite to the implementation of SALL.

7.7.1. Smartphone Ownership and Ubiquity

When it comes to the use of technology for teaching and learning, the ownership of devices is “a key consideration as it gives the users a sense of comfort which is a prerequisite for engagement” (Naismith, Sharples, et al., 2004, p. 33). Despite the students' restrictions in terms of access to a computer, laptop, or tablet, the pre-use questionnaire results indicated 100% smartphone ownership by all the teachers and students at the English Language Centre. This result is in accordance with the results of the pilot study and findings on students' smartphone ownership reported by Bakhsh et al. (2019) , Bradley and Holley (2011), Hussin et al. (2012), Murugan et al. (2017), and Thornton and Houser (2005), as well as Kafyulilo's (2014) findings on teachers' smartphones ownership. This helps to verify the ubiquity of smartphones in EALD classroom settings.

The results also indicated that Android and iOS were the only operating systems used by the teachers' and students' smartphones in the current study. A very similar result emerged in the pilot study, as well as in Al-Hunaiyyan et al.'s (2018) study, which reported that around 98% of 623 student participants' smartphones and 96%

of 132 teacher participants' smartphones were either iPhone (iOS) or Galaxy (Android). This means that variety – a constraint addressed by Magal-Royo et al. (2010) and Hashemi et al. (2011) which hindered the adaptation of content to smartphones' operating systems and hardware platforms 10 years ago – no longer exists. Therefore, EALD educational smartphone app designers only need to consider designing English language educational apps that can operate on Android and iOS operating systems. This may also decrease EALD teachers' concerns in relation to developing smartphone-assisted tasks and activities, students' access to materials on their devices, and their own ability to deal with students' problems during the implementation of SALL in their classes (White & Mills, 2014).

Furthermore, the results provided support for the idea that younger students might often own more than one smartphone; around a quarter (26.1%) of the EALD student participants in this study (of whom around 80% were under 25) owned two phones. Double smartphone ownership is an advantage to students especially if the operating systems on each of their smartphones are different, due to the number of apps designed for one specific operating system such as Android or iOS (e.g., Squid, Bear, Notability, and Notes). This means less limitation in terms of smartphone app or feature use for language learning.

The results also showed that although students mostly used bilingual dictionaries, they did not have major issues in the information that they added to their vocabulary notebooks and their teachers were quite satisfied with their work, even though they might have copied information from one or more dictionaries. This study did not collect any data in relation to the students' training in dictionary use as this was not the focus of the study, but Liu et al. (2019) concluded that the Chinese students in their study needed training in electronic dictionary selection

and use in order to become autonomous dictionary users. My own results support the necessity of teachers' and students' training not only in relation to smartphone use for educational purposes but concerning dictionaries and dictionary use.

Overall, the results discussed in this section reflect the potential of EALD contexts for the implementation of SALL, especially in developing countries where smartphones might be the dominant accessible technology.

7.7.2. The Possibility of the Implementation of SALL from Pedagogical Perspectives

From pedagogical perspectives and according to the study's pedagogical framework, activity theory (AT), smartphones can help teachers with the implementation of language learning theories, and therefore help learners with their language learning. In addition, when it comes to the implementation of SALL in a classroom setting and as a social activity, rules and division of labour also play important mediating roles in the course of leading the teachers and students attain their objective(s). Above all, the objective of an activity is achievable in the context of teachers' and students' interaction with smartphones and with each other synchronously and/or asynchronously.

The study showed that a combination of smartphone apps such as Evernote, online dictionaries, and search engines had the potential to assist teachers with the implementation of cognitivist and constructivist theories and to help students with their vocabulary learning through adapting a vocabulary notebook task which was developed based on these theories. Evernote was adaptable to the vocabulary notebook task as a result of work completed by the researcher prior to the intervention. This should be considered by stakeholders as, according to Teacher 1, this is hard work for teachers and something with which they will require support.

In addition, the study results showed that 18 students (36.7%) who followed the instructions; communicated their problems with their teachers, the researcher, and/or their peers; and put in sufficient effort were able to use the app, create their own electronic vocabulary notebooks on the app, and take advantage of it. However, the students who did not communicate their problems or did not put the necessary effort in, were obliged to stop. The most important rule and regulation in relation to the use of smartphones echoed by the teachers and the students in the study was the following dictum:

Not to use your smartphone for purposes other than language learning inside classroom.

7.7.3. The Possibility of the Implementation of SALL from Attitudinal Perspectives

As explained in Chapter 4, the pre- and post-use attitude and intention models used in this project used to study teachers' and students' attitudes were built upon the user acceptance models, the theory of interpersonal behaviour (TIB), and the expectation and disconfirmation theory (EDT). The pre-use attitude model shows that teachers' and students' expectations and beliefs in relation to smartphones' ease of use, usefulness, and playfulness, together with their affect towards the use of the technology and their preference for using such technology shape their attitudes and intentions towards using smartphones for language teaching and learning. In addition, the model shows that teachers' and students' intentions to use smartphones will result in the actual use of smartphones for language educational purposes provided that both parties are provided with the necessary facilities (Figure 7.22).

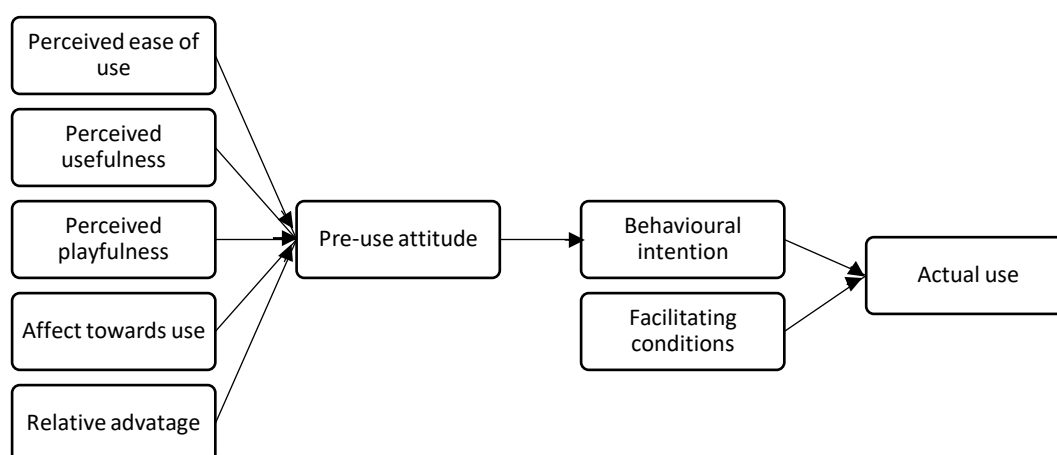


Figure 7.22: The projects' pre-use attitude and intention to SALL model with its six constructs

The post-use attitude model dictates that teachers and students will continue to use smartphones for language teaching and learning given that their pre-use expectations and beliefs were met during the use of smartphones for language teaching and learning, indicating their satisfaction with the use of smartphones.

The pre- and post-use Likert scale results in the current study showed that the majority of teachers and students exhibited agreement with all or almost all the constructs of the study models and held positive attitudes and intentions to the formal use of smartphones for educational purposes, both before and after the intervention. With regards to the attitude models outlined above, such positive attitudes and intentions should have resulted in the actual use of smartphones for language teaching and learning, which will be continued in future. However, unwillingness to use smartphones and a change in teachers' and students' stated preferences for the use of smartphones were indicated in the study when it came to the specific type of smartphone use that was stipulated in this study.

7.7.3.1. Unwillingness to Use Smartphones

Teachers demonstrated unwillingness to replace the use of computer room with the use of smartphones in class for research tasks during their information sessions, and most of them displayed an unwillingness to participate in the study at the time when they were formally invited to do so. A large number of students also expressed their unwillingness and stopped using Evernote after the first two introductory sessions of the class (during which they had become familiarised with the app and started to download and work with it).

Study results showed that one of the reasons underpinning such unwillingness by both the teachers and the students came from their mindset. Dweck (2012) has defined mentality/mindset as a person's beliefs about their own or other people's attributes such as abilities, intelligence, aptitude, style, and personality. In her 2016 study, she showed that, like attitudes, mindsets are changeable in nature and can be modified through encouragement and training (Dweck, 2016). Accordingly, it can be argued that the teachers' and students' mentalities and mindsets acted both as drivers and barriers to the use of smartphones in the current study. Tanaka and Saito (2021) also found that Japanese school teachers' mindsets and beliefs in the efficacy of traditional teacher-centred pedagogy acted as barriers to their uptake of technology in their teaching.

The first example of mindset working as a driver of the use of smartphones in the current study was the teachers' and students' mindset in relation to the presence of smartphones in class; when in their pre-use interview, they explained that they did not see them as distractions. While the literature has reported negative mindsets in relation to the presence of smartphones in classrooms in many cases among teachers and students (e.g., Landes & Freeman, 2019; Sarwar & Soomro, 2013;

Tindell & Bohlander, 2012; Uğur & Tuğba, 2015), the teachers and especially the students in the current study expressed their belief in the necessity of the presence of smartphones in class due to their advantages. In addition, although both teachers and students echoed the dictum about restricting smartphone use in class to language learning, two of the interviewed teachers and all the interviewed students did not believe in the necessity of following this as a strict rule. The second example is the case of the two students who stated (in their post-use interview) how their beliefs about their own weakness in writing positively impacted their attitudes and intentions to use Evernote and create a personal electronic vocabulary notebook.

By contrast, belief in the unsuitability of smartphones for pair and groupwork was the main reason for the teachers' unwillingness to replace the use of computers in the computer room with the use of smartphones inside their classroom. In addition, teachers who participated in the information session but did not participate in the study expressed two concerns in relation to the creation and use of electronic vocabulary notebooks: students' copying and pasting information, and the lack of physical writing entailed by the use of Evernote and smartphones. Likewise, the students' post-use questionnaire results revealed that 12 students (40%) recorded their belief in handwriting as an effective means of learning, and remembering information was one of the reasons or the main reason why they ceased using Evernote.

These concerns were borne out in the current study, as teachers and the researcher observed much copying and pasting in the students' vocabulary notebooks on Evernote. Nevertheless, it should be noted that not all students copied and pasted all information. For instance, one of the post-use interviewee students explained that he always copied and pasted the link to the pronunciation or the

English definition onto the app, but that he typed the word forms or the daily activity, e.g., writing example sentences (Figure 7.13 and Figure 7.14). It is also worth noting that the copying of information is not exclusive to the use of technology and smartphones, as students can also copy information from dictionaries when they are completing their paper vocabulary notebook. However, the use of smartphones for pair and group work provides students with a chance for interactional communications and collaborative learning and is a communicative technique which needs to be explored more in future research.

The second reason underpinning teachers' and students' unwillingness was their choice of voluntary participation. In developing their IDT model and an instrument to measure users' perceptions of Information Technology (IT), Moore and Benbasat (1991) proposed *voluntariness* as a factor that influences behaviour and user technology acceptance, defining it as "the degree to which use of the innovation is perceived as being voluntary, or of free will" (p. 195). As explained in Chapter 4, the results of Venkatesh et al.'s (2003) empirical comparison of the attitude and intention constructs in TRA, TAM, MM, TPB, C-TAM-TPB, MPCU, IDT, and SCT did not include *voluntariness* as a significant determinant of attitude and intention to use technology.

Considering the results of Venkatesh et al.'s (2003) empirical comparison, *voluntariness* was not included in the pre-and post-use attitude models of this project. However, the current study found that *voluntariness* was a factor in actual use of technology. Although the pilot study results indicated the teachers' positive attitudes and intentions towards the implementation of SALL, and despite the researcher's efforts to alleviate the teachers' concerns and familiarise them with Evernote and the advantages of creating electronic vocabulary notebooks, only four

teachers agreed to take part in the intervention, as participation in the study was voluntary. Similarly, 67% of the students stopped using Evernote by the end of the second or third session. The impact of voluntariness on the students' decision to cease the use of Evernote was confirmed by two of the three teachers interviewed post-use. These teachers stated that they were certain that if the students had not been given the choice over whether or not to participate, they would certainly have chosen Evernote.

The third reason for which teachers and students were unwilling to participate included technological problems. These were the most important reason underpinning students' unwillingness to continue using Evernote and creating an electronic vocabulary notebook. *Perceived ease of use* (PU) is defined as "the degree to which a person believes that using a particular system would be free of effort" (Davis, 1985, p. 82) and *facilitating conditions* (FC) are objective factors that make an act easy to accomplish (Triandis, 1979). It was explained that in the context of English language education, these facilitating conditions include the availability and accessibility of the device, a free Wi-Fi internet network, and instructional and technical support. In terms of SALL and its implementation, smartphone ownership reduces the language schools' or institutions' concerns respecting the provision of necessary technological devices such as computers and laptops.

The necessity of technical support and ICT skill training have constantly been noted by researchers in the literature (e.g., Kessler & Hubbard, 2017; Pierson, 2001; Raman & Yamat, 2014; Shuldman, 2004; Van Braak, 2001). In the context of SALL, however, it was claimed that smartphone personal ownership (and the familiarity of the teachers and students with the device) also allows language

schools to have technology-equipped classes without needing to pay for the costs of providing training or support (Bradley & Holley, 2011).

Teo (2009, 2011) carried out two separate studies, one on 475 pre-service teachers' computer acceptance in 2009 and the other on 592 schoolteachers' attitude towards use and behavioural intention to use technology for educational purposes in 2011. Both Teo's (2009, 2011) studies confirmed the impact of *facilitating conditions* on *perceived ease of use*, indicating that instructional and technical support with the use of technology brings about ease of use and, vice versa, the ease of use of a technology can decrease or even diminish the necessity of the instructional and technical supports.

The pre-use Likert scale results in the current study indicated that teachers and students exhibited more agreement with the items of *facilitating conditions* on *perceived ease of use*, proposing their belief in both the ease of smartphone use and the necessity of the presence of free Wi-Fi and instructional and technical support. The post-use Likert scale results confirmed teachers' and students' aforementioned beliefs and revealed their satisfaction with both ease of use of the device and the presence of the facilities.

Results from observational records and interviews were both in favour of and in contradiction with the above results. In support of the above results, both sources of data showed that none of the three teachers who downloaded and used the app faced any major problems at any stage of their teaching. With the instruction and support of the researcher and their own effort, they easily used the app and even helped the researcher with instructing and supporting the students. To express their satisfaction with the researcher's instruction and support, Teacher 1 noted her happiness with the researcher's help regarding organising the students' work into

stacks on the app. Furthermore, Teacher 2 stated that she doubted she would not have been able to integrate the use of Evernote to the students' vocabulary notebook task without the ready template which was prepared and forwarded to the students by the researcher.

Likewise, despite facing problems, the students who used Evernote and created their own vocabulary notebook on the app were able to overcome their problems with the help and support of the researcher, their teachers, or even their peers, and through their own effort. They also expressed their satisfaction with the instructional and technical support which they received. For instance, Student 1 explained that she had a problem with verifying her email, but that she was able to solve this with the help of the teacher. All student participants in the interview were also positive about the possibility of asking their questions and discussing their problems with the researcher on the Evernote Work Chat, and Student 2 recommended that teachers use Evernote Work Chat to remind them of their tasks and activities.

Conversely, the post-use questionnaire results also showed that 30 students (61.2%) faced technological problems when attempting to download and use the app on their smartphones in the first and second sessions of the intervention, and 12 (40%) of these students expressed that they did not discuss their problems with their teachers, the researcher, or their peers. These technological problems on their own (as well as in combination with one or both of the aforementioned issues – mindset and voluntariness) acted as a significant hurdle for the 31 students (63.3%) who stopped using Evernote on their smartphones in the first and second sessions of the intervention. Technological problems were the main sorts of problems recorded by previous studies on the use of smartphones for language learning (e.g.,

Alrefaai, 2019; Burston, 2011; Campbell & Geertsema, 2017; Cavus & Ibrahim, 2009; Hashemi et al., 2011; Lu, 2008; Magal-Royo et al., 2010; Tayan, 2017). The technological problems reported by teachers and students were categorised into two main groups: problems with the Evernote app and the problems with smartphones.

Problems with the app arose as a result of international hurdles (e.g., difficulty with finding the English version of the app in the app shop); students' lack of digital literacy (e.g., difficulty with downloading and signing up, verifying email and accessing what was shared, accessing and using dictionaries and search engines via the app, copying and pasting pictures, and adding pronunciation links); or difficulty of working with the app (e.g., arduous editing, and sudden and unwanted deletion of work due to a simple mistake). Problems with smartphone included its small screen and keypad size and being slow and time-consuming.

The above results and discussion have two implications. First, they confirm the necessity of facilitating conditions and their critical role in converting teachers' and students' intentions towards SALL into actual use of smartphones for language teaching and learning in line with Triandis' (1979) TIB. It could be seen that even with a technology like smartphones (devices, which the participants owned and with which they were familiar) teachers and students still face problems and need instruction and support when they are required to use the unfamiliar apps and the use of the device goes beyond their own current uses of the device. This finding contradicts Bradley and Holley's (2011) claims concerning smartphones' cost-effectiveness use in terms of not requiring instructional and technical supports.

Second, they confirm Teo's (2009, 2011) findings in terms of the impact of facilitating conditions on the ease of use of smartphones, as the presence of the necessary instructional and technical support helped all three teacher participants

and the 18 students who used Evernote, learn how to use the app and resolve the problems that they faced. However, once again, they also confirm the role of users' own efforts and communicational interactions as a part of this effort, a dynamic which was also in line with AT (see section 7.7.2), as another defining factor of underlying successful use of smartphones and SALL.

7.7.3.2. Change of Perception in Relation to the Use of Smartphones Over Laptops, Tablets and Traditional Methods of Teaching

Considering *perceived usefulness* (PU) and *relative advantages* (RA) in the study model and their items in the pre- and post-use questionnaires in the current study allowed the researcher to better understand the teachers' and students' perceptions of the advantages and usefulness of SALL and their preference for the use of smartphones. Comparison of pre- and post-use Likert scale results indicated that teachers and students both exhibited strong agreement with the PU items before and after the intervention, proposing their belief in the usefulness of smartphones in the pre-use stage and confirming this belief in the post-use stage. Interview data also showed that apart from a little uncertainty about the usefulness of learning vocabulary in isolation and via a vocabulary notebook (Teacher 2), the usefulness of smartphones, especially for improving the students' vocabulary and pronunciation, was endorsed both by the teachers and the students. Both groups noted a range of advantages associated with the use of smartphones, Evernote, and electronic vocabulary notebooks in their interview.

The advantages attributed to smartphones and their use for language learning were recorded as convenience, availability, accessibility, mobility, and reminders. These advantages somewhat echo Hashemi et al.'s (2011) and Anshari et al.'s (2017) findings, which identified the benefits of m-learning as affordability,

accessibility, portability, convenience, chances of interaction and collaboration, learner's engagement, increased motivation, just-in-time and relevant learning, and chances of assisting disabled learners. The advantages of the Evernote app and electronic vocabulary notebook were recorded as moving beyond the limitations of paper and pencil (e.g., the possibility of audio pronunciation guides and typing instead of writing); the possibility of downloading and using the app on various devices at the same time (computer, laptop, tablet, and smartphone); acting as a single repository; letting lifelong recording of information including vocabulary, easy sharing, regular revision, instant feedback; and motivating students to extend themselves.

While according to the user acceptance models and the EDT, it should be expected that a belief in the usefulness of smartphones could lead teachers and students to use them, a change of preference was noticed in the students' and teachers' responses to RA items. A comparison of students' pre- and post-use responses showed that they exhibited more agreement with both RA items in the pre-use stage (stating their preference for smartphones over desktop/laptop computers, tablets, and traditional methods) and their more disagreement with RA items in their post-use results (reflecting their change of preference). Teachers' results indicated a decrease in their agreement with RA1 (from agreement to the neutral point) and an increase in their agreement with RA2 (from disagreement to the neutral point). This result reflected the teachers' preference for the use of smartphones over desktop/laptop computers and tablets but not over traditional methods before the intervention and their overall uncertainty in relation to their preference for the use of smartphones over these technologies and traditional methods after the intervention.

Students' responses to questions 5 and 6 in the post-use questionnaire indicated that about 93% of those who used Evernote also downloaded the app on their laptop or tablet, using these devices to complete their vocabulary notebooks. The students' post-use interview results also showed that the six interview participants mostly used their laptop or tablet to complete their vocabulary notebook on Evernote, especially as they had to do most of the work at home. Student 5 explained that she even brought her laptop into the class and used it to complete her vocabulary notebook. The limitations of smartphones – their small screen size and the necessity of scrolling up and down, left and right and their small keypad size and the high possibility of mistaken typing – were reported time consuming and as the main reason underpinning such a preference.

In a similar manner to students, teachers' post-use interview data revealed that only one teacher (Teacher 2) used her phone to review and mark students' vocabulary notebooks, as only 4 students used Evernote in her class and Teachers 1 and 3 had downloaded the app both on their phones and office computer. Teacher 1 also explained that she used her phone to review students' work quickly and give them feedback, while used her office computer to mark students' work at the end of course. Both Teachers 1 and 3 described the computer's bigger screen as an advantage that let them see all the information on the students' vocabulary notebook pages without needing to scroll.

This result is in line with Stockwell (2007) and Vasudeva et al.'s (2017) findings. Stockwell (2007) found that 50% of students in his study had not used the mobile phone platform for his intelligent vocabulary tutor system application at all, and they had completed most of their tasks on the system using a computer. Large screen size, suitability for long-time focusing, and low cost were recorded as main

reasons underpinning the students' choices. Vasudeva et al. (2017, p. 3) also found that although the 166 students who participated in their study used their mobile phones more than other devices, whenever there was a possibility to choose, "they used differing devices in different ways" (e.g., using their laptop for taking notes and doing complicated tasks and their mobile phones for searching, recording, texting, taking pictures, and watching videos).

With regard to above results, it can be concluded that (regardless of their belief in the advantages of smartphones) whenever teachers and students have a choice of technology, they prefer to use desktop/laptop computers or tablets, since they have a bigger screen and keypad. They also prefer to use a computer or tablet for more laborious tasks, especially those that involve entering information and typing, while using their phone for less demanding activities such as searching the web, reading, and reviewing work. Therefore, it can be seen that the type of activity (in terms of the time and effort it requires to be completed) has a great impact on teachers and students' decision making whenever there is a choice of technological device for their language teaching and learning.

Combining the preceding discussion on the possibility of implementing SALL based on the results of the study and in the context of attitudinal perspectives, it can be concluded that attitudes and intentions towards SALL were influenced by the following factors: that familiarity of teachers and students with their smartphones, their affect towards its use, its ease of use, usefulness, playfulness, and even the presence of the necessary facilitating conditions can reflect teachers' and students' attitudes and intentions towards SALL. However, teachers' and students' positive attitudes and even their intentions to use smartphones for educational purposes did not guarantee the actual use of the device and its apps and features for such purposes

when the teachers' and students' use of the device goes beyond their current educational and non-educational uses of their smartphones. In this regard, the study found the direct moderating impact of effort, mindset, voluntariness (of free will), freedom of choice of technology, and smartphone limitations and the indirect moderating impact of type of activity/task on the teachers' and the students' intentions to SALL as visualised in Figure 7.23. However, there is still a need for more quantitative and qualitative research to further examine the impacts of these moderators. It is also important that language institutions' stakeholders, EALD material developers and teachers consider these moderators if they are thinking of integrating SALL into their language educational settings.

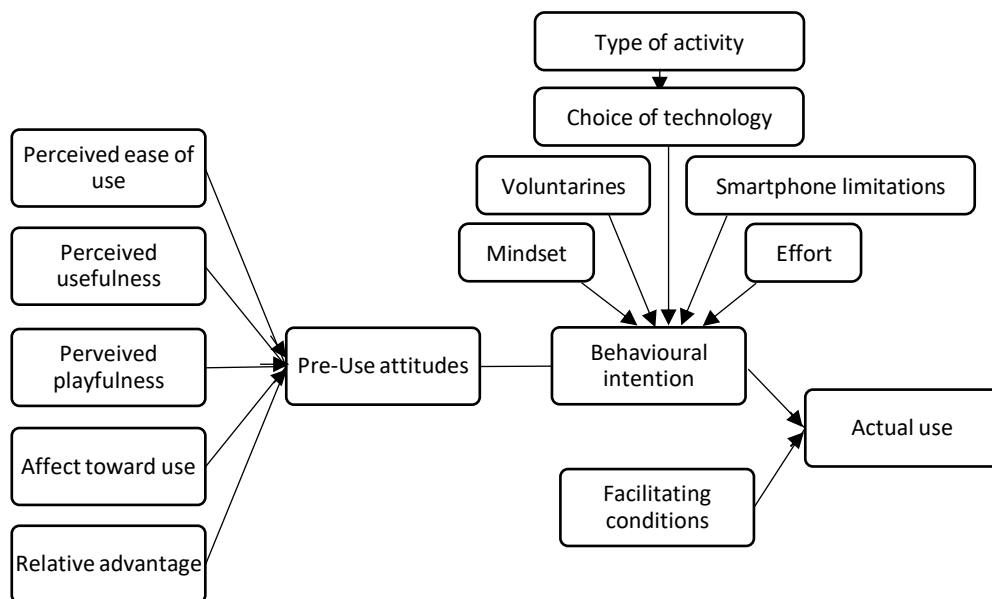


Figure 7.23: Study 1 – Factors impacting the formal implementation of SALL

Finally (as explained in chapter 4), considering *affect towards use* (AU) and *perceived playfulness* (PP) in the pre- and post-use attitude models of the project allowed the researcher to examine teachers' and students' perceptions of all three dimensions of intrinsic motivation: curiosity, concentration, and enjoyment. The

Likert scale results from the students' and teachers' pre- and post-use questionnaires revealed their overall agreement with the items of AU and PP. This indicated that both teachers' and students' beliefs in the sense of curiosity, concentration, and enjoyment that the use of smartphones could afford. It also indicated that the teachers' and students' expectations in this regard had been met.

However, except for Teacher 3, none of the post-use interview participants talked about the intrinsic motivational aspect of the use of Evernote for creating and using an electronic vocabulary notebook. Teacher 3 stated that the use of Evernote could have been more fun for the students if it had offered them flash cards for reviewing their words. It is important to note that this necessity has already been felt by English language learning and dictionary app designers as many if not most of these apps, including Youdao, include flashcards as well as other significant features such as quizzes and gap-fill exercises. For example, Merriam-Webster's learner's dictionary and Quizlet let their users create flashcards and Kahoot offers a range of exercises (e.g., gap fill) to their users, so they can test themselves on the vocabulary that they have learned. Note-taking app designers including Evernote Corporation could consider adding gamification features to their apps to make them more educational, engaging, and useful for students.

7.7.4. Conclusion

Overall and with regard to the discussion, it can be concluded that the successful implementation of SALL is more possible in language educational settings where teachers and students have no choice of technology other than smartphones. Otherwise, despite their possible advantages, smartphones can only play a complementary role to the use of desktop/laptop computers or tablets for less

demanding activities and tasks due to their small screen and keypad size. However, there is still a need for more qualitative and quantitative research in this regard.

CHAPTER 8: STUDY 2

AN INVESTIGATION INTO TEACHERS' USAGE AND ATTITUDES TOWARDS THE USE OF SMARTPHONES FOR ENGLISH LANGUAGE TEACHING

8.1. Introduction

As explained in Chapter 4, this research project found only two studies in the literature – Alzubi (2019) and Abugohar et al. (2019) – which have specifically looked at teachers' attitudes towards the use of smartphones for English language teaching. However, both studies were conducted in Saudi Arabia and neither utilised any theories underpinning their study of attitudes towards SALL. As a response to this gap, a mixed-methods study was designed and conducted to investigate English as an Additional Language or Dialect (EALD) teachers' educational related smartphone uses and attitudes towards Smartphone Assisted Language Learning (SALL) internationally. It also examined if differences in EALD teachers' age, gender, qualification, teaching experience, and amount of smartphone use have any impact on their attitudes towards their use of the device for English language teaching. This study was a complement to study 1 which included a limited number of teacher participants, and it is significant in terms of giving a broader and a clearer picture of the possibility of the implementation of SALL in English language classroom settings based on the teachers' attitudes and intentions to SALL. The study has implications for language institutions' stakeholders.

8.2. Objectives

The following objectives were followed in this study:

- To investigate worldwide EALD teachers' current smartphone uses for educational purposes and the extent of their use.
- To examine EALD teachers' attitudes towards the use of smartphones for English language teaching.
- To explore any connections between EALD teachers' age, gender, qualifications, teaching experience, and amount of smartphone use, and their attitudes towards the use of the device for English language teaching.

8.3. Research Questions

The following research questions and sub-questions were examined:

1. For what educational purposes do EALD teachers use their smartphones?
2. What are EALD teachers' attitudes towards the use of smartphones for English language teaching?
 - 2.1. Do age, gender, qualifications, experience, type of smartphone and amount of smartphone use have any impact on teachers' attitudes and intentions to use smartphones for English language teaching?

8.4. Theoretical Framework

Consistent with study 1, the examination of attitudes to SALL in study 2 was informed by expectation disconfirmation theory (EDT), the theory of interpersonal behaviour (TIB), and the user acceptance models outlined in chapter 4. The pre-use attitude model of the project was used to investigate the teachers' attitudes and intentions to SALL by looking at *perceived usefulness*, *perceived ease of use*, *perceived playfulness*, *affect towards use*, *relative advantage*, and *facilitating conditions* as the most significant determinants of attitudes and intentions.

As explained in Chapter 4, examining the impacts of the potential moderating factors that might influence people’s attitudes and intentions to technology is important (Moon & Kim, 2001; Sun & Zhang, 2006; Venkatesh et al., 2003; Wang et al., 2009) and gives a good indication of the possibility of the implementation of SALL in language institutions. Considering the technology, participants, and context of the current study (Moon & Kim, 2001), age, gender, qualification, teaching experience, type of smartphone, and amount of smartphone use were hypothesised as the moderating factors of EALD teachers’ attitudes and intentions and as a result, the actual use of smartphones for teaching English as depicted in Figure 8.1, and were tested.

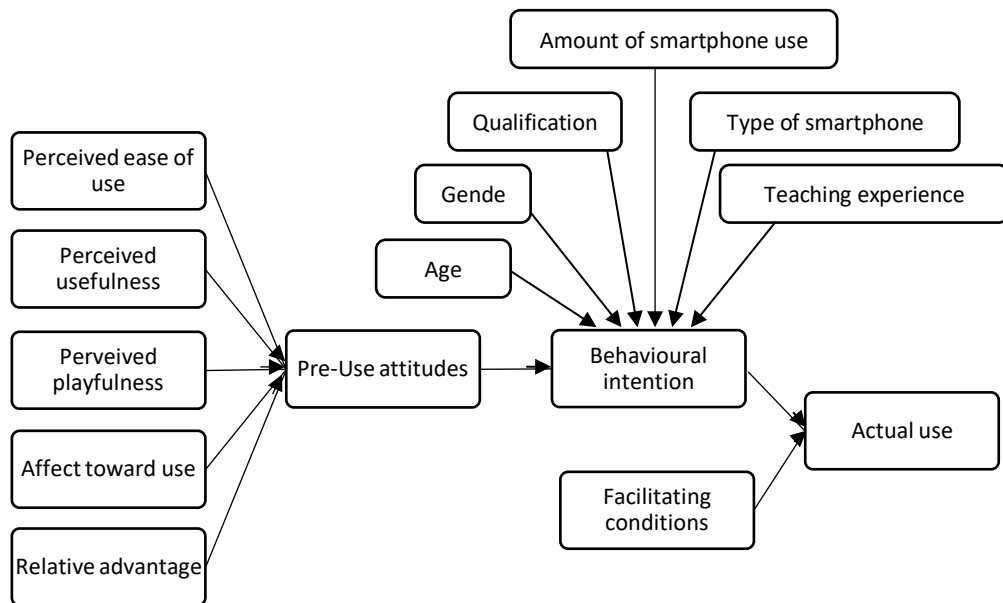


Figure 8.1: Study 2 – The study model to examine teachers’ attitudes and intentions to use SALL and the impacts of the moderating factors on their use behaviour

8.5. Methodology

University ethics committee approval was gained before conducting the study (Appendix C1). The study was mixed-methods research and was conducted online, via questionnaire and interviews, using convenience sampling. EALD teachers who taught students over the age of 18 were invited to take part. Invitations to participate were sent to the directors of language schools in Australia and well-known language schools overseas (e.g., International House, the Bell School, schools run by the British Council). Invitations were also sent online via Unilearn, EATAW (the European Association of Teachers of Academic Writing), and HERDSA (Higher Education Research and Development Society of Australasia).

8.5.1. Instruments and Participants

8.5.1.1. Questionnaire

An online semi-structured questionnaire (Appendix C2) was designed in Qualtrics and was used to collect the data for the quantitative part of the study. The questionnaire was adapted from the preliminary pre-use attitude questionnaire presented in Chapter 5 and validated in the pilot study. Additional questions were added to section A of the questionnaire to give the researcher more detailed information of the ways EALD teachers and their students used their smartphones for language teaching and learning.

As the focus of the study was on worldwide EALD teachers who taught students over the age of 18, the questionnaire included two screening questions after the introductory information about the research. The first question asked the teachers about the age of their students and if they were 18 and above. The second question asked them if they had taught English face to face in classroom within the last 5

years. If the respondent answers were 'no' to these questions, they were thanked and directed to the end of the questionnaire.

The first section of the questionnaire, with 29 questions, asked teachers about their demographic information, their qualifications and teaching experience, and their smartphone ownership and usage. The questions asked about the teachers' institutional policy regarding the students' use of smartphones in class, the apps they noticed their students commonly used, their students' non-educational use of smartphones and the teachers' reactions to it, the ways they had helped their students with the use of smartphones for language learning, and their ideas in relation to professional training for the use of smartphones for language teaching. This section was designed to address the first research question and gather the information necessary for examining the impacts of age, gender, type of smartphone, qualifications, teaching experience, and amount of smartphone use on the teachers' attitudes and intentions to the implementation of SALL.

The second section consisted of 12 Likert scale items which were chosen from the most used items in the user acceptance models reviewed in Chapter 4. The items were adapted to examine the participants' perception of the smartphones' ease of use, usefulness, playfulness, affect towards use, preference, and the necessity of facilitating conditions. The original items in the user acceptance models asked about the users' perceptions of other ICTs' ease of use, usefulness, playfulness, affect towards use, preference, and the necessity of facilitating conditions. For instance, an item like "It would be easy for me to become skillful at using the system", which examined the users' perceptions of the ease of use of a computer system, was changed into "It is/would be easy for me to become skillful at creating smartphone learning activities and materials".

At the end of the questionnaire, the respondents were invited to enter their email address if they were interested to take part in an online interview. In total, Qualtrics showed 117 completed questionnaires from which thirty-two questionnaires were more than 50% incomplete and were excluded from the study, taking the analysed questionnaires to 85.

8.5.1.2. Interview

A semi-structured interview protocol (Appendix C3) was adapted from the teachers' preliminary pre-use attitude interview questions discussed in Chapter 5. This gave the participants further opportunity to explain their current educational uses of smartphones and their attitudes towards the use of the device for educational purposes. Potential interview participants were contacted by email to confirm willingness, receive the study related participant information sheet and consent form, confirm a date and time for the interview, and discuss their concerns and questions before the interviews. Nine responded to the email and consented to take part in an interview. The audio-recorded interviews were conducted online via Skype, WhatsApp, Zoom, or telephone.

8.5.2. Data Analysis

8.5.2.1. Questionnaire Data Analysis Procedures

Data analysis techniques were similar to those of the pilot study and study 1. SPSS version 26 was used to analyse the quantitative data collected from the questionnaires, and Microsoft Excel was used to design the related graphs and charts. Open-ended questions in the questionnaire were imported to NVivo version 12. Main nodes/themes were extracted and defined, and the answers were coded. The new coded data was then transferred into SPSS and analysed quantitatively

using descriptive statistics. The coding system of the data was reviewed and approved by the three supervisors of the study before data analysis.

Normal distribution of the Likert scale data was also checked through calculating the total attitude mean for every individual respondent. The result of the Kolmogorov-Smirnov statistics was non-significant ($p = .081 > .05$) and supported the assumption of normality (Appendix C6). As a result, parametric statistical techniques were chosen to analyse the participants' attitude data in the Likert scale. Descriptive analysis was used to find the mean and standard deviation of the total participants' responses for the individual items of the Likert scale. A one-sample t-test was conducted to find out if the results of the descriptive analysis of the Likert scale data was significant. An Independent-samples t-test was used to compare teachers' attitudes based on their gender. Analysis of Variance (ANOVA) was used to compare teachers' attitudes based on their age, qualification, teaching experience, type of phone, and amount of use.

8.5.2.2. Interview Data Analysis Procedures

Nine interviews were conducted. The qualitative analysis of the interview data was carried out using NVivo as detailed in Chapter 5 section 5.5.2. The first two interviews were reviewed, and the main nodes/themes and sub-themes were highlighted and after being validated by the supervisors, the remaining interviews were thematised based on these themes and sub-themes. The frequency of themes was visualised in charts using Microsoft Excel.

8.5.3. Validity and Reliability of the Likert Scale Items

Face and content validity of the study questionnaire and the interview protocol were assessed qualitatively by the supervisors prior to the data collection (Burton &

Mazerolle, 2011; Drost, 2011; Morrison, n.d.; Taherdoost, 2016). In addition, as explained in Chapter 5, the Likert scale questions were adapted from the items used in previous validated user acceptance models.

The construct validity test was conducted using PCA (Appendix C4) and the results confirmed the suitability of the Likert scale for factor analysis with a KMO value of $.806 > .6$ and Bartlett's test value $p < .05$ (Pallant, 2013). The component matrix results revealed the presence of a simple structure with 10 out of 12 components loading on component one, suggesting all items except FC1 and FC2 were measuring one construct which was the teachers' intention to use SALL.

The reliability test results also confirmed a quite good internal consistency of the scale with the sample and a strong relationship among the items of the scale with a Cronbach's alpha value of $.870$. The corrected item-total correlation values showed a value of less than $.3$ for FC1 and FC2 and confirmed the PCA's results that FC1 and FC2 was measuring something different (See Appendix C4). Consistent with study 1, FC1 and FC2 and their data were kept and included in the result as the scale's overall Cronbach's alpha was above $.7$ (Pallant, 2013). The project's pre-use model used in the study also explained this difference, as FC is not a construct of attitude and intention, but is a condition that can confirm the actual use of smartphones (Triandis, 1979).

8.6. Data Analysis Results

The questionnaire and interview data analysis results are presented in two separate sections.

8.6.1. Questionnaire Results

8.6.1.1. EALD Teachers' Demographic Information

The results of the descriptive analysis of the teachers' responses to the questions that asked the participants about their demographic information are presented in Table 8.1.

Table 8.1: Study 2 – Participants' demographic information

Gender N = 82	Age N = 85	Country of Residency N = 79	First Language N = 72
Females n = 58 (71%)	26-35 n = 7 (8.2%)	Australia n = 24 (30.4%)	English n = 46 (64%)
		The UK n = 24 (30.4%)	
	36-45 n = 30 (35.3%)	Iran n = 10 (12.6%)	
		Germany n = 3 (4%)	
Male n = 24 (29%)	46-55 n = 34 (40%)	Russia n = 2 (2.5%)	Other (Turkish, Arabic, Persian, Russian, Cantonese, German, Romanian, Serbian, Portuguese, Spanish, Setswana, polish, Hindi) n = 26 (36%)
	56-65 n = 13 (15.3%)	Argentina, Botswana, Brazil, India, Japan, Malaysia, Netherlands, New Zealand, Poland, Sudan, Switzerland, Turkey, UAE, Ukraine, Unspecified n = 16 (20.1%)	
	66+ n = 1 (12%)		

8.6.1.2. EALD Teachers' Education and Teaching Experience

Most of the participants' education (n = 77; 90.6%) was at postgraduate level and above (Table 8.2). Only two of the participants (2.4%) did not have any teaching qualifications and the remaining 83 (97.6%) had at least one teaching qualification. Fifty-nine teachers (69.4%) were highly experienced teachers with more than ten years of experience in their teaching history, and 55 (66%) had taught at university.

The participant's most taught courses were Teaching English for Academic Purposes and General English.

Table 8.2: Study 2 – Participant's qualifications and teaching experience

Number of qualifications N = 85	Highest qualification N = 85	Years of experience N = 85	Place of teaching N = 85	Courses taught N = 85
None n = 2 (2.5%)	PhD n = 18 (21.2%)	1-5 years n = 7 (8.2%)	University n = 55 (66%)	Teaching English for Academic Purposes n = 61 (72%)
One n = 45 (53%)	Master's degree n = 50 (58.8%)	6-10 years n = 19 (22.4%)	Language school n = 13 (15.5%)	
Two n = 28 (33%)	Postgraduate Diploma n = 1 (1.2%)	11-15 years n = 20 (23.5%)	Both language school and university n = 8 (9.5%)	
Three n = 8 (9.5%)	Postgraduate Certificate n = 8 (9.4%)	16-20 years n = 12 (14.1%)	College n = 5 (6%)	General English n = 55 (65%)
Four n = 1 (1%)	Bachelor's degree n = 7 (8.3%)			
Five n = 1 (1%)	Certificate (non-university) n = 1 (1.2)	21+ years n = 27 (31.8%)	VET* or TAFE* n = 4 (5%)	

* Vocational Education and Training (VET) or a Technical and Further Education (TAFE)

8.6.1.3. EALD Teachers' Smartphone Ownership and Use

- **Teachers' Smartphone Ownership and Use**

Table 8.3 shows 82 (97%) smartphone ownership by the participants with 10 (12%) owning more than one. Most participants' smartphones were either Android or iPhone and 71 (92%) of the participants used English on their phone menu. From the two respondents who chose 'other' as their answer to question 12, one mentioned that she used German as a second language because she was trying to improve her German language proficiency. One third of the participants used their phone more than 3 hours a day.

Table 8.3: Study 2 – Details of participants’ smartphone ownership and use

Smartphone ownership N = 85	Type of smartphone N = 83	Language on smartphone menu N = 77	Daily smartphones use hours N = 82
No smartphone n = 3 (3%)	Android n = 40 (48%)	English n = 71 (92%)	Less than an hour n = 19 (23.2%)
	iPhone n = 40 (48%)	First language n = 5 (6.5%)	1 - 2 hours n = 35 (42.7%)
One n = 72 (85%)	An Android and an iPhone n = 2 (2.5)	A second language n = 1 (1.5%)	3 - 4 hours n = 22 (26.8%)
	Windows phone n = 1 (1.5%)		5 - 6 hours n = 4 (4.9%)
Two n = 10 (12%)			6+ n = 2 (2.4%)

When asked about their weekly use of their phone for 16 pre-defined apps and features, participants identified that “reading and sending texts”, “surfing the web”, and “reading and sending emails” were their most common smartphone uses, and “looking at grammar reference websites”, “creating English language teaching activities and/or materials”, and “looking at concordances” were their least common ones (Figure 8.2). Following the analytical procedures explained in Section 5.5.1. to define the teachers’ smartphone-use habit based on their weekly uses of their smartphones recorded in Figure 8.2, participating teachers could be categorised as four (5%) non-users, 20 (25%) occasional users, 48 (60%) frequent users, and eight (10%) extensive users. Overall, 70% (n = 56) of the teachers who

participated in the study were either frequent or extensive users of the smartphones' apps and feature.

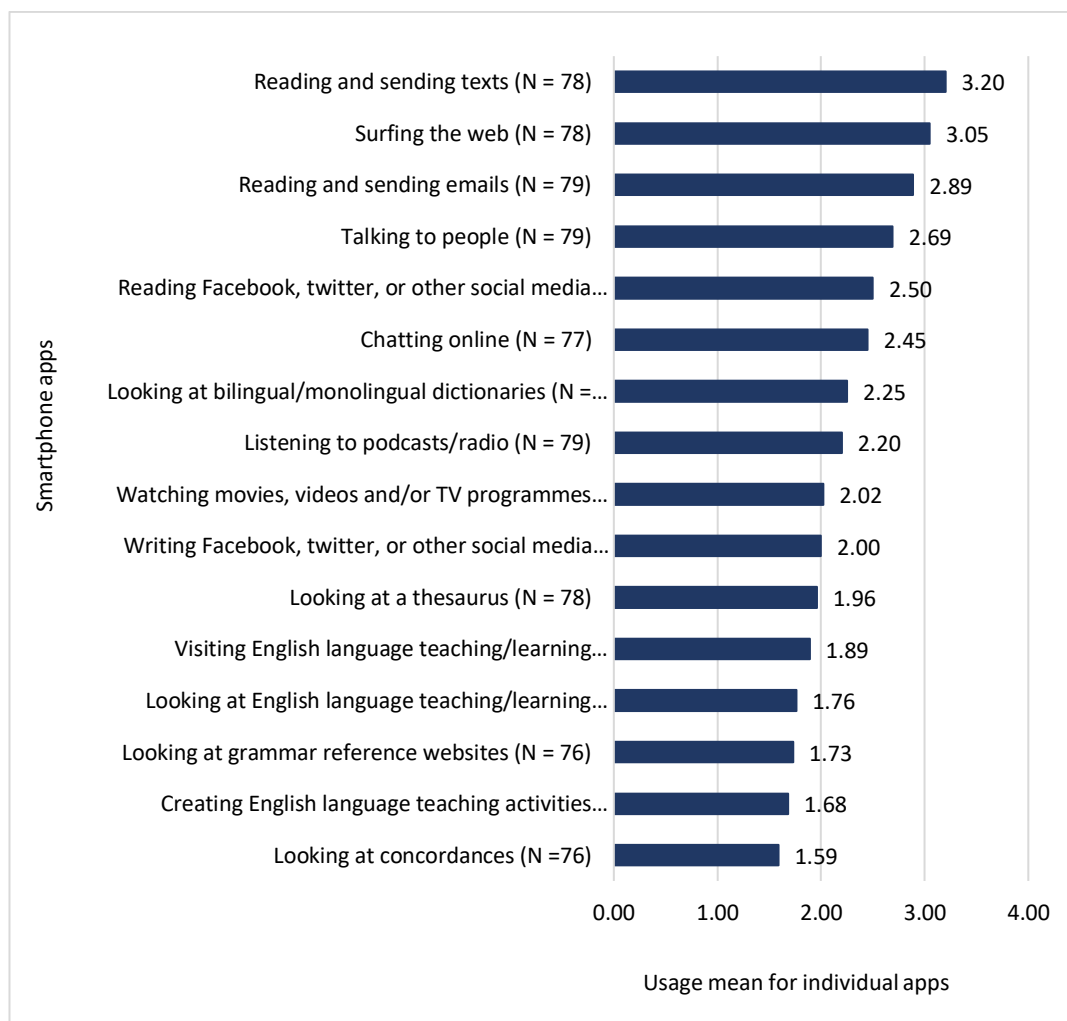


Figure 8.2: Study 2 – Usage mean of the individual smartphone apps and features based on the participants weekly usage

- **Teachers' Institutional Policies Concerning the Use of Smartphones**

The results showed that most of the participants' institutions (n = 53; 62.4%) allowed their students to use their phone in class, nine (10.6%) did not let students use their phone, 11 (12.9%) left it to the teacher's discretion, seven (8.2%) were certain that their institution had no policy regarding smartphone use, four participants (4.7%) were not sure or aware of any policy in this regard, and finally, one (1.2%) mentioned that it was allowed for translation and research.

- **Teachers’ Perspective Concerning their Students’ Use of Smartphones in Class**

Eighty-one participants (95.3%) allowed their students to use their smartphones in class despite many working under institutional restrictions (Figure 8.3). The reasons for not letting students use smartphones in class were reported as “feeling no need for that”, “students losing their chances of conversational interactions”, and “too much trouble and waste of time”.

Six reasons were identified for the teachers’ letting students use their phones in class. This was mainly because teachers (n = 53) considered smartphones as a useful tool and resource.

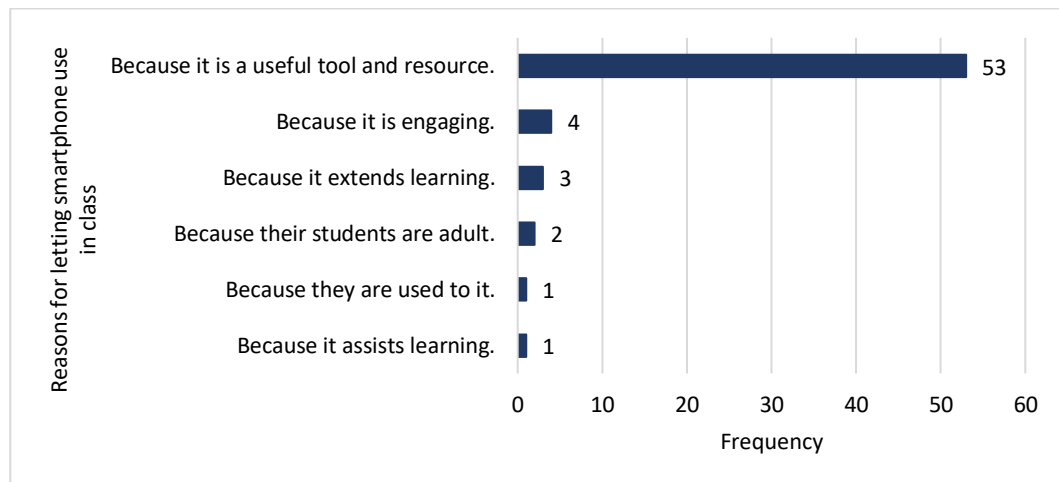


Figure 8.3: Study 2 – Teachers’ reasons for letting their students use their smartphone in class

The teachers were asked which of the ten pre-defined apps and features, noted in the questionnaire, they noticed their students usually used in class. It also asked them to add the name of any other apps and features which had not been named. The responses showed that the most used apps by the students were “online dictionaries”, “internet search engines and web browsers”, and “cameras”, whilst the least used ones were “scanner”, “WhatsApp”, and “video recording apps” (e.g., Flipgrid; Figure 8.4).



Figure 8.4: Study 2 – Apps used by students in class based on participating teachers' report

Teachers were asked what their reaction was if students were using their smartphones for purposes other than language learning in class and how they tried to control this in their classroom. From 78 respondents, 76 had noticed students' using their phone for non-educational purposes inside the classroom. Thematising the teachers' descriptive responses in relation to their reactions and policies to such uses by the students led to three major themes: neutral, mild, and strict. Table 8.4 shows the way the data was thematised and coded.

Table 8.4: Study 2 – Example thematising and coding system

Example of data	Nodes/themes	code
<i>It depends on how much the students are using their phones for other things. If I notice it, I will say something to the class as a whole.</i> <i>As long as they use their phones while waiting for other students to finish a task, I don't mind since it keeps them quiet.</i>	Mild reaction	1
<i>I ignore them</i> <i>Don't mind, they are adults.</i> <i>They are adults, so I don't tend to control usage.</i>	Neutral	2
<i>I explain at the beginning of the semester that they are not allowed to use smartphones without permission.</i> <i>Phones stay at the front of the classroom in a box during lesson time. Only used when teacher says 'get your phones'.</i>	Strict reaction	3

The descriptive analysis of the codes showed that 36 teachers (48.6%) reacted mildly towards their students' non-educational uses of their smartphones in class and seven teachers (9.5%) felt neutral and did not show any specific reaction, whereas 31 (41.9%) showed a very strict reaction towards smartphone use in class.

- **Teachers' SALL-related Professional Training**

Only 23 (28.4%) of 81 teachers had any training on smartphone use for teaching. In their responses to the follow-up question, 48 (59.3%) of the respondents said that they needed training to be able to use smartphones for English language teaching inside classroom, whereas 33 (40.7%) mentioned they did not need any training.

From 23 respondents who had training before, 8 (9.9%) of the total respondents thought that they did not need any more training, whereas 15 (18.5%) believed that they still required more. Of the 58 teachers who had never had any training, 25 (30.9%) thought that they were quite confident with the use of smartphones for language teaching, and they did not need any training. The rest of the untrained teachers 33 (40.7%) expressed they thought they needed training to be able to use smartphones for language teaching in class.

Forty-nine of the respondents (61.3%) believed that their place of employment would give them time or pay for them to attend training sessions in using smartphones for teaching. However, 31 (38.8%) said they would not be supported by their institute. Four of the respondents (5.9%) were not prepared to spend their work hours for learning to use smartphones in their language teaching, and 11 respondents (16.2%) were not prepared to spend their private time for the purpose of training. However, the rest indicated that they were ready to spend varying amount of their working and/or private time on being trained (Figure 8.5).

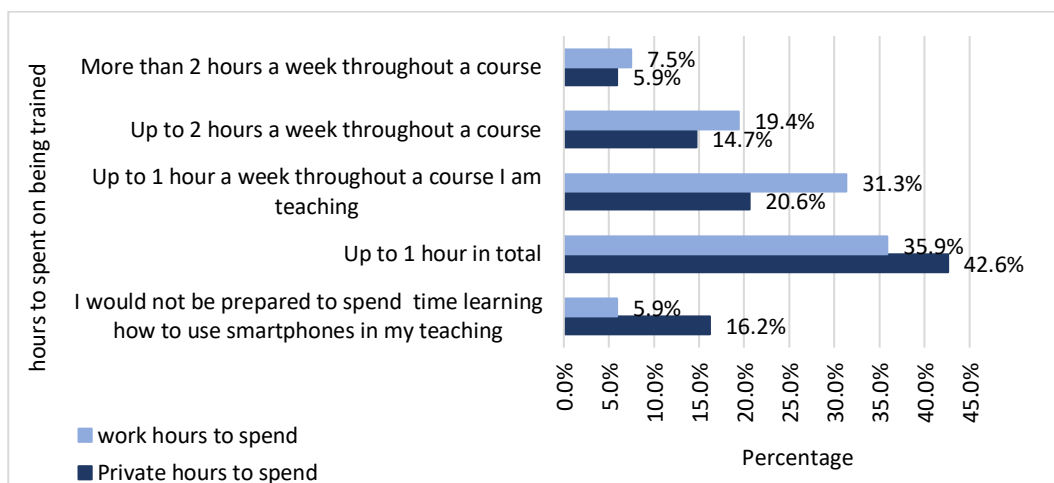


Figure 8.5: Study 2 – Teachers’ work and private hours to spend on professional training in relation to SALL

The analysis of the teachers’ reasons behind their choices indicated that most of the teachers felt that learning about smartphone use for educational purposes is important and they thought that they needed to expand their knowledge in this regard. Therefore, they were interested to learn about smartphone apps that they could integrate into their lessons. For instance, one teacher explained that she did not have much free time during a course to do personal training, but as it is important to her, she was willing to dedicate an hour per week during the lunch break or before or after the class for this purpose. Another example was a teacher who commented that:

I find new technologies difficult to learn, so I have said that I would want about 2 hours per week. Younger teachers might not need that long. It also depends on what I must learn and how much I plan to use the smartphones during my teaching. [Teacher 61]

Or two other teachers who said:

I think using smartphones is a fast-growing universal tool which might be used for language learning and teaching, I see perspectives. [Teacher 45]

As teachers we already undertake plenty of outside class learning, preparation and marking. Something as ubiquitous as smartphones warrants in-built training for teachers, especially as many of us are digital immigrants teaching digital natives! [Teacher 53]

A range of reasons were also behind the teachers' disinclination to dedicate part of their time, especially their private time, for such professional development:

- Students' unwillingness to use smartphones in class
- Teachers' unwillingness to spend time on unpaid professional development
- Teachers' unwillingness to spend time on professional development with no financial benefit (promotion/pay).
- Teachers' workload, especially marking
- Teachers' perceptions that smartphone use lacks value
- Teachers' mindset that work-related training must be done during work hours
- Teachers' concern about encouraging smartphone dependency among students

For instance, teacher 75 pointed out:

*I'm not interested in any further professional development! I've done so much of it; nothing would improve my current salary and I have totally lost interest! I'm fine to teach, I take good care of my students, but I have more interests in my life than further developing my work.
[Teacher 75]*

And teacher 68 explained:

Need to keep up with technology but the marking load is high and anything else taken on would impact on that time. [Teacher 68]

However, 48 teachers (56.4%) believed that they needed professional training in relation to the implementation of SALL and were ready to spend some time on learning how to integrate the use of smartphones into their lessons. In addition, while there were teachers who were willing to spend some of their private time for the purpose of professional development in relation to the use of smartphones

for educational purposes inside classrooms, most teachers preferred to have such training as part of their paid work time.

- **Teachers' SALL-related Experiences**

Results indicated that 53 teachers (68.8%) had somewhat formally incorporated the use of smartphones into their lessons and activities. Teachers were asked to name three smartphone features and/or apps they advised their students to use most often. The most recommended apps by the teachers were dictionaries, language learning apps and other apps that can be used for language learning, and audio/video recording features (Figure 8.6). Whilst specific dictionaries were not mentioned, the language learning apps named by the teachers were Duolingo, Busuu, Quizlet, Kahoot, Socrative, Pictoword, and various podcasting apps.

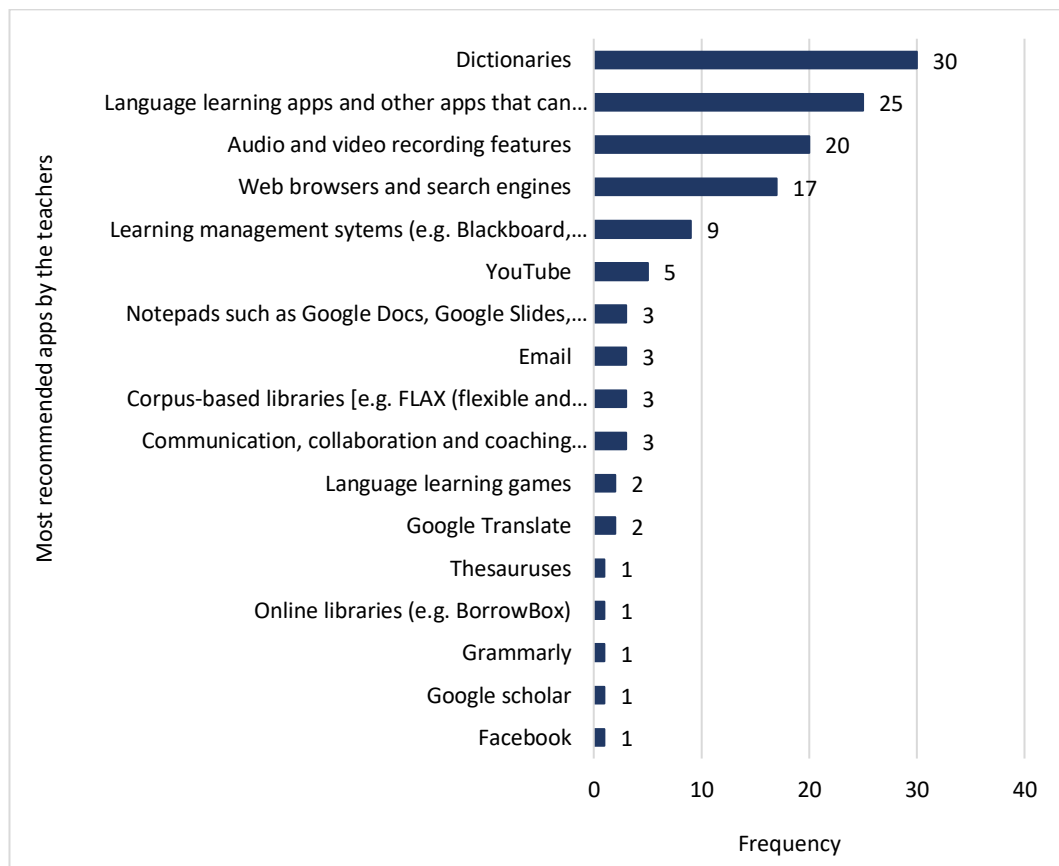


Figure 8.6: Study 2 – Teachers' most recommended apps to their students

When asked if their students had ever faced any problems with using their smartphone apps and features for language learning inside the classroom, 35 (66%) teachers chose “Yes”. A range of problems with the use of smartphones in class were also recorded by these teachers. Wi-Fi connection and quality, unreliability of the device in terms of charge, and students’ unwillingness to use their phone were the most recorded problems. Costs of paying for the apps, distractions created by the other apps that the students use, and incompatibility of the device and problems with downloading the apps were the least recorded problems (Figure 8.7).

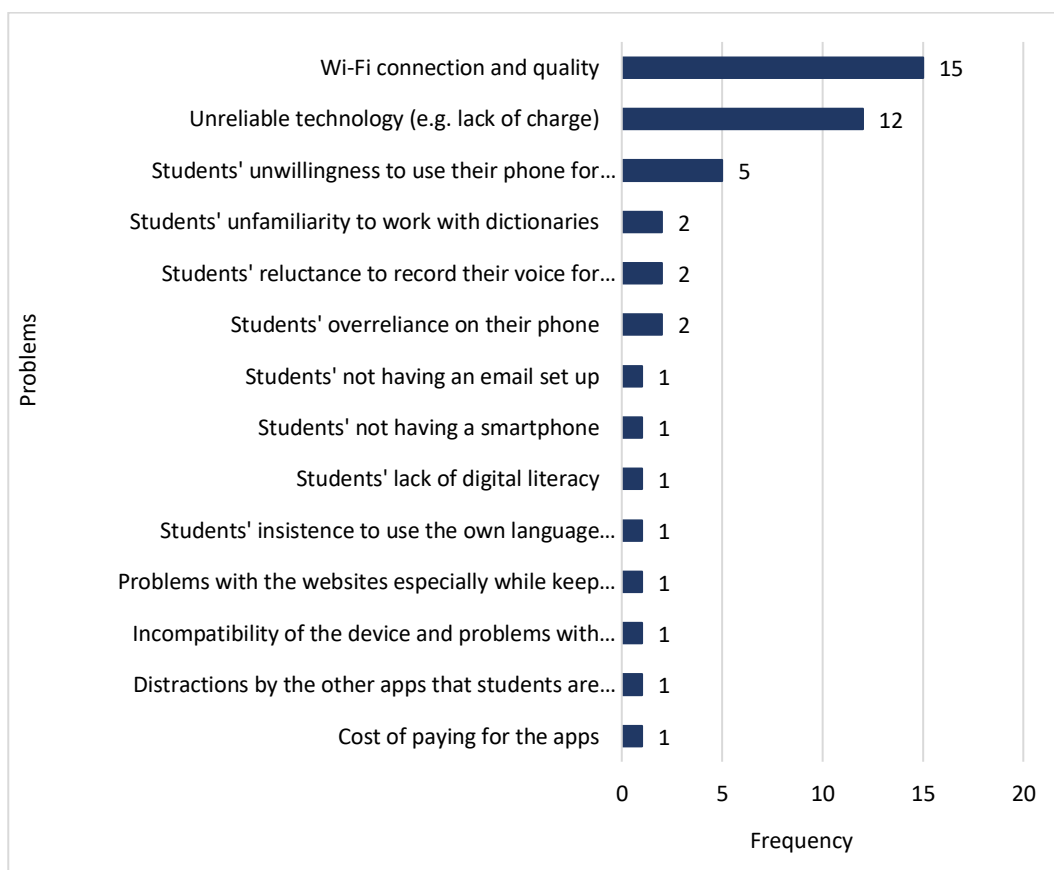


Figure 8.7: Study 2 – Students’ problems with the use of smartphones in class

Teachers were also asked how they tried to help their students with their problems and their responses are presented in Figure 8.8.

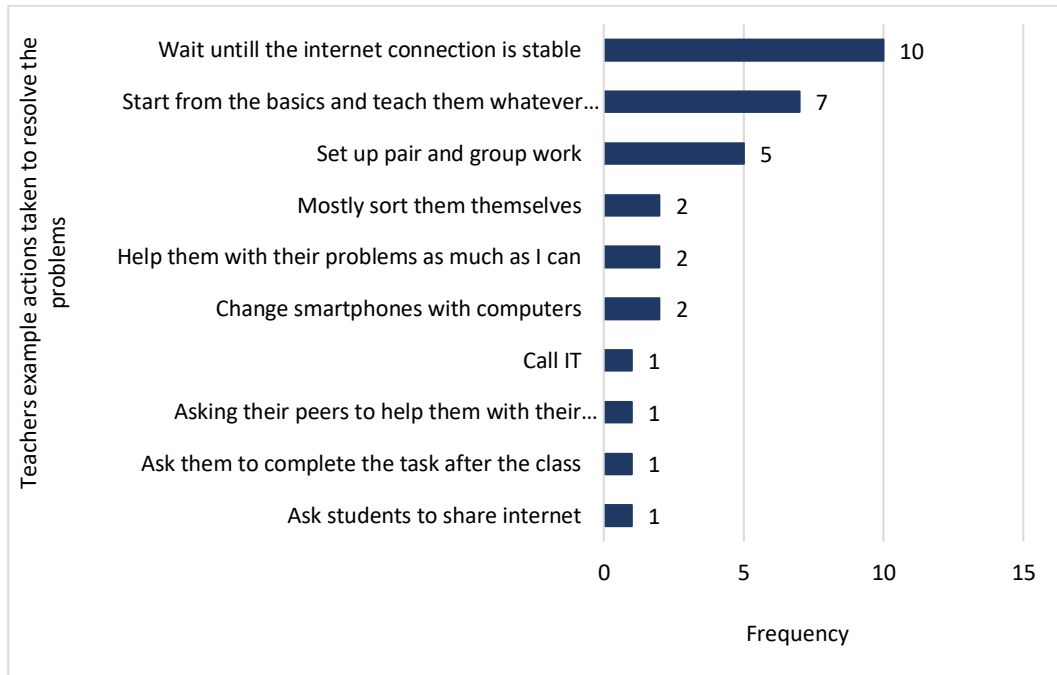


Figure 8.8: Study 2 – Teachers’ remedies to deal with the students’ problems in relation to smartphone use in class

The analysis of EALD teachers’ responses to question 27, which asked them about their preference in relation to the use of smartphone for in-class, out-of-class, or both in-class and out-of-class activities, showed that 59 teachers (72.8%) preferred SALL both for in and out-of-class activities (Figure 8.9).

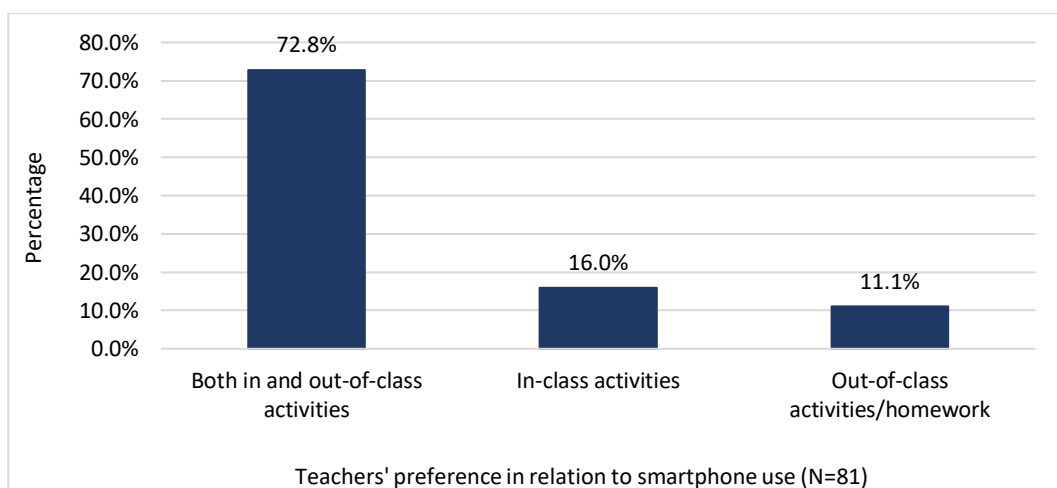


Figure 8.9: Study 2 – Teachers’ preference in relation to smartphone use for educational purposes

8.6.1.4. EALD Teachers' Attitudes Towards SALL

Consistent with the pilot study and study 1, the choice of not applicable was considered as missing data and the test value was set as $\mu = 3$. Descriptive analysis was carried out to find the mean and standard deviation of the individual items of the scale for all the teachers who participated. One-sample t-tests were conducted to find out if the results of the descriptive analysis of the Likert scale data was significant. Descriptive analysis results indicated the Likert scale mean was typically greater than test value for all the items, except for RA1 and RA2, meaning the participants' higher agreement with all the items except for these two items which showed higher disagreement. This result indicates the overall attitude of the teachers was positive towards SALL.

A one-sample t-test was also run and the results showed $p < .05$ for the sig. (2-tailed) for all the items except for PEU2, PU2, and RA, meaning the mean difference from the test value is not significant for these three items. Therefore, the total mean of the scale for all the teachers was also calculated and the result showed that the total attitude mean for all the participants (overall mean = 3.62) was still typically higher than the test value, confirming positive attitudes of the participants towards SALL. Nevertheless, the participants' higher disagreement with RA1 and RA2 showed that they did not prefer the use of smartphones for English language teaching to the use of desktop/laptop computers or tablets or the use of traditional methods of language teaching.

Table 8.5: Study 2 – Teachers’ attitudes towards SALL (one-sample statistics)

Test Value = 3						
Scale Items	df	Sig. (2-tailed)	Mean	Std. Deviation	95% Confidence Interval of the Difference	
					Lower	Upper
Perceived Ease of Use (PEU1)	75	.000	3.95	1.070	.70	1.19
Perceived Ease of Use (PEU2)	75	.089	3.24	1.199	-.04	.51
Perceived usefulness (PU1)	77	.000	3.65	1.126	.40	.91
Perceived usefulness (PU2)	75	.066	3.25	1.168	-.02	.52
Perceived playfulness (PP1)	76	.000	3.94	.991	.71	1.16
Perceived playfulness (PP2)	76	.000	3.94	.951	.72	1.15
Affect towards use (AU1)	76	.000	3.87	1.056	.63	1.11
Affect towards use (AU2)	74	.000	3.67	1.082	.42	.92
Relative advantage (RA1)	75	.418	2.89	1.126	-.36	.15
Relative advantage (RA2)	76	.003	2.55	1.313	-.75	-.16
Facilitating conditions (FC1)	77	.000	4.45	.907	1.24	1.65
Facilitating conditions (FC 2)	77	.000	4.10	.877	.90	1.30

8.6.1.5. Possible Impact of Moderating Factors on EALD Teachers Attitudes Towards SALL

T-test and ANOVA were used to compare teachers’ attitudes based on their gender, age, qualification, teaching experience, type of phone, and amount of smartphone use (see Appendix C7).

- **Gender and Age Impact**

An independent samples t-test was conducted to investigate the possible impacts of the teachers’ gender on the teachers’ attitudes. The results showed the data did not violate the assumption of equal variance at $p = .979 > .05$ in Levene’s test for equality of variances. They also indicated that there was no significant difference between females ($M = 3.59, SD = 0.713$) and males ($M = 3.52, SD = 0.799$) attitudes at $t = 0.359, p = .721$ (two-tailed).

A one-way between-groups analysis of variance was conducted to explore the

impact of participants' age on their attitude and intention to SALL. There were four age groups: group one, 26-35 ($n = 5$); group two, 36-45 ($n = 28$); group three, 46-55 ($n = 32$); group four, 46+ ($n = 13$). The results did not show a significant difference in the teachers' total attitude scores for the four age groups (group one, $M = 3.78$, $SD = 0.625$; group two, $M = 3.60$, $SD = 0.687$; group three, $M = 3.56$, $SD = 0.667$; group four, $M = 3.52$, $SD = 1.017$).

- **Impact of Teachers' Qualification and Teaching Experience**

One-way ANOVA tests were carried out to examine the possible impacts of the teachers' qualification and teaching experience on their attitudes and intentions to SALL. To get a proper number of respondents for each group of qualification and make the statistical analysis possible, the six groups of qualification were combined and reduced to three groups: group one, PhD ($n = 18$); group two, Post-graduate ($n = 54$); and group three a bachelor's degree or a non-university qualification ($n = 6$). The results did not show a significant difference in the teachers' total attitude scores for the three groups of participants based on their amount of experience (group one, $M = 3.70$, $SD = 0.641$; group two, $M = 3.53$, $SD = 0.678$; group three, $M = 3.68$, $SD = 1.346$).

There were five groups of participants based on their years of teaching experience: group one, 1-5 years ($n = 5$); group two, 6-10 years ($n = 19$); group three, 11-15 years ($n = 17$); group four, 16-20 years ($n = 12$); and group five, 21+ ($n = 25$). The results did not show a significant difference in the students' total attitude scores for the five groups of participants based on their experience (group one, $M = 3.91$, $SD = 0.270$; group two, $M = 3.55$, $SD = 0.969$; group three, $M = 3.34$, $SD = 0.765$; group four, $M = 3.69$, $SD = 0.411$; group five, $M = 3.65$, $SD = 0.667$).

- **Impact of Type of Smartphone and its Amount of Use**

One-way ANOVA tests were carried out to examine the possible impact of the teachers' type of smartphones and amount of their smartphone use on the attitudes and intentions of the teacher participants to SALL. The results of the teacher's smartphone type showed four groups: Android owners, iPhone owners, both an Android and iPhone owners, and Windows phone owners. As there was only one teacher who had Windows phone, that group was deleted from the ANOVA analysis and the teachers' attitude was compared based on the remaining three groups. The results showed no significant difference in the teachers' attitudes based on their type of smartphone (three groups: Android owners, iPhone owners, or both an Android and iPhone owners) and no significant difference in the teachers' attitudes based on their weekly smartphone use habit (four groups: non-users, occasional users, frequent users, extensive users).

8.6.2. Interview Results

Nine teachers took part in an online interview. Reviewing and thematising the data with NVivo produced the following themes and sub-themes:

- **Technology availability and accessibility**
- **Smartphone uses**
 - Students' current use of smartphones
 - Teachers' current ways of integrating smartphones into their students' language learning
 - Teachers' ideas on possible ways of integrating smartphones into lessons
- **Usefulness and relative advantage**
- **Barriers to the use of smartphones for educational purposes**
 - Smartphone disadvantages
 - Adaptability
 - Facilitating conditions

- Online security
- **Attitude and intention to use smartphones for language teaching**
- **Teachers' voice**
 - Recommendations for peers
 - Recommendations for English Language Educational Settings

8.6.2.1. Technology Availability and Accessibility

Four teachers explained that they had access to a computer and a projector to project their PowerPoint slides and any other teaching materials that they prepare for their students. Teacher 5 and Teacher 8 mentioned that all their classrooms are equipped with an overhead projector and a system, but the teachers had to take their laptops with them to use the system and the projector.

There are also smart classrooms in my university in which every table has a screen with cords that the students can hook up their laptops and share contents [Teacher 5].

Five teachers explained that they also had (a) computer lab(s) in their workplace, but they could only be used for their technology assisted modules as there was always competition for the room from other teachers. Teachers 1 and 7 also noted the insufficient number of the computers in their labs for the students; however, while Teacher 1 described this limitation as important, Teacher 7 did not mind as they tended to use smartphones and her students brought their own devices and used them.

Teacher 3 was the only teacher who mentioned that none of his workplaces, which included a school, a college and a university, had technologies for the teachers and the students to use. As he explained the main technology available to the teachers and the students were their own smartphones which could only be used

for educational purposes in the college and university, but not at school, as there was no free Wi-Fi available there.

Seven teachers stated that most of their students had a laptop, some had a tablet and almost all had a smartphone.

The majority use a laptop. . . Students all have a phone. [Teacher 8]

It can be concluded that there were two sorts of technologies available to the teachers and the students in the participants' educational settings: the technologies provided by the institutions, colleges, and universities, and the teachers' and students' own device(s). The results indicated there were some limitations with the teachers' and students' use of technologies that were provided by the educational settings. However, teachers' and students' own devices had the potential to cover these limitations.

Students have all got lots of gadgets, they have got you know iPhones, iPads, whatever. [Teacher 4]

Therefore, it seems that many EALD classroom settings have the potential to become a computer lab each with the presence of the teachers' and students' own technological devices, the most predominant of which are smartphones.

8.6.2.2. Smartphone Uses

Smartphone use for English language teaching and learning was described under three sub-themes: students' current uses of their phones inside the classroom, teachers' current ways of integrating smartphones into their lessons, and their ideas on the possible ways of integrating smartphones into lessons.

- **Students' Current Uses of Smartphones**

Six of the teachers described their students' educational uses of their smartphones

as: “accessing dictionary”, “language learning apps”, “Google Translate”, “recording”, “using phone as a reference tool”, and “using apps for referencing”.

For instance, Teacher 4 cited students’ use of dictionaries on their phones:

Students at least use them for simple things such as accessing dictionaries. Nowadays rarely you can see somebody with a real (paper) dictionary. [Teacher 4]

Likewise, Teacher 7 pointed out not only the use of dictionaries, but also the use of Google Translate by her students.

- **Teachers’ Current Ways of Integrating Smartphones into the Students’ Language Learning**

Teacher 2 explained that he encouraged his students to complete an evaluation form on their phone straight after his workshop. Teacher 3 allowed the use of the phone during the tests and asked his students to use social media in a very interactive activity in his English for Academic purposes classes:

Students get in touch with a researcher or an expert in their field of study via Facebook, Twitter, etc., follow and chat with them to get some information and bring it into the class. [Teacher 2]

Teacher 4 did not use smartphone for English language teaching himself, but suggested apps to the students for their out-of-class use:

I introduce an app to the students who have problems, a phrase bank based on corpora, since it is important for them to learn how to say something in English and why. [Teacher 4]

Teacher 5 used smartphones often. She used *Socrative*, *Quizlet*, *Kahoot* on a regular basis and asked her students “to use their earphones and listen to a video or Ted talk in relation to the scholarly articles that they read”, “search on Google for something to help to understand their reading text”, or “gave them an extra reading assignment to find something appropriate for their tasks”.

Teacher 7 also used smartphones frequently. She used Quizlet for vocabulary development and Padlet as a testing checkpoint to see how the students felt like, what they knew, what they wanted to learn. She practised text messaging and interviewing and job seeking skills and any other skills with them through recording themselves on Flipgrid:

Students record and video themselves and email it to me and I give feedback to them. They can see how they talk, and they sound, and this led them improve their weaknesses. It is also a good tool for practicing listening and English pronunciation. [Teacher 7]

She used WhatsApp to send audio/video files to the students to listen individually and at their own pace inside the classroom using their earphones rather than mass class listening. She had her own Google classroom and posted all her lessons on her Google site for the students to access on their phones. She also used Seesaw, but she explained she was not successful in getting her students engaged in blogging and writing with it.

Teacher 8 was also in favour of Quizlet and its use for vocabulary learning. Early in her classes, she introduced her students to an online Oxford dictionary and her lower-level students used it to look up for meanings, synonyms, and example sentence, and to check pronunciation for their weekly new vocabulary learning practice. She also asked her students to check the college portal on their phone to find the information about enrolment, timetabling, and their handouts.

Teacher 9 asked her students to use dictionaries on their phones. She sometimes used Kahoot and Poll Everywhere. She also implemented listening and speaking activities which were enhanced with the help of smartphone and asked them to use a voice recorder to record their speaking assessment on the phone for self-reflection and also emailed it to her for review.

The analysis of what the teachers explained in relation to their uses and their frequencies are presented in Figure 8.10.

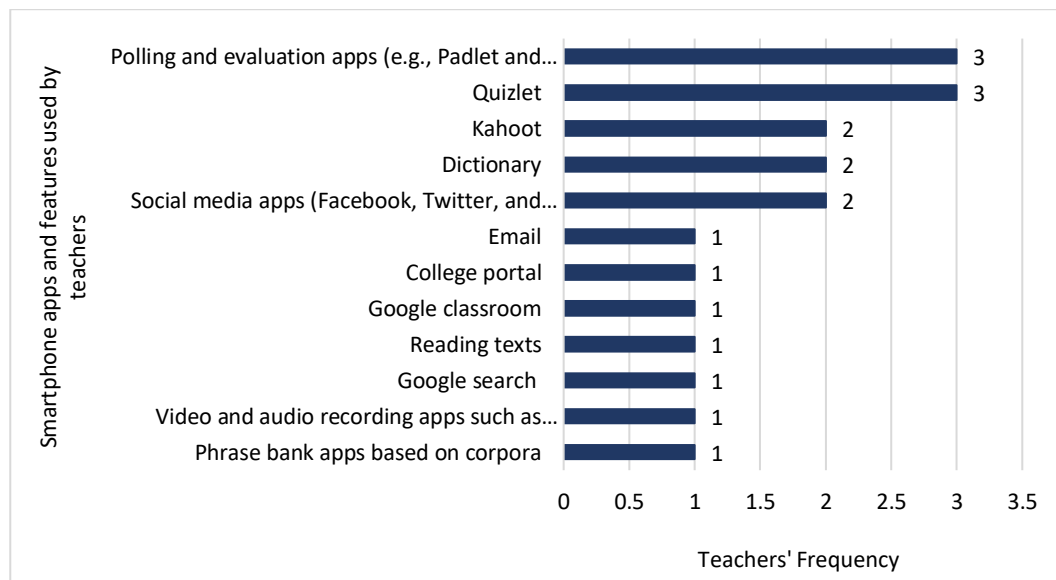


Figure 8.10: Study 2 – Smartphone apps and features used by the interviewee teachers

- **Teachers’ Ideas on Possible Ways of Integrating Smartphones into Lessons**

Teacher 1 recommended the use of surveys on smartphones to see how much of the information the students picked up from the lessons.

I think it is good if teachers get together in a discussion, whether that would be face-to-face or online and kind of brainstorm and talking about experiences, but it started with what the learning goals are, I think there could be some creative and exciting opportunities.
[Teacher 1]

Similarly, Teacher 2 proposed polling and evaluation as his ideas for the use of smartphones inside classroom. He also added that students could use their phone to check the available online resources the university had for them. Teacher 6 discussed her colleague’s experience with the use of the Nearpod app for teaching academic skills. Finally, Teacher 9 recommended:

It is better to use recording features or game-based activities such Kahoot with lower-level students and then the ones which need them to read or type on the phone with higher-level students as higher-level students are quite good at typing in English on their phone.

[Teacher 9]

Teacher 9's comment suggests that students' English language level and their tasks play a defining role in successful implementation of SALL.

8.6.2.3. Usefulness and Relative Advantages

The third main theme that arose from the data was 'usefulness and relative advantages' with three sub-themes: advantages of smartphone use for language educational purposes, teachers' preference in relation to the use of smartphones, and students' preference in relation to the use of smartphones.

- **Smartphone Advantages**

All the interviewee teachers believed that smartphones have lots of advantages and the advantages that they reviewed and the frequency of the teachers who reviewed them are summarised in Figure 8.11.

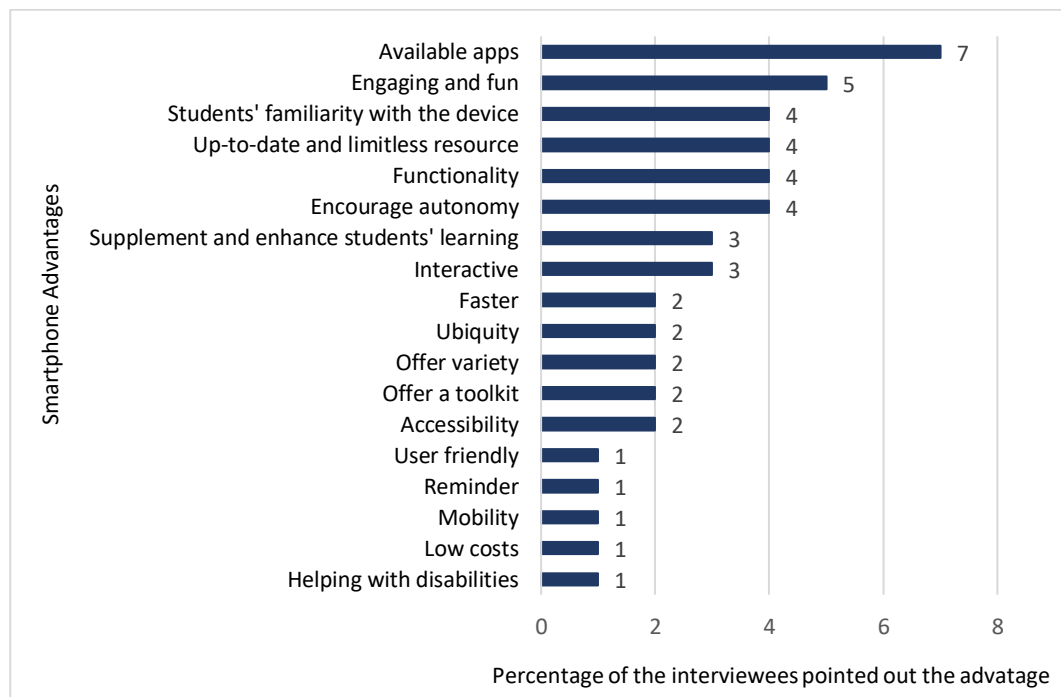


Figure 8.11: Study 2 – Percentage of the participants who had cited the advantages

For instance, Teacher 4 said:

It is a massive information store, much more than a teacher. Teachers have obviously got finite knowledge, but once you have got a gadget, you have got almost limitless sources. In addition, it encourages students' autonomy because they can do different things on their gadgets. It changes the whole classroom dynamic from teacher-driven classrooms. Students are familiar with digital technology; they know how to use it and teachers do not need to teach them how to use it. They sometimes come to me and tell me about apps. [Teacher 4]

From Teacher 1's perspective, mobility was one the most important advantage of smartphones as it gives the students the opportunity to study at their convenience in terms of time and location. Teacher 9 defined smartphones as a tool bag which can address today's students' need. She explained that it gives speed to the students learning while it let them study and learn at their own pace outside the classroom and makes them autonomous learners. She gave an example:

The Drops app, for example, gives them the chance to practise vocabulary for 5 minutes daily and at their own pace out of class and if they do not do it, it reminds them. So, they can develop the habit and learn that the concept of learning does not just happen when they are in the class with a teacher in front of them. Therefore, it gives them sort of tools and habit of language learning beyond the classroom. [teacher 9]

- **Teachers' Preference in Relation to the Use of Smartphones**

Six interviewees preferred to use smartphones for English language teaching in class. By contrast, Teacher 2 preferred that his students used the apps which he thought were useful for their language learning outside the classroom as he preferred his students work collaboratively when they were in class. However, he mentioned that if he himself or his students come up with an app which give them this functionality, he will use it in class. In addition, Teacher 2 explained that he preferred to give feedback on the printed version of the students' work, especially their essays. He mentioned that while he was familiar with Microsoft Word and

track changes, he always explained to the students that he would not be able to make detailed comments, since he did not have time to colour code the problems and type his comments.

Teacher 4 believed that smartphones are for mobile learning and extending learning outside the classroom. He explained that his class time is limited, and he preferred to concentrate on linguistically rich activities concentrating on speaking and writing. He explained ...

Outside the classroom, they have a lot more time. They can go through loads of apps such as pronunciation apps which I recommend to them, or they find by themselves. There is an app for everything now, so the problem is not with finding apps, but it is with finding the one which is appropriate for their particular use. [Teacher 4]

Teacher 8 explained that she advised her students to take a laptop or tablet ...

Students all have a phone, but for the higher levels, phone is not a sufficient device for them to provide us as a device for their learning as they need to be able to store information via USB or something like that. [Teacher 8]

Teacher 9 explained her preference as below:

Things such as Kahoot, recording and listening to themselves, or watching a video which are quite doable. I do not think that reading a significant amount of text on a smartphone screen is wise and I never do that either. If that is the situation, I would rather give them a printed handout or email that, so they can read on a computer screen. Therefore, it is all about choosing the right activity for smartphones. [Teacher 9]

Overall, six interviewees expressed their preference in relation to the use of smartphones for language teaching and learning in class. Two found them more suitable for out-of-class learning and one preferred a technology-assisted classroom which was enhanced with the students' use of their laptops or tablet. From these nine teachers, one did not see SALL suitable for higher level classes, and one explained it as a barrier to collaborative learning and did not see it as a suitable

device for more laborious tasks such as reading. This means that type of activity, students' level of English language, and smartphone disadvantages can play a defining role when it comes to the use of smartphones for English language learning.

- **Students' Preference in Relation to the Use of Smartphones from Teachers' Perspectives**

Teacher 2 pointed out that the majority of his students were more interested in using their laptops than their phones for learning. By contrast, Teacher 3 stated that when it comes to the use of dictionaries, all students prefer to use online dictionaries on their phone and Teacher 9 thought that the students preferred to use their phone most of the time.

Students mostly use their phone. I occasionally have students with a tablet, and I cannot remember when the last time was that I have seen a student with laptop in class. I can say only one or two in the last 10 years. [Teacher 9]

Finally, Teacher 6 explained that in a survey that she collected from her students she found out that 70% to 80% percent of her students did not like smartphones as much as the traditional classes and only 20% to 30% mentioned that they really liked their use.

8.6.2.4. Barriers to the Use of Smartphones for Educational Purposes in Educational Settings

Four categories of barriers were identified with the use of smartphones inside classrooms: smartphone disadvantages, adaptability, facilitating conditions, and online security.

- **Smartphone Disadvantages**

A range of disadvantages in relation to the use of smartphones were pointed out by the teachers in their interview (Figure 8.12).

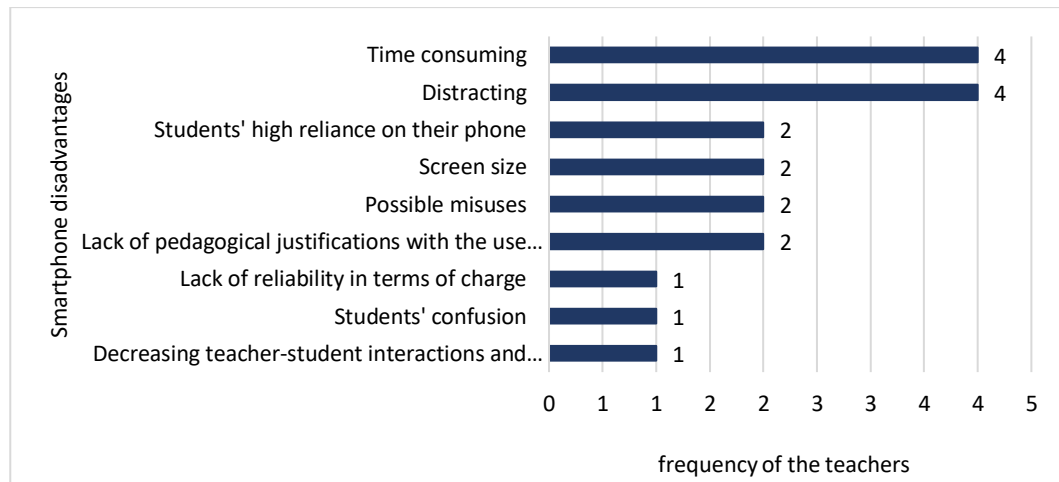


Figure 8.12: Study 2 – Percentage of the participants who had cited the disadvantages

For instance, in Teacher 1’s point of view, the use of smartphones for educational purposes in class decreased teacher-student interactions and relations and in Teacher 2’s and 6’s, it was a source of distraction in class because of the very many notifications that students receive on the Social Media apps that they have on their phones. Teacher 4 explained this distraction as the students’ off- task behaviours. Another disadvantage of smartphone use was reported by Teacher 5 as a lack of pedagogical justification behind the use of an app such as Kahoot. Teacher 9 also explained this problem as below:

I think the downside can be sometimes it's tempting to do something with technology just because, you know. I think you always have to think about is this you know is doing something with technology got any advantages over just doing it at school and sometimes the answer is no. [Teacher 9]

Teacher 6 believed that the device is not reliable in terms of battery life and pointed out the possible misuses of smartphones, giving an example of her students using their phone to cheat in their exam.

One of my students googled answers to a listening assessment about Sydney Harbour Bridge. I had another who tried to record the listening assessment on their phone while they were not allowed, or another who tried to use the camera on Google Translate to translate the reading assessment text into their own language. I had the problem of cheating with my adult students rather than spending time on their Facebook or Snapchat or those things that younger people use their phone more for. [Teacher 6]

Teacher 3 also explained that he has found the use of Google Translate a dilemma as the students use it to translate reading texts into their first language.

Instead of reading a text in English, they are reading it in their first language which means no use. [Teacher 3]

Other disadvantages of smartphones included screen size

I think that screen size is a real disadvantage. The students often access their e-text using their mobile phone and it is very slow and difficult to navigate on such a small screen. In fact, reading is actually quite unsatisfactory on a small screen and even on a big screen. I think reading was designed to be done on paper and its transmission on screen has not been very successful, depending on the type of reading that you are doing. [Teacher 1]

and students could find themselves overwhelmed by information.

Web browsers provide them with a large amount of information and while it is a good resource, they need to know how to deal with this information and not to be lost. [Teacher 3]

Teachers 3 and 9 also thought that students' high reliance on their phone was a significant disadvantage.

I think if students develop a habit of relying too much on translators and dictionaries and stuff like it, that can be a problematic thing as well because you obviously want them to develop their skills so that they can use their language independently. You cannot look up words every second, that is not reading. So, it is important to help them to have a mindset that it is a tool, but it is not a crutch. [Teacher 9]

The problem of smartphone use consuming too much time was also reported by some of the Teachers.

It can be time consuming, so sometimes when we find the students who are not similar with their phones or apps, or they have problems with their phones, and they cannot get connection you can lose some time. For example, yesterday, I was doing an activity. 13 of the 15 students were organized, but the other two held us up for 15 minutes. Sometimes the amount of time you spend on it versus the benefit that you get out of it might not be cost efficient I suppose and then of course you know we always need a Plan B because if the technology isn't working then you need to come up with something else anyway so sometimes you can lose the learning by trying to do it electronically so yeah it is a bit of a balance. [Teacher 8]

- **Adaptability**

Five codes were extracted in relation to adaptability (Figure 8.13):

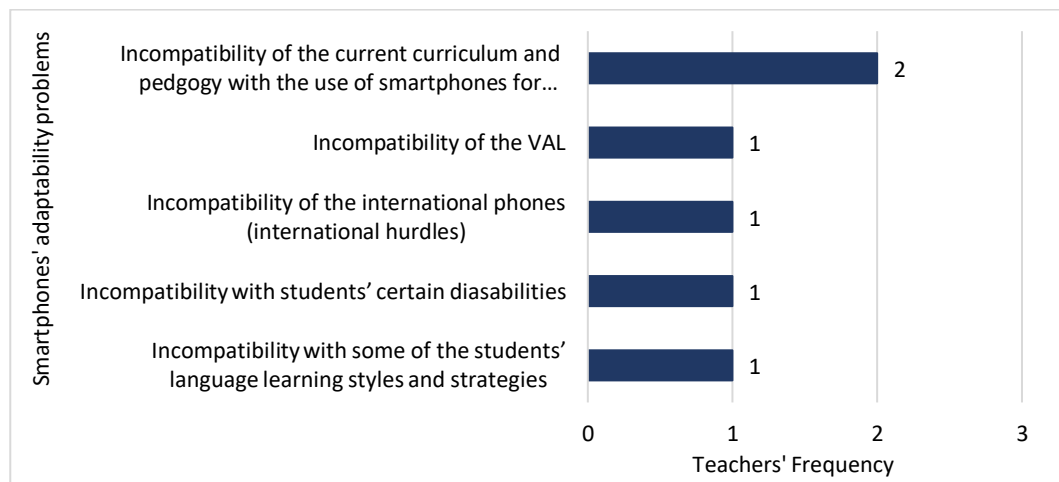


Figure 8.13: Study 2 – Smartphones' adaptability problems

The incompatibility of their current curriculum and pedagogy with the use of smartphones for educational purposes inside the classroom and the necessity for a change of curriculum were identified by Teachers 3 and 4.

Tasks and tests must be designed in a way that even if for example, students use google translate, they are still effective and help students with learning the language. There is a real need for such revision of the curriculum beforehand. [Teacher 3]

Pedagogical theories do not refer to technology very much. Teachers' books and the materials are still somewhat outmoded. Teachers books rarely have directions for using technology, very rarely they say now you can ask students take out their smartphones and complete this task. [Teacher 4]

Teacher 3 also outlined the incompatibility of smartphone use for language teaching and learning with some students' language learning styles and strategies.

There are still students who prefer to read the printed version of the texts as smartphone screen is very small. [Teacher 3]

Teacher 2 explained that students with certain disabilities might find smartphones hard to use because of their smaller screen in comparison to laptop or a computer. He also noted that the international students not having English versions of the apps in the app shop of their phone was an important barrier to the use of the technology for educational purposes in class. Finally, Teacher 6 focused on the problem that they had with their VAL which was only set up for Windows and explained it as an important barrier to the use of the device for educational purposes in her institution.

Our VAL is set up for windows and students very often encounter problems with submitting or reading things online via their smartphones if it is an iPhone as it is not compatible. [Teacher 6]

- **Facilitating Conditions**

Lack of support was seen as an important barrier to the use of smartphones. Three codes were extracted: Wi-Fi quality, students' digital literacy, and teachers' digital literacy. Teachers 2, 3, 5, and 8 expressed concerns over the students' digital literacy and proposed the necessity of teaching them the skills. For instance, Teacher 2 explained tasks such as creating electronic posters and making descriptive videos in which a student needs to talk to the camera as problematic and gave an example of a female student who had problems with completing a video task. Teacher 2 focused on the necessity of teaching these skills to the students. Teacher 5 noted that she had students who did not even know how to access and use Moodle. She added that she usually prepared links for the students to access

vocabulary on Moodle or Quizlet and any other apps and web pages that she wanted them to access and use and she always had three or four minute-explanations on how they could use the links e.g., which icons to tap on, which pages they would be taken to and what they needed to do. Finally, Teacher 8 explained that she always monitored her students, as although they were younger, she always had some students who did not have a lot of experience and she needed to show them how to use their phones.

In addition, most teachers talked about the necessity of being trained in the use of smartphones for English language teaching. For instance, Teacher 1 explained that even if teachers might have the latest model, they did not know how to use it properly in terms of functions that they could use, and he himself needed to know what apps to use, if there were any sort of security issues, and if an app was compatible with all sorts of smartphones. Teacher 3 explained he felt quite confident with the use of smartphones as he had worked in the department of professional development in which he had to design courses in which they helped teachers with incorporating the use of ICTs into their courses. But he had seen teachers who attended professional development programs and definitely needed to be trained to use smartphones for teaching and learning as they were not familiar with the use of this technology. Teacher 8 highlighted that she usually had professional development sessions and if she was asked to implement something new in the course there certainly was professional training on it. Teacher 9 noted:

It is technology. There are always the things that you don't know, the new things, the new features. Also of course you know all the students have different phones. Sometimes we found, colleague of mine was working with very low-level people found some good apps for that, but then found some of them are only available on Google play and some of them only available on app store and so like you know, not everybody could download everything. [Teacher 9]

- **Online Security**

The analysis of the interview data revealed that users' online security was an important barrier to the use of smartphones for educational purposes inside classrooms. Two codes were extracted: users' security and users' privacy. For example, focusing on the importance of online security of the students, Teacher 4 explained:

They can speak to someone on the other side of the world you know, make friends or whatever, so there is a whole ethical side as well you know. So, with young learners it is definitely a risk. [Teacher 4]

Teacher 1 also explained that she was reluctant to ask her students to download an app even if the students did not have a problem with it.

I think that we have a responsibility as adults to sort of protect them and I think that our students perhaps are so used to downloading apps that they are not worrying about these things that they would not care. Also, I very much doubt that our students read what they are signing up to. So, there is a bit of responsibility there I think on the teachers' part. [Teacher 1]

Teacher 2 thought that teachers should be very careful in choosing the apps they intend to use for educational purposes in class and check them in advance in terms of the information they request from the users.

On the importance of the students' privacy, Teacher 1 narrated her own reaction to the use of the apps in her own life and explained that she had very few apps on her phone and introduced it as an important barrier to the use of smartphones.

I am actually quite resistant to using apps in my personal life. I do not like the idea of being tracked and I do not like the idea that I have to agree to all kinds of things when I sign up for an app. [Teacher 1]

Figure 8.14 presents all the barriers.

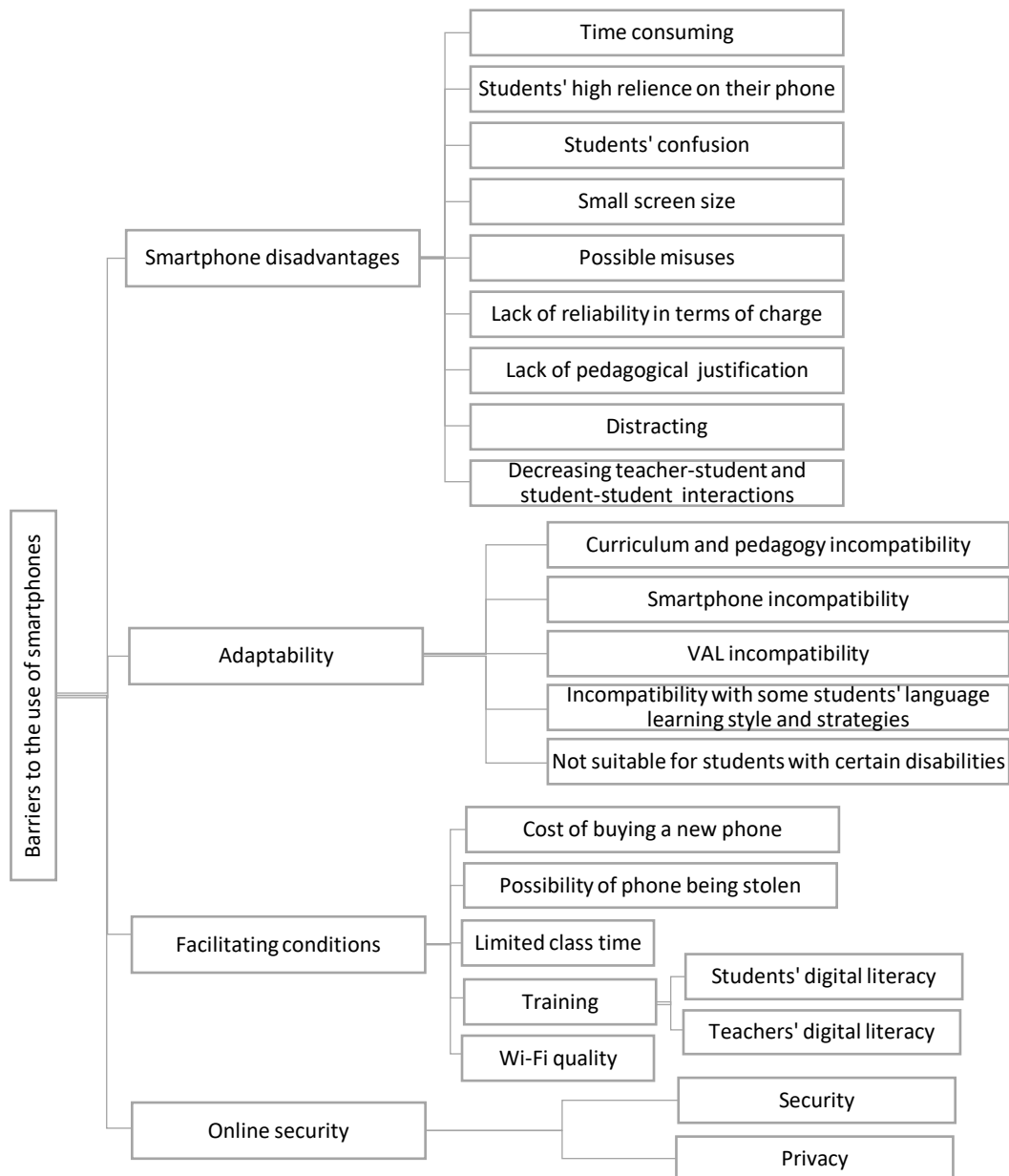


Figure 8.14: Study 2 – Barriers to the use of smartphones from the teachers' perspective

8.6.2.5. Attitudes Towards SALL

The majority of teachers expressed quite positive attitudes towards the use of smartphones inside their classrooms/workshops. Teachers 2, 4 and 5 explained the use of smartphones has gone beyond being a good idea because they are ubiquitous.

Teacher 5 recommended:

while teacher cannot beat the presences and use of smartphones, they had better join. [Teacher 5]

Teachers 7 and 9 explained that the use of smartphones is a good idea. Teacher 7 identified herself as an enthusiastic user and noted:

I think teachers who are not using it, it is dated, so much PD available for teachers now, possibilities of sharing resources via social media, and I recommend if you want to become a better teacher, you must engage with it and use it. [Teacher 7]

Only Teacher 2 explained that smartphones can definitely supplement the students' learning and all students will need to expand their digital literacy and go beyond being a mere consumer to a creator or producer in near future, since they might need to develop an app or do some basic programming to develop something that is related to their discipline, but he did not want to see them as the major technology. Teacher 6 also explained that smartphones have got their place, but she did not think they should be used 100% of the time and she was not sure whether they are appropriate, or even if the students like to use them at all.

In addition, all teachers explained that they did not have any specific coursebook for their lessons and they usually use either the materials which were provided by their institutions or create their own material for their lessons based on their curriculum and principal guidelines. Therefore, they were interested in using authentic materials and they thought smartphones could help them reach their aims. For instance, Teacher 8 explained smartphones let them access material online and they also used some apps for vocabulary learning and for quizzes. Teacher 9 also gave an example of she delivered a unit about community services the previous semester in which there was a big opportunity for students to look at materials such as brochures and speakers from local services in their local area online and via their smartphones.

Finally, most teachers expressed quite a mild reaction to their students' use of their phones for other purposes. Only Teacher 5 and Teacher 9 stated that they might show strict reaction to their students' use of smartphones. Teacher 5 explained if some students finished their tasks and activities more quickly, she would be delighted with her students' using their phone instead of talking with the peers next to them if they finished their tasks and activities more quickly. But she would challenge them if she was explaining something or showing them something and they were on the phone. Teacher 9 also explained she was serious with monitoring students during their exams as their conditions of assessment in the curriculum say they could access a dictionary on their phone as almost all of them did not know how to find something in a printed dictionary.

8.6.2.6. Teachers' Voice

- **Recommendations for Peers**

From Teacher 3's point of view, students' addiction to their phones is a concern. He recommended that it is good if teachers sometimes ask their students to put their phones away, rely on their own abilities, and complete a task or activity without smartphone presences and use.

Teacher 4, who preferred not to use technologies in class as they are time consuming, explained that the students' addiction to their phone must be addressed in another way and recommended:

It is not bad if teachers sometimes give a little break to their students to use their phone. [Teacher 4]

- **Recommendations for English Language Educational Settings**

Focusing on the students' needs in the digital era and based on his experience, Teacher 2 advised that universities need to think about providing help to students with their digital literacy.

I think in the future students are probably going to do more digital tasks like e-posters and video narrated PowerPoints, so they are going to need skills to do those. I think that's a challenge that universities have not gone through yet. How are the skills going to be taught and supported? Who is going to provide help to students with their digital literacy? Is it the lecturers themselves? Is it the library? Is it Academic Skills? Is it teaching and learning? [Teacher 2]

8.7. Discussion

The results of study 2 are discussed in the light of the literature and the attitude towards the SALL model of the study which was presented in section 8.4.

8.7.1. Personal Ownership and Technology Availability and Accessibility

Technology availability by itself does not guarantee teachers' and students' technology use and language teaching and learning enhancement (Norris et al., 2003). Ease of access is an important factor in students' device selection (Vasudeva et al., 2017), and device ownership and the comfort that it creates in the owner, results in their better engagement with technology and technology-based activities (Naismith, Lonsdale, et al., 2004, p. 33). In line with study 1, the current study results revealed there were two sorts of technology available to the participating teachers for language teaching inside their institutions: institution-provided technologies and teachers' and students' personal technologies. They also showed that smartphones were the most available and accessible technology with 82 teachers (97%) owing a smartphone. Except one teacher, who mentioned a few of

her students did not have smartphones, all interviewed teachers (n = 8) confirmed 100% smartphone ownership by their students. This result is in line with Kafyulilo's (2014) findings which introduced mobile phones as the most accessible technological tools at the school and the college of his study in Tanzania.

Additionally, the current study results showed that teachers' smartphones were either an Android and/or an iPhone. This result was also in line with the findings of pilot study and study 1 as well as the findings of Al-Hunaiyyan et al.'s (2018) study. As explained in the discussion section of study 1, this limited variety in the operating systems of teachers' and students' smartphone can decrease technological challenges that app designers and material developers may face in developing their apps and smartphone-based materials. It also reduces teachers' concerns in relation to the support they need to give to their students and were reported as troublesome in MALL and SALL literature (e.g., Al-Hunaiyyan et al., 2018; Hashemi et al., 2011; Magal-Royo et al., 2010; White & Mills, 2014).

Furthermore, the results indicated that apart from their institutional policy, 78 teachers (96%) allowed their students to use their smartphones in relation to language learning inside their classrooms and about two-thirds of them had already incorporated the use of smartphones into their lessons and activities. One of the most recommended smartphones' uses by the teachers was the use of dictionaries and one of the most used apps by the students was reported as the use of dictionaries. The pilot study and study 1 also showed that the most used apps by the students were online dictionaries and study 1 revealed that the majority of students used bilingual dictionaries and Google Translate. However, teachers complained of the students' high reliance on dictionaries and use of Google Translate as an important problem and barrier to their language learning.

These results support what Yeung (2020) reported about students' reliance on the use of dictionary apps' built-in translators and Google Translate instead of using dictionaries. Too much reliance on dictionaries reduces the chances of guessing the meaning of the new words from the context. In other words, it lowers the chances of inductive vocabulary learning. The use of Google Translate is much worse because students do not elaborate on and process the new vocabulary that they come up with (level of processing; Craik & Lockhart, 1972). This suggests that teachers should familiarise their students with language learning strategies including vocabulary learning strategies and show them how, when, and to what extent they can use dictionaries as part of their vocabulary learning strategies. They should also familiarise their students with the different types of dictionaries and their advantages and disadvantages as well as dictionary use skills. However, it is also important that teachers become familiar with language learning theories and strategies including vocabulary learning strategies and be trained in relation to dictionaries, including their types, their affordances and problems, and their choice and uses (Bae, 2011; Miller, 2008).

Altogether, the results in this section illustrate EALD classrooms' potential for the implementation of SALL in terms of students' access to smartphones. However, the review of literature in Chapter 4 showed that the successful implementation of SALL is also very much dependent on user attitudes.

8.7.2. Teachers' Attitudes and Intentions

Six constructs, *perceived ease of use* (PEU), *perceived usefulness* (PU), *perceived playfulness* (PP), *affect toward use* (AU), *relative advantages* (RA), and *facilitating conditions* (FC) were considered as the constructs of attitudes towards use and were used to examine EALD teachers' attitudes and intentions to the implementation of

SALL in their classrooms. The study also looked at the possible impacts on such attitudes of differences in teachers' age, gender, type of mobile phone, qualifications, teaching experience, and previous experiences in the use of smartphones for teaching English.

8.7.2.1. Perceived Ease of Use

The Likert scale results demonstrated teachers' agreement with the items of PEU and confirmed their belief in the ease of smartphone use for English language educational purposes. This is a perception which the study results suggest might have been shaped by their smartphone ownership, familiarity with the device, high amount of use, or previous SALL-related training and experience. Ismail et al. (2013) also found that most of the teachers who participated in their study agreed that mobile phones were easy to use as they were already using them and were familiar with them.

Despite the above result, the questionnaire data also indicated that 59.3% of the participating teachers believed they still needed training to be able to start or continue using smartphones for English language teaching inside their classroom in a more professional way. This result confirmed the important role that the presence of *facilitating conditions* (FC) can play in the successful implementation of SALL. Therefore, it can be explained that teachers' perception of smartphone ease of use, although an important factor in shaping their attitudes and intentions to the implementation of SALL, is not able to diminish the role of FC and the necessity of providing teachers' with SALL-related professional training when it comes to the actual use of smartphones for educational purposes. This result is in line with what Triandis (1979) suggested in his theory of interpersonal behaviour (TIB) regarding the important role that FC can play in directing users' intentions towards

performing a behaviour and supports what was hypothesised in the attitude and intention model of the study based on this theory.

8.7.2.2. Usefulness and Relative Advantages

Including *Relative Advantage* (RA) besides *Perceived Usefulness* (PU) in the attitude and intention model of the study helped with understanding the participating teachers' preference among the technologies they had access to. The results indicated teachers' overall agreement with both items of *Perceived Usefulness* (PU1 and PU2) in the Likert scale. In addition, they also showed that the majority of teachers allowed their students to use their smartphones in class as they thought their students were adult and mature enough to know about the appropriate use of smartphones inside classroom. Teachers perceived smartphone as a useful tool which students are used to using it and it assists them and extends their learning.

This result was supported by the interview in which teachers (N = 9) reviewed 18 advantages with the use of smartphones for English language educational purposes and is in line with the results of the pilot study and study 1. Likewise, pre-service teacher participants in Kafyulilo's (2014) study introduced mobile phones as a tool which simplifies teaching and learning and saves time. They also acknowledged that the use of mobile phones enhanced their learning and helped them with preparing their lessons. Prospective teachers in Oz's (2015) study reviewed a range of advantages with the use of mobile devices (such as mobile phones and tablets) including learning anywhere and anytime, creating an effective learning environment, facilitating knowledge transmission, and motivating students to learn.

Dogan and Akbarov (2016) reported their teacher participants' belief in the usefulness of mobile devices for improving their teaching activities and English language learning process. Tayan (2017) claimed that his participating teachers and students expressed that his proposed MALL program could foster independent learning and autonomy and was a useful tool which could create a richer learning environment through facilitating communication and collaboration. Teachers in Alzubi's (2019) study highlighted accessibility, motivation, creativity, variety, and language learning opportunities as the educational benefits of smartphone use. SALL advantages reviewed by teachers in the current study added familiarity with the device, functionality, speed, interactive educational setting, user friendly activities, reminders, low cost, and help with disabilities to the advantages recorded by the teachers in the above reviewed studies.

However, contrary to the results of PU, the Likert scale results indicated the teachers' high level of disagreement with the items of *Relative Advantage* (RA1 and RA2) which asked the participating teachers about their preference in relation to the use of smartphones over desktop/laptop computers or tablet, and over traditional methods. This means that despite all smartphone advantages, the majority of teacher participants of the study did not prefer the use of smartphones to the aforementioned technologies and to traditional methods of language teaching.

The interview results also indicated that three teachers showed some reservations in relation to the use of smartphones for English language teaching and learning. Teacher 2 saw smartphones as a barrier to collaborative learning so he preferred students to use them for out-of-class language learning. Teacher 2 also did not think that the technology was suitable for reviewing students' essays and giving them detailed feedback. Teacher 8 did not count smartphones a sufficient

device for higher level students as they could not transfer their work to a USB via their phones, and Teacher 9 did not see mobile technologies including smartphones suitable technologies for completing reading tasks and activities. Therefore, she preferred giving them printed handouts for such tasks and activities or emailing them to students so that they could read them on a computer screen.

Teachers also expressed different perspectives in relation to their students' preference in the interviews. Teacher 6 explained that in a survey that she collected from her students after their use of smartphones in her lesson, she found out that most of them did not like smartphones so much as traditional classrooms. Teacher 2 also explained that his students preferred to use their laptop, while by contrast, Teacher 9 was sure that her students favoured their phone. Finally, Teacher 3 explained that students prefer to use their phone for looking up the meaning of the words in dictionaries.

With regard to the above, it can be concluded that type of activity, students' English language proficiency, and smartphone disadvantages can play a defining role when it comes to the use of smartphones for English language teaching and learning. It can also be concluded that teachers and students prefer to use their smartphones for easier tasks and activities. This result is in line with the results of study 1 which found effort, mindset, voluntariness, freedom of choice of technology, type of activity/task, and smartphone limitations as the moderating factors of teachers' and students' intentions and actual use of smartphones for language teaching and learning. However, study 1 did not find any correlation between English language proficiency and students' attitudes and intentions to SALL.

Most of interview participants in the current study had some experience in the use of smartphones for educational purposes in their own classrooms and they reviewed a range of problems that had acted as barriers to their students' use of smartphones. These problems were classified under four main categories: smartphone disadvantages, adaptability, facilitating conditions, and online security. These problems were presented in section 8.6.2.4. Study 1 also found a range of disadvantages with the use of smartphones which prevented students from using the Evernote notetaking app to create vocabulary notebooks.

Similarly, AlTameemy (2017) described mobile phones as sources of distractions and cheating. Dogan and Akbarov's (2016) reported disadvantages including lack of training, students' attitudes, connectivity, varied devices, lack of devices, school administration, and lack of pedagogical justification. Tayan (2017) reported technical issues, network sustainability, and comprehensive training as the main concern of the teachers who participated in his study.

The problems reviewed in the above studies together with those outlined by the participants in study 1 and study 2 (the current study) in this thesis can familiarise stakeholders, EALD teachers, course designers, and material and app developers with the possible problems and barriers which could be ahead of SALL implementation. They also let them foresee the possible remedies to eliminate these problems as much as possible before integrating SALL in their courses, their materials and apps, or their lessons.

8.7.2.3. Affect Towards Use and Perceived Playfulness

As explained in Chapter 4, intrinsic motivation includes three types of feelings: enjoyment, curiosity, and concentration, which can be explained by two constructs: *affect towards use* (AU) and *perceived playfulness* (PP; Moon & Kim, 2001). In

line with the pilot study and study 1, the Likert scale results indicated the majority of participating teachers agreed with the items of *affect towards use* (AU1 and AU2) and *perceived playfulness* (PP1 and PP2) in the questionnaire. In other words, they expressed their belief in the sense of enjoyment, curiosity, and concentration that the use of smartphones created in them and they were looking for new ways of integrating the use of the device into their lessons. Oz (2015) and Alzubi (2019) also reported motivation as one of the most important advantages of smartphones.

The interview results in the current study also indicated that most of the participating teachers (n = 5) identified the use of smartphones as being engaging and fun for students. Therefore, it seems that smartphones (by providing their users with anywhere and anytime access to the world of information via search engines, as well as fun educational apps such as Duolingo, Kahoot, and Quizlet) could have been successful in creating the concentration, curiosity, and enjoyment which are necessary for turning smartphone users into active users of the device for educational purposes (Moon & Kim, 2001; Vasudeva et al., 2017). Consequently, it seems that language educators and material and app designers need to think of adding more gamification and challenging aspects to their smartphone-based activities, materials and apps if they are looking for a better engagement of the users.

8.7.2.4. Facilitating Conditions

In Chapter 7 (study 1), it was discussed that availability and accessibility to smartphones, free Wi-Fi, and instructional and technological support can play a defining role in successful implementation of SALL in language educational settings. Furthermore, with the teachers' and students' smartphone ownership as an

advantage, language schools and institutions only need to provide their teachers and students with free Wi-Fi and instructional and technological support.

In line with study 1, the Likert scale results in the current study showed teachers' overall agreement with both items of *facilitating conditions* (FC1 and FC2). This result confirmed participating teachers' perceptions of the necessity of providing teachers with Free Wi-Fi and instructional and technological supports by their institutions. AlTameemy (2017) also highlighted the importance of providing teachers and students with instructional and technological supports as his participating teachers' and students' unfamiliarity with the educational uses of mobile technology was their main reasons for expressing neutral attitudes towards the use of MALL.

Additionally, the questionnaire results in the current study indicated that the necessity of providing instructional and technological supports is not limited to teachers who never had SALL-related training because some of the teachers who had training even expressed their need to become familiar with different apps and the possible ways these apps could be included in their lessons. The results also indicated that the majority of teachers were ready to spend at least one hour of their work time and one hour of their private time each term for professional development on smartphone use. Similarly, the review of literature indicated that college instructors, who expressed their intentions to use mobile phones as an educational tool in Kafyulilo's (2014) study, also requested training on the ways that the use of mobile phones could help with facilitating education.

With regard to the above results, it can be concluded that EALD teachers are aware of the necessity of keeping themselves up to date with the use of technology, especially smartphones and this a sign of their positive attitudes and readiness to

use smartphones for language teaching in a more formal and instructed way. However, the results also showed that 39% of the questionnaire respondents' institutions would not provide the necessary support in terms of time and payment for their teachers' professional development, which seems an important barrier to the implementation of SALL.

Therefore, if stakeholders are looking at the implementation of SALL in their language institutions, it is important that they familiarise themselves with the teachers' and students' needs. They should equip their language schools and institutions with free and high-speed Wi-Fi internet connections. They should also consider providing their teachers with necessary SALL-related training including familiarising them with smartphones' available apps and features as well as the ways they can facilitate and advance English language education. There were teachers in the study who explained the difficulty of dealing with their students' lack of digital literacy during the limited time of their class. Therefore, considering extra class hours at the beginning of term which can be spent on educating students and setting up everything for the successful use of smartphones seems necessary too.

Overall, EALD teacher participants in the current study expressed positive attitudes towards the use of smartphones for educational purposes both by themselves and their students as they confirmed their belief in the smartphones' ease of use, usefulness, and playfulness, and they also confirmed their affect towards the use of smartphones for language teaching. They also confirmed their interest and their readiness to start using smartphones for educational purposes or expand their current educational use of smartphones in their lessons. But the majority expected training which was part of their work hours and paid.

In terms of teachers' attitudes and intentions to use smartphones for educational purposes, the current study results concurred with those of Alshammari et al.'s (2016), Alzubi's (2019), Kafyulilo's (2014), Tayan's (2017), and Oz's (2015) studies. Faculty members in Alshammari et al.'s (2016) study, prospective teachers in Oz's (2015), and teachers and students in Tayan's (2017) study showed high levels of perceptions and attitudes towards mobile technologies and MALL. Pre-service teachers and students in Kafyulilo's (2014) study expressed positive attitudes and intentions towards the use of mobile phones as a tool for educational purposes. Finally, most of the teachers (83%) who participated in Alzubi's (2019) study expressed support for the incorporation of smartphones in EFL lessons.

A contradiction can also be seen between the above results and Kafyulilo's (2014) results in terms of the attitudes of the in-service teacher participants of his study as well as the teachers' attitudes in AlTameemy's (2017), Ismail et al.'s (2013), and Shrivastava et al.'s (2014) studies. The teachers in these studies expressed moderate or negative attitudes and intentions to use mobile phones for educational purposes as a result of their uncertainties regarding the usefulness of educational uses of mobile phones, their strong mindset and seeing mobile phones as a classroom distraction, and/or students' misuses of the technology.

The above contradiction can be explained by the modifiable nature of attitudes. As explained in Chapter 4, attitudes are learned; therefore, they are modifiable by further learning (Fishbein & Ajzen, 1975). Additionally, Maio and Haddock (2010) noted that attitudes are influenced by information. This result is important as it shows that English language teaching communities around the world have moved towards showing more intentions towards the use of smartphones for educational purposes and the implementation of SALL.

However, the results also showed that despite their positive attitudes and their interest in the use of smartphones for English language teaching, teachers do not prefer the use of smartphones to other technologies and traditional methods. In this regard, the study came up with three moderators of teachers' intention: type of activity, students' level of English language, and smartphone disadvantages which need to be considered by English language institutions and material and app designers.

8.7.3. Impacts of the Moderating Factors

The results indicated no gender or age impacts on teachers' attitudes towards the use of smartphones for educational purposes in the current study. This result agrees with Alshammari et al.'s (2016) results. However, it contradicts Venkatesh et al.'s (2003) findings which showed gender and age impact on the use of computers in their workplaces. They also contradict O'Bannon and Thomas's (2014) and Oz's (2015) findings in relation to the impacts of age as a moderator of teachers' attitudes towards the use of mobile phones for educational purposes inside classrooms. These inconsistencies are not unexpected and can be described by the two factors of ownership and accessibility, which have made smartphones distinctive from computers and other mobile technologies. As explained both ownership and accessibility are important factors that foster attitudes and intentions towards the use of technology (Mitra & Steffensmeier, 2000; Naismith, Lonsdale, et al., 2004; Vasudeva et al., 2017). In addition, no impact of qualification, teaching experience, type of smartphone, or amount of smartphone use impacts were seen in the results.

8.8. Summary and Conclusion

Study 2 looked at worldwide EALD teachers' current educational uses of smartphones and examined their attitudes towards SALL. The results showed 96.7% smartphone ownership by the 85 EALD teachers from 20 countries who participated in the study. It also found that smartphones were the most available and accessible technology in the participants' English language educational settings. This result resonates with the related literature and supports the ubiquity and accessibility of the device which has long been claimed by many researchers in the field. In addition, Android and iPhone were the dominant operating systems on the participating teachers' smartphones. This result can decrease the app designers', material developers', and teachers' concern in relation to the varieties that existed in the smartphones' operating systems in the past.

Most of the teachers who participated in the study were quite familiar with their phone and were mostly categorised as frequent users of the study's pre-defined smartphone applications. The majority had already integrated many smartphone apps and features such as polling and evaluation apps, games such as Quizlet and Kahoot, dictionaries, social media apps, email, Google classroom, search engines, video audio recording in their lessons and had positive attitudes towards the use of smartphones for educational purposes. They believed in the ease of smartphone use, their advantages and usefulness, and the engagement and the fun that they offer to themselves and their students, and the deterrent policies of their language schools and institutions had not stopped them ($n = 81$; 95.3%) from letting their students use their smartphones for educational purposes inside their classrooms.

Furthermore, a larger percentage of the teachers showed a mild or even a neutral reaction to the students' noneducational uses of their phone inside classroom. This

could be a sign of a change in the teachers' mindset in relation to the presence of smartphones in classrooms. It seems they do not see them so distracting as they were reported in the literature, and smartphones are now more accepted and welcomed inside classrooms in comparison to the past. These all confirmed the participating teachers' positive attitudes and as a result their possible willingness to implement SALL in their classes. No impacts of gender, age, qualification, teaching experience, smartphone type, and smartphone use on the teachers' attitudes towards the use of smartphones for educational purposes were found. This can be beneficial for course designers and material developers as they decrease their limitations for integrating the use of smartphones into English language courses and materials.

However, while 68.8% of the teachers had even started to somewhat integrate the use of smartphones into their lessons, many teachers confirmed the necessity of professional training in relation to the use of smartphones for English language teaching. Furthermore, the results showed that the majority did not prefer the use of smartphones to the use of desktop/laptop computers and tablets, or to the use of traditional methods mostly because of their disadvantages including their limitations and unsuitability for specific types of tasks and activities.

Overall, the above results confirmed the study model in terms of the necessity of facilitating conditions, but not the hypothesised moderating factors. However, these facilitating conditions and supports should not be restricted to the use of smartphones. Teachers also need to be trained in the use of different types of dictionaries and their advantages and disadvantages to be able to instruct their students in this regard, as the use of dictionaries is an important part of students' language learning. They also showed that despite their positive attitudes towards the use of smartphones for language educational purposes, EALD teachers are not

interested in the exclusive use of smartphones for language teaching and they consider them more as a complement to the use of desktop/laptop computers and tablets and completing less demanding tasks and activities.

CHAPTER 9: STUDY 3

AN INVESTIGATION INTO THE POSSIBILITY OF IMPLEMENTING SALL IN A CLT CLASSROOM ENVIRONMENT

9.1. Introduction

In Chapter 2, it was explained that smartphones are effective palmtop computers and a technology that can assist educators with the implementation of language learning theories and practices inside their educational settings (Garrett, 1991). This potential was explained by activity theory (AT) in Chapter 2 and was examined in study 1. However, the time limitation of EALD classes in the English language centre, the teachers' and students' workload, and the small number of students who used the Evernote app meant the students did not spend enough time working with the app in class in that study. Therefore, the sharing and chatting features of Evernote and their potential for creating interactional and collaborative vocabulary and pronunciation learning environments could not be examined. To address this limitation and to examine the possibility of incorporating the use of students' smartphones and Evernote into their vocabulary and pronunciation learning in a communicative language teaching (CLT) classroom environment, a four-session smartphone-assisted vocabulary and pronunciation course was designed and implemented by the researcher in her own class in the same university as study 1.

9.2. Objectives

The study had the following objectives:

- To design a course in which smartphones could be used by students for English language vocabulary and pronunciation learning in a communicative classroom environment.

- To practically implement the course and examine the students' pre- and post-use attitudes towards the use of smartphones for vocabulary and pronunciation learning.
- To investigate CELTA/Delta teaching experts' perspectives on the possibility of integrating the course in EALD classroom teaching programmes.

9.3. Research Questions

To reach the above aims and objectives, the following research questions and sub-questions were addressed:

1. What were the student participants' attitudes towards using their smartphones for English language learning before attending the course?
2. What were the student participants' attitudes after attending the course?
 - 2.1. How effective was the course from their point of view?
 - 2.2. Did they wish to continue using the device and the app for English language learning in future?
 - 2.3. What were their recommendations for the development of the course?
3. What were CELTA/Delta teaching experts' attitudes towards the use of smartphones for language learning and teaching, and what did they think of the course?
 - 3.1. What were their comments to improve the course?

9.4. Theoretical Framework

Consistent with study 1, from a pedagogical perspective, the implementation of SALL was supported by AT as depicted in Figure 9.1.

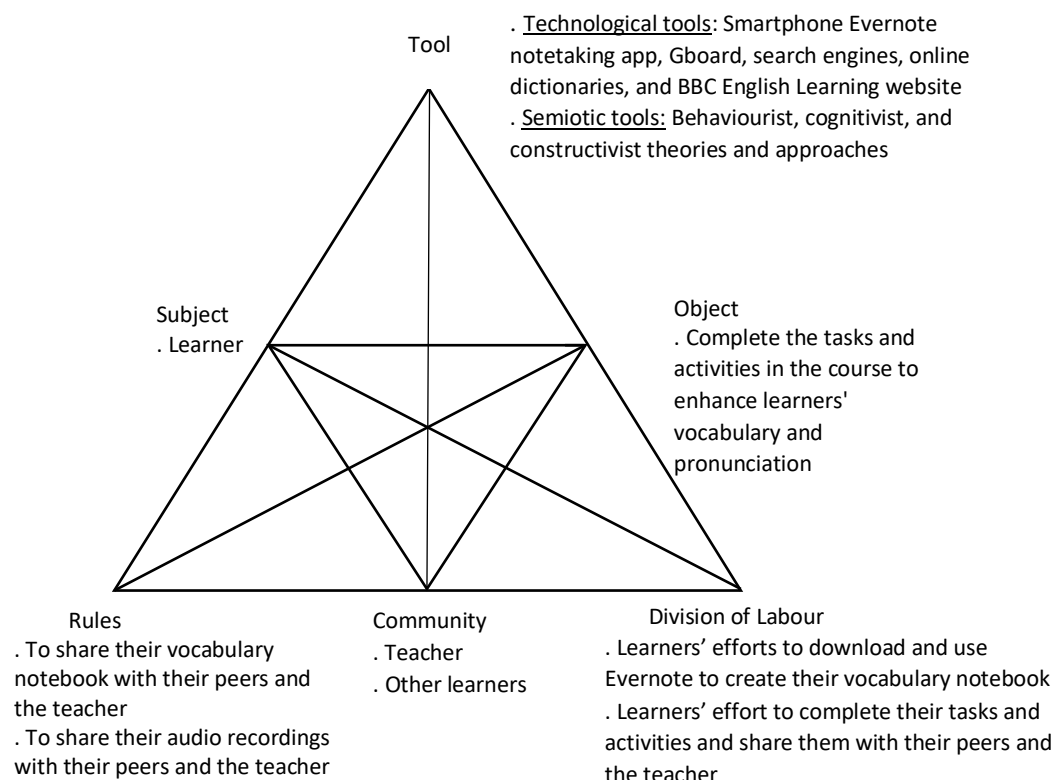


Figure 9.1: Study 3 and SALL

Students used the Evernote notetaking app, Gboard¹, search engines, and online dictionaries to create a personal electronic vocabulary notebook. Gboard was used as an extra tool to let the students access search engine and online dictionaries via Evernote. Students also used the BBC Learning English website for their lesson on pronunciation. The use of these apps in the current study let the students' smartphones play the roles of a tool, a tutor, a stimulus, a means of communication, and a source of information in their vocabulary and pronunciation learning and helped the teacher (researcher) with the implementation of behaviourist, cognitivist, and constructivist theories as detailed in Table 9.1.

¹ A virtual keyboard developed by Google for Android and iOS that offers more features to its users such as access to Google search, video and voice recorder, glide typing, emojis, GIFs, Google Translate, and handwriting.

Table 9.1: Study 3 – Course tasks and activities, their matching apps and related theories

Task	Apps and features needed	Apps & features usage(s)	Smartphone roles in students' vocabulary learning and their matching theories
Create a vocabulary notebook	Evernote	To create an electronic vocabulary notebook collaboratively	Smartphone as a tool (cognitivist and constructivist theories)
		To share vocabulary pages with their peers and vocabulary notebooks with their teacher (researcher) and communicate with them if necessary	Smartphone as a means of communication (constructivist theories)
	Gboard	To access search engines and dictionaries via Evernote	Smartphone as a tool (constructivist theories)
	Search engines	To search for necessary information (e.g., pictures representing the meaning of new words)	Smartphone as a source of information (cognitivist theories)
Writing tasks (writing paragraphs and summaries)	Evernote	To find information in relation to new words	Smartphone as a tool (cognitivist and constructivist theories)
		To write paragraphs or summaries. To record their voice while explaining their paragraphs or summaries to the class for self, peer, and teacher review To share their paragraphs, summaries, and voice recordings with their peers and the teacher for their review and feedback	Smartphone as a tool (cognitivist theories) Smartphone as a tool (constructivist theories) Smartphone as a means of communication (constructivist theories)
Pronunciation task	Evernote	To access the BBC Learning English website to learn pronunciation tips	Smartphones as a tutor (behaviourist theories)
		To record their voice for for self, peer, and teacher review	Smartphone as a tool (constructivist theories)
		To share their summary of the pronunciation tips learned and their voice recording	Smartphone as a means of communication (constructivist theories)

The rule was that the students should share their vocabulary pages and their other tasks and activities with their peers as part of their collaborative vocabulary

and pronunciation learning and for peer review. They should also share them with the teacher for review and feedback. The division of labour included the students' efforts to learn how to use Evernote to create their vocabulary notebook and review their work. It also included their efforts to complete the part of the task which was assigned to them in the collaborative tasks and activities and share their work with their peers and the teacher.

The study design and its attitude models were also informed by expectation disconfirmation theory (EDT), the theory of interpersonal behaviour (TIB), and user acceptance models. *Perceived ease of use* (PEU), *perceived usefulness* (PU), *perceived playfulness* (PP), *affect towards use* (AU), and *relative advantage* (RA) from user acceptance models, and *facilitating conditions* (FC) from the TIB were adopted in accordance with the EDT to create two separate models to study teachers' and students' pre- and post-use attitudes to SALL in the empirical studies of the project (as detailed in Chapter 4 section 4.6.). The models directed the design of the Likert scale items used in the students' pre- and post-use questionnaires in study 3. They were also used to discuss the results.

9.5. Methodology

9.5.1. Data Collection (Participants and Instruments)

University ethics committee approval was gained prior to commencing the experimental part of the study (Appendix D1). Convenience sampling was chosen as the most practical sampling strategy for the study, due to the COVID 19 spread and lockdown in Australia at the time of data collection in 2020. Three Master's coursework students at an Australian University with a first language other than English took part in the study. To triangulate the data, questionnaires, interviews, and feedback sheets were used to collect the data from the students who participated

in the course and the students were observed by the teacher (researcher) while working in class. The study used the student pre-and post-use questionnaires and interview questions which were used in study 1. The questionnaires were transferred onto the Qualtrics online platform for the students in study 3 due to COVID 19 restrictions. Students gave instant feedback on the lesson and the use of smartphones at the end of each session.

Two TEFL experts, each with more than 10 years' experience in teaching Cambridge teacher training courses (CELTA, ICELT, and Delta) also reviewed and evaluated the course after its implementation and took part in online interviews to discuss their perspectives on the use of smartphones in language teaching. The experts were invited by emails which were sent to CELTA/Delta training centres worldwide.

The study consisted of four stages. In stage one, students completed an online semi-structured questionnaire (Appendix D2) regarding their current use of smartphones and their attitudes towards the use of the device for English language learning and then attended a face-to-face focus group (Appendix D3).

In stage two, the students attended a free smartphone-assisted vocabulary and pronunciation course consisting of four 90-minute sessions which were designed and taught by the researcher. Students were observed by the teacher (researcher) while working in class and using their smartphones for language learning and their course-related work was all shared with the teacher via the Evernote app. Students were also asked to complete a short online quiz on the app to provide instant feedback to the teacher at the end of each session. See Appendix D6 for students' feedback questions.

In stage three, at the end of the course, students' attitudes towards the vocabulary and pronunciation smartphone-assisted course were examined via a post-use attitude online questionnaire (Appendix D4). All three students also attended an individual online interview (Appendix D5) via Zoom or WhatsApp to discuss their perspectives further. Post-use interviews were conducted online due to COVID 19 lockdown in Australia.

In stage four, the course content (Appendix D7) was sent to two CELTA/Delta experts for their review. The experts were asked to annotate the course file with their comments and complete a feedback sheet (Appendix D8) which asked for their ideas about the course objectives, outcomes, content, activities, value of using smartphones for course activities, ease with which other teachers could implement the course, and their other comments on the course. The experts also took part in a 40-minute individual online interview (Appendix D9) in relation to their own uses of smartphones for educational purpose and their attitudes towards the use of smartphones for educational purposes.

9.5.2. Smartphone-assisted Vocabulary and Pronunciation Course

9.5.2.1. Aims and Objectives of the Course

The course aimed at examining the possibility of using the Evernote smartphone app and its features to enhance students' vocabulary and pronunciation learning with specific focus on creating and using digital vocabulary notebooks in a communicative language teaching and learning environment. Therefore, the following objectives were followed in the course:

- To use a communicative learner-centred approach.
- To integrate the use of the students' smartphone into the course activities.

- To design collaborative activities which could be completed through both face-to face and virtual interactional communications.
- To foster learners' autonomy through giving students the opportunity to choose the daily vocabulary and related activities that they would like to work on.
- To familiarise students with useful vocabulary and pronunciation learning strategies with a specific focus on creating and using personal digital vocabulary notebooks on the Evernote app.

9.5.2.2. Approaches and Methods

A communicative learner-centred approach using smartphones to help students with their vocabulary and pronunciation learning was chosen as the prominent teaching methodology in the course. In this approach, students and their needs and goals are the focus, and the tasks and activities involve students in real or realistic communication (Cotterall, 2000). Students set their own objectives (Watkins, 2005) and exert purposeful effort to select and then pursue learning procedures that they believe could increase their individual learning effectiveness (Dörnyei, 2014; Watkins, 2005). To promote a learner-centred atmosphere in this course, learning was viewed as a process of shared decision making with the students. Therefore, the students were given the opportunity to choose the new academic vocabulary as well as the tasks and activities in each session.

As reviewed in Chapter 2, activity theory (AT) is a framework which helps explain students' smartphone assisted language learning at both an individual level and through their interaction with the technology, and a social level and through their interaction with the technology and in collaboration with their peers (Lantolf, 1994a, 1994b; Warschauer, 1997). This can promote learners' autonomy (Cotterall,

2000) if teachers also familiarise their students with strategies which direct them towards becoming independent learners.

As explained in Chapter 3, vocabulary learning strategies can be defined as any special techniques that learners employ, not only to understand and learn the new vocabulary, but also to store and retrieve them (O'Malley & Chamot, 1990; Oxford & Scarcella, 1994; Schmitt, 1997). The importance of strategy instruction as a powerful approach which helps learners generate their own vocabulary learning strategies has been noted by many specialists and researchers in the field (e.g. Cunningsworth, 1995; Nation, 1990, 2013; Schmitt, 2000; Schmitt & Schmitt, 1995; Sökmen, 1997). Therefore, the students were familiarised with creating and using a digital vocabulary notebook on the Evernote app in the course. This strategy is important since it encompasses other vocabulary learning strategies such as dictionary use, use of pictures and keywords, imaging the word's meaning, using the new word in a sentence, remembering affixes and roots, and connecting a word to personal experience.

The reviews in Chapters 2 and 3 showed that the world of ELT has moved towards the integration of the principles of behaviourist, cognitivist, and constructivist theories as the best teaching practice for teaching all aspects of English language including pronunciation. It was also explained that Celce-Murcia et al. (1996) has proposed a five-stage communicative framework combining the principles of behaviourism, cognitivism and constructivism as follows:

- Description and analysis to raise learners' consciousness
- Listening discrimination
- Controlled practice
- Guided practice

- Communicative practice (p. 36)

Considering Celce-Murcia et al.'s (1996) framework, the phonetic alphabet was shared with the students on Evernote so that they could use it to record the correct pronunciation of the words in their vocabulary notebooks. This let the students become engaged in conscious processing of the pronunciation of the words. They were then encouraged to practise and pronounce the words a few times and then record themselves while giving a presentation that they had prepared using the new words for their own review and teacher's feedback using Evernote. The BBC Learning English Website was also used to teach students some important pronunciation tips. Each student was asked to listen to a pronunciation tip on the website using the link which was shared with them on Evernote. They were then asked to prepare a summary of what they listened to, share it with their peers on the app, explain the tip to them, and record themselves for their own review and teacher's feedback. This way students could learn the new pronunciation tips in collaboration with peers.

In this course, the teacher acted as a designer, enabler, facilitator, communicator, reviewer, and evaluator, and tasks and activities were designed in accordance with activity theory and in a way that they fostered group work, thus helping increase the students' amount of listening and speaking time (Long, 1977; Pica, 1985; Scrivener, 1994). Students were directed towards negotiating with their peers while completing their tasks and activities in class. They also practised a variety of roles, including the role of a researcher, discoverer, designer, enabler, facilitator, communicator, reviewer, and evaluator. Khan's (2009) study results showed that year seven highschooler students who worked in groups were more motivated as they felt a sense achievement from the early stages of their language

learning and outperformed the ones who worked individually in their reading and writing tests.

Formative assessment, through which students and teacher interact and negotiate their feedback, was the basis of measurement in this course. Students received the teacher's feedback on all their work both synchronously and asynchronously and they were asked to complete a short online quiz at the end of each session to provide instant feedback on the sessions and their tasks and activities. Peer and self-assessment were also used in the course. These kinds of assessments let students evaluate and give feedback on their peers' and their own work in terms of quality (Andrade & Du, 2007; Boud & Falchikov, 2007) and helped them develop their critical thinking skills (Amo & Jareño, 2011; Lam, 2010).

Students in Lam's (2010) study were encouraged to record their voice while giving a summary in class. This gave them the opportunity to assess their own speaking and summary telling. They were also asked to give feedback and assess some of their peers' work. Lam (2010) reported enhancement of students' motivation and writing abilities as the positive impacts of self- and peer-assessment in his study.

The students who participated in Ndoeye's (2017) study believed that group work and collaborative learning in integration with peer and self-assessment create a sense of responsibility in them and advance their language learning. Iglesias Pérez et al.'s (2020) study suggested that students are good peer reviewers and their reviews are of high validity and reliability. Therefore, the students in the current course were also asked to record their voice for self- and peer review.

9.5.2.3. Materials

The basic version of Evernote was used in this course by the teacher and the students. The reason underpinning the researcher's choice of the app were detailed in study 1 in Chapter 7. The teacher used the sharing feature of the app to share information with the students and its Work Chat platform to contact and chat with the students whenever necessary. Students used the app to create a vocabulary notebook for themselves, complete their other tasks and activities, and share their completed tasks and activities with their peers and the teacher (e.g., vocabulary pages, paragraphs, recording, quizzes). They also used online dictionaries, web browsers and search engines to access the information they needed. "Tim's Pronunciation Workshop" on the BBC Learning English Website was used for a specific lesson which practised collaborative pronunciation learning. In this task, students were sent a link to a pronunciation lesson on the website, and they were asked to use their earphones to listen to information a few times, prepare a summary, share it with their peers, and explain it to them in class.

Although many students are now technologically-adept, they still need instruction on how to download, sign up, adopt, and use various smartphone apps in class, and such instruction should be provided by the teacher. The results of the pilot study and study 1 also showed such a necessity; therefore, the PowerPoint instructional slides (Appendix B3) which were provided by the researcher and used in study 1 to instruct the students in the English Language Centre, were used to instruct the students on downloading and using Evernote to create vocabulary notebooks in the current study. A printed version of the slides was also shared with them to help them follow the instructions in class.

The Academic Word List (AWL) was used as the vocabulary resource in the course and was shared with students both as a printed handout and as a soft copy on the Evernote app. The AWL is a list of 570 most frequent academic words which was developed by Coxhead (2000). The words in the list are general academic words which are not specific to any particular field, so learning them is of high importance to all university students.

9.5.2.4. Contents of the Lessons

Each lesson included a warmup, main phase, recap, and instant feedback stage. The warmup included an introduction to the activity that the students had to accomplish. This could activate their schemata (background knowledge) and help raise their motivation and interest (Scrivener, 1994). The aims and objectives of the lessons were followed in the tasks and activities that the students chose from some of the popular tasks and activities in communicative language learning environments (e.g., presentation, role-playing, interview, and planned and unplanned discussions).

To help students with reviewing their learning, a summary telling or writing activity was designed to recap the lessons. These activities gave them the chance for more practice. Students were also asked to give their immediate feedback on the lesson and the use of smartphones for completing the tasks and activities at the end of the class. The course timetable is presented in Table 9.2.

Table 9.2: Study 3 – Course timetable

Session No & Overview	Length of the Lesson
<p style="text-align: center;">Session 1</p> <p style="text-align: center;">Introductory session Instruction on Evernote and its use (PowerPoint Slides) Coxhead 2000 AWL Hand-out</p> <ul style="list-style-type: none"> • Advantages of creating an electronic vocabulary notebook • Downloading, signing up and creating a vocabulary notebook on Evernote • Creating an example vocabulary notebook page 	90 minutes
<p style="text-align: center;">Session 2</p> <p style="text-align: center;">Intentional vocabulary learning Evernote Coxhead (2000) AWL</p> <p>Learning 9 new academic words from AWL Practising the words in a paragraph writing activity More practice and recapping by telling a summary</p>	90 minutes
<p style="text-align: center;">Session 3</p> <p style="text-align: center;">Collaborative vocabulary review and pronunciation learning and practice Evernote BBC Learning English Website</p> <ul style="list-style-type: none"> • Creating vocabulary tests to test peers • Collaborative learning of 3 important pronunciation tips (Assimilation of /t/ followed by /j/, Intrusive /r/ & Schwa) 	90 minutes
<p style="text-align: center;">Session 4</p> <p style="text-align: center;">Intentional vocabulary learning Evernote</p> <ul style="list-style-type: none"> • Learning 6 new academic words from the AWL • Using the words in a group discussion • Writing a summary of the discussion to recap 	90 minutes

In the first session, students were asked to talk about their vocabulary learning strategies including their experiences with creating a traditional paper vocabulary notebook. Then, the time was dedicated to familiarising them with Evernote and its features and dealing with their problems with the use of the app. Students created their own vocabulary notebook on the app. In the recap stage, they were given a copy of Coxhead’s (2000) Academic Word List, which was also shared with them on Evernote, and were asked to go through the first four pages of the list, choose a new word to work on in class, and create a vocabulary notebook page as a practice. Finally, they were asked to copy and paste the feedback questions that the teacher

had shared with them earlier, on a separate note, complete the questions and share the page with the teacher.

In the second session, students talked about what they did in the previous session. They shared the vocabulary notebook page they had created in the previous session and completed at home with the other students in class on Evernote. They were also asked to compare their own vocabulary notebook page with their peers' pages and talk about the most interesting and useful vocabulary page with their reason(s) for their choice as the warm-up. The main stage had two phases. In the first phase, students chose three words they wanted to work on. Then, they became engaged in finding the words' related information (definition, pronunciation, a picture which represented the meaning of the word, and an example sentence) and added it into their vocabulary notebook. As a part of collaborative vocabulary learning, students were asked to share their completed pages. Then, they had to add their peers' created pages into their own notebook and share their whole vocabulary notebook with the teacher for her review and feedback.

In the second phase of lesson 2, they had to practise using the nine words that they had entered in their vocabulary notebooks in a paragraph and share it with a peer for their review and feedback. The teacher monitored the students and helped them with their problems and questions. For the recap, students gave a summary of the peer's paragraph they had reviewed and used the recording feature of the Evernote app to record their voice while they were giving their summary. They were also asked to listen to their voice at home and assess their own summary telling in terms of the use of the words and their pronunciation. Students did not agree to share their audio recordings with their peers for their feedback, so they were just

asked to share them with the teacher for her feedback. At the end of the class, students completed their feedback questions.

In the third session, students were given the chance to test each other on the vocabulary they had learned in the previous session, with a vocabulary quiz that they created themselves. They also learned some pronunciation tips. As a warm-up, they talked about their experiences with creating a vocabulary quiz together as a group. They were asked to give the name of kinds of vocabulary tests which they were familiar with and explain what kind of test they would go with if they were asked to create a quiz and why. Students were monitored when speaking. Later on, they became engaged in creating their own preferred quiz with their own words from the previous session using a note page on Evernote. Two created gap-fills and one a crossword quiz. Students shared their quizzes with their peers. They all copied and added their peers' quizzes into their own quiz and then completed the whole quiz which included nine questions. The teacher monitored the students while they were working and checked and gave feedback on the students' completed quiz on their vocabulary notebook.

For the pronunciation practice, a link to a pronunciation page on the BBC Learning English website was shared with the students on Evernote. Students used their own device and their earphones to listen to the tips and practise their pronunciation as many times as they needed. When confident, they wrote a summary of what they had learned with examples on Evernote and shared it with the teacher and their peers on the app. Then they took turns to discuss the tip with the class while they recorded themselves using Evernote. They were asked to listen to their own recording and compare their own pronunciation with the BBC speaker

to see how closely they could say the sounds and the words and how confidently they could explain everything to the class.

In the fourth session, students talked about their likes and dislikes in regard to Evernote's features and how it was integrated into their activities with their peers as the warm-up. In the main phase, they were asked to create six pages of vocabulary notebook, but this time they had to work together collaboratively from the beginning. First, they picked up two words from the AWL each and shared them with the rest of the group via Work Chat on the Evernote app. Next, they decided together which three types of information about the six new vocabulary items they wanted to include in their vocabulary notebook, and each had to find one piece of information for individual words, using Evernote Work Chat to share their information with the rest of the group. Finally, they had to put the information together and complete their pages in their vocabulary notebook.

As the next step, the students chose to do an unplanned discussion in the form of an interview. Each took turns as an enabler, picked a word and thought of a discussion topic or a question which the word could be used in. Then, they discussed their topic or question with the rest and asked for their ideas. In the recap stage they wrote a summary of the whole discussion in their vocabulary notebook for the teachers' review and feedback. The whole course with its detailed lesson plans is presented in Appendix D7.

9.6. Results and Discussion

Due to the limited number of participants (three students and two CELTA/Delta experts), no statistical analysis was carried out in the current study. Descriptive analysis was only used to analyse the students' Likert scale data. The interview data were transcribed, and both the transcribed interviews and feedback sheets were

thematized. Data collected from the participants were drawn together based on their matching themes and descriptive data were used to describe the results. The students' and CELTA/Delta experts' data results will be discussed separately.

9.6.1. Students' Pre-use Data Analysis Results and Discussion

9.6.1.1. Students' Demographic Information

The students' demographic information is summarised in Table 9.3.

Table 9.3: Study 3 – Students' demographic information

Course participants	Gender	Age	First language	Field and level of their study	English language proficiency based on the participants' self-evaluation
Student A (SA)	Female	18-25	Mandarin	Master of Finance	Advanced
Student B (SB)	Male	26-35	Korean	Master of Civil and Environmental Engineering	Intermediate to upper-intermediate
Student C (SC)	Female	26-35	Vietnamese	Master of Computing and Innovation	Advanced

9.6.1.2. Students' English Language Learning History and their Motivation to Attend the Course

The interview data indicated that all three students started learning English language in their primary or middle school and SB and SC had also attended a private language school. The participants appeared to be strategic and autonomous English language learners and were highly motivated to improve their English language vocabulary and pronunciation for both intrinsic and extrinsic reasons. These can be regarded as important factors in the success of the smartphone-assisted vocabulary and pronunciation course of the study, since according to

(Dörnyei, 1998), without sufficient motivation neither appropriate curricula nor good teaching methodologies can guarantee second language learning even in high ability students.

9.6.1.3. Technology Availability and Accessibility and Smartphone Ownership and Use

The interview data indicated that none of the participants had ever been provided with technological devices during their language learning, except SC who had her own PC and used web browsers to access information while attending an IELTS preparation course a few years ago. However, all three had smartphones, and they used them for educational purposes including English language learning both inside and outside the classroom. In addition, the questionnaire data indicated that SB and SC had an iPhone and used English on their smartphone menu. For SB using English language on his phone was a habit and for SC, a strategy for learning English and getting used to using it. SA had both an iPhone and an Android phone and was used to using her first language on them.

The above results are in line with the results of the pilot study and study 1 and as explained in Chapter 6, they are therefore in line with the other studies results in the literature which reported 100% mobile phone/smartphone ownership by students (e.g. Bakhsh et al., 2019; Bradley & Holley, 2011; Hussin et al., 2012; Murugan et al., 2017; Thornton & Houser, 2005). In line with study 1, the questionnaire data in study 3 showed that two students used their phone for more than 3 hours a day and online dictionaries, internet search engines, web browsers, and YouTube were their most frequently used apps. Therefore, it can be concluded that students were already using their phone as a tool, a tutor, and a source of information for English language learning.

However, as in the pilot study and study 1, the students' use of dictionaries was limited to the use of bilingual dictionaries. While bilingual dictionaries have their own advantages, it is recommended that higher level English learners should use monolingual dictionaries (Miller, 2018), as the definitions in monolingual dictionaries expose them to more target language words, thus decreasing the interference of their first language (Chen, 2010).

Teachers in Study 2 complained of the students' use of bilingual dictionaries and Google Translate for translating whole reading texts into their first language.

Teacher 3 explained:

This is a dilemma as instead of reading a text in English, they are reading it in their first language which means no use.

Therefore, students need be trained by their teachers in the use of dictionaries and their advantages and disadvantages, to become more effective users of dictionaries.

9.6.1.4. Students' Pre-use Attitudes Towards SALL

The mean of the total Likert scale items in the pre-use questionnaire for the individual students, the mean of the individual items for all three students and the mean of the total Likert scale items for all 3 student participants were calculated (see Table 9.4). Comparing the mean for the total Likert scale items for the individual students with the test value ($\mu = 3$) showed the mean of SA's ($M = 2.9$) and SB's ($M = 2.5$) responses was smaller than the test value, meaning SA and SB did not have a positive attitude towards the use of smartphones for English language learning.

Table 9.4: Study 3 – Students’ pre-use attitudes toward SALL (test value = 3)

Likert Scale Items	Student A (SA)	Student B (SB)	Student C (SC)	Mean
Perceived Ease of Use (PEU1)	5	4	5	4.7
Perceived Ease of Use (PEU2)	5	3	5	4.3
Perceived usefulness (PU1)	3	4	5	4.0
Perceived usefulness (PU2)	3	2	5	3.3
Perceived playfulness (PP1)	4	0	4	<u>2.7</u>
Perceived playfulness (PP2)	1	4	3	<u>2.7</u>
Affect towards use (AU1)	1	3	5	3.0
Affect towards use (AU2)	5	5	3	4.3
Relative advantage (RA1)	4	1	4	3.0
Relative advantage (RA2)	1	1	2	<u>1.3</u>
Facilitating conditions (FC1)	1	1	5	<u>2.3</u>
Facilitating conditions (FC 2)	2	2	4	<u>2.7</u>
Mean	<u>2.9</u>	<u>2.5</u>	<u>4.2</u>	3.2

The comparison of the mean of the individual items of the scale for all three students with the test value showed that the class believed in ease of smartphone use and its usefulness. However, they did not perceive the use of smartphones very engaging and fun. They also showed that they liked to use smartphones for language learning, but they were not sure if they preferred the use of smartphones to a desktop/laptop computer or tablet, and they did not prefer their use to traditional methods. Finally, they showed that the class did not believe in the necessity of free Wi-Fi and instructional and technical support.

The interview results also confirmed that all three students believed in the usefulness of smartphones as they expressed their satisfaction with the anywhere anytime learning opportunity that their smartphones had given them, especially the opportunity of watching YouTube videos which helped them with learning authentic English. Students also explained that having access to online dictionaries was one of the most important advantages of smartphones as paper dictionaries were very heavy and hard to carry. This part of the Likert scale results and interview

is in line with the results of the pilot study and study 1. The students in those studies also expressed more agreement with the items of PEU and PU in their pre-use questionnaire and they reviewed a lot of advantages with the use of smartphones for language learning in their interview before the intervention.

However, the Likert scale results for PP, RA, and FC in the current study contradict the related results in the pilot study and study 1. The students' greater disagreement with FC1 which asked them about the necessity of the presence of free Wi-Fi in the current study might have been due to the amount of internet which was available on the students' smartphones as part of their phone plan. The more internet the students have on their own device, the less necessity they feel for the presence of free Wi-Fi in the institutions. The availability of internet on the students' smartphones as a moderating factor of FC is a hypothesis that has not yet been explored in SALL and MALL literature and was not examined in this project. Therefore, it is recommended that researchers consider this factor in future research on the use smartphones for educational purposes.

The pre-use interview data in the current study also showed that despite the student participants' own educational and non-educational use of smartphones in class, they mostly found their peers' use of smartphones very distracting, especially if they used their phone for a long time in small classes. This result contradicts the students' interview results in study 1 which showed their neutral reaction to their peers' use of smartphones in class in comparison to past studies. This result is important and confirms the necessity of defining the rule of no-other-purpose use of smartphones (that students and teachers recommended in study 1 and 2) for the successful implementation of SALL. According to AT, the implementation of

SALL as social activity in a classroom setting depends on the rule(s) that the subject and the community of the activity agree on and the efforts they put into it.

9.6.2. Students' Post-use Data Analysis Results and Discussion

9.6.2.1. Students' Experience with the Use of Smartphones and Evernote for Learning Vocabulary and Pronunciation

The resources that the students used during the course were Evernote, Gboard, online dictionaries, web browsers and/or internet search engines, Microsoft Office apps, and a basic notetaking app which was not named by the user. The interview data and feedback sheets showed that all three students were happy with the amount of smartphone use in the course and they enjoyed completing their tasks and activities on the Evernote app. For instance, SB explained that

the app was engaging and covered everything I needed for the purposes used in class.

SA reported that she liked the possibility of adding pictures for describing and clarifying the meaning of the words in her vocabulary notebook on the app and she found learning about pronunciation tips through watching a video, preparing a summary of what she had watched, and explaining it to the class very useful. SC explained that she enjoyed practising using the new words in different activities such as paragraph writing, planned and unplanned speaking, creating vocabulary tests and testing each other on the new words that they had learned. She also found downloading and using Gboard on Evernote very useful, especially the possibility of glide writing² on the keypad.

² A feature on Gboard which lets users type by sliding their fingers on the letters of a word they intend to type.

In addition, all three students expressed that they liked the sharing and chatting (Work Chat) options on Evernote the best, since they gave them the opportunity of working on activities and tasks collaboratively and let them discuss their questions and problems with the teacher and their peers in and out of the classroom without needing to use a separate app. For instance, SC explained ...

The app was good as it worked both as a platform for studying and sharing and also as social networking. The vocabulary notebook made my work very tidy; I could even tag my separate notes to classify them which was also very good in my point of view.

Overall, the students explained that they were happy with the amount of group work, they liked the way that the activities gave them the chance for both face-to-face and virtual interactions with their peers and the teacher, and they never felt that the use of smartphone put them in isolation. However, similar to study 1, the post-use questionnaire, interview, and the teachers' observation showed that setting up and getting used to the app at the very beginning was hard for the students.

For instance, SA faced problems with downloading and signing up, creating new notebooks and notes, and accessing what was shared with her. All these problems were resolved within the first session as they were discussed with the teacher and peers. But there were also problems that remained unresolved for SA, since she did not share them. The first problem was her inability to use the dictionary and other websites via Evernote and therefore, the necessity of going in and out of the app the whole time she was looking for information. The second problem was her lack of knowledge in relation to the use of the available options on the app (e.g., the drawing option).

In fact, the above reported problems confirmed the necessity of students' digital literacy training by teachers which was highlighted by the interviewee teachers in study 2. However, as such training had been carried out by the teacher in the first

session of the course in study 3, it can be concluded that even training cannot guarantee that all students' problems can be met if the students are reluctant to share their problems with their teachers and peers. This is where we can see the importance of interactional communication that is highlighted by AT. AT explains how interactions between learners and educators with technology and with each other help them resolve their problems and reach their objectives. Therefore, it is recommended that teachers spend some time on training their students to fully communicate their problems in class.

In comparison to study 1, a few more problems with the app were reported by the students in study 3, as more variations existed in the tasks and activities that they did while using Evernote on their phones. For instance, SC explained that as the app was not a specific vocabulary learning app and did not include a unified template for this purpose, some of the information that the students added to their own vocabulary notebook was useless for the rest when they shared their work. She explained the problem and gave her solution as follows:

It is also important the students be aware that in classes with students from different countries with different first language, they don't have to use their own language translation for the meaning of the words as it doesn't work for their peers. Therefore, it is good if they are defined with English only rule.

However, from the teacher's (researcher's) perspective, the students' use of first language to describe the meaning of the words was useful, as one of the aims of communicative language teaching (CLT) and collaborative learning in the study was to familiarise students with their peers' strategies for vocabulary learning so that they could choose the most useful information to include in their own vocabulary notebook.

SC also shared her experience with creating a crossword test for her peers in the third session and explained that she could not find any template on Evernote for creating a crossword table, so she was obliged to use another app for such a purpose and transfer the template from that app onto Evernote. SA's problem-solving strategy in this activity can also be explained by AT, which describes how learners' interaction with smartphones as a tool, a tutor, a stimulus, a source of limitless information and a means of communication can assist them in achieving their objectives. In fact, SC employed a similar framework, and her smartphone as a tool and a resource helped her access what she needed for making a crossword quiz for her peers and attain her objective.

In addition, SA and SC complained of the unavailability of the international phonetic alphabet as a specific keypad or template on the Evernote app. They explained that the problem made them use another note/page on their vocabulary notebook that included the phonetic alphabet and was shared with them by the teacher, and they found it inefficient and time consuming. SC added:

I had to copy the sounds one by one and paste them onto my target page, or I had to go to another website to copy and paste the whole word pronunciation.

The teachers in study 1 explained students' copy and pasting information using the technology as an important barrier to their vocabulary learning and their own main concerns with the use of smartphones and electronic vocabulary notebooks on Evernote. However, the problem of students' copying and pasting pronunciation from dictionaries could have been resolved in study 3 if the students had been instructed to copy and paste the phonetic alphabet at the top of all their vocabulary pages to speed up their work with the phonetic alphabet. Unfortunately, SA and SC did not discuss their problem with the teacher and peers and this result once again

highlights the necessity of communicational interactions between the participants of the activity that is explained by AT and was already reviewed.

Finally, they all reported difficulty completing the fourth session activity in which they were asked to work collaboratively on a shared note/page to add the information that they had found for the six words of the day. SB explained that he faced duplication and automatic deletion of the information on the shared note. SC found it hard to make changes and add new information to the shared note as the app did not synchronise properly, and she explained that they decided to create separate notes and share them with each other to resolve the problem.

This result is important from three perspectives. First, it shows how the students could resolve their problems through interaction and collaboration in a communicative learner-centred environment. Second, it highlights the necessity of improving the sharing and sync options of the notetaking and archiving apps by their developer companies if their goal is to provide their users with the chance of preparing collaborative notes and notebooks for work or study. Third, it familiarises teachers with the typical challenges that students might face with the use of smartphone apps and features for educational purposes, so they can think of the possible ways they can help their students with their problems if they would like to incorporate the use of smartphones into their lessons.

As reviewed in Chapter 6, Evernote has very useful features and they were all introduced to the students via the instructional PowerPoint slides in the first session of course. However, the results showed that only SC used most of the features of the app, and SA and SB only used the keypad, Work Chat, and the sharing option. This result can best be explained by the students' attitudes towards the use of smartphones, since the pre-use attitude data shows that SC had high positive

attitudes towards the use of smartphone for language learning ($M = 4.2$) while the other two students did not. Therefore, it seems there may be a positive relation between the students' attitudes and the amount of effort they will put into working with the device and its apps and features and the options that they offer.

This result confirms the important role of attitudes in the successful implementation of SALL which was reviewed in Chapter 3. It also shows that the amount of effort users will put in working with the technology can be used as a predictor of their attitudes towards technology. As reviewed in Chapter 3, it seems there was no construct in the existing attitude and intention/user acceptance models which includes such an effort as the determinants of attitude and intention. Even Venkatesh et al.'s (2003, p. 450) effort expectancy in his UTAUT model is all about the users' perceptions of the ease of use of technology and cannot examine the users' perceptions in relation to the amount of effort they will put into the use of technology. While this result is not generalizable due to the very small number of the students who participated in the study, it can articulate a hypothesis for future quantitative/qualitative research.

Finally, in line with the pre-use questionnaire results, the teacher's observation and the students' responses to the post-use questionnaire confirmed the students' tendency to use laptops or tablets for completing their tasks and activities on Evernote. Despite the teacher's consistent request, SA only used her tablet for accessing Evernote, explaining that the tablet screen was bigger. SB also had his tablet and a keyboard with him and used them for accessing Evernote and completing the activities, explaining that he found it hard to type information onto the app using his smartphone keypad. However, SB stopped using his tablet when the teacher reminded him of the aim of the course and the study, and contrary to his

belief in the difficulty of using his phone for accessing Evernote and using the app, he easily got used to using the app on his phone from the middle of the second session. SB discussed his experience:

I couldn't find any difference between the tablet and smartphone version of the Evernote app. For me, the only difference was the use of a keyboard with the tablet which made typing and working with the app much easier, especially when I needed to edit, copy, and paste information, or use the functions of the app. However, if tablet is not available, it would be ok, and I can use my phone. I also think that anyway, phone is the best device for reviewing and looking at my notes and vocabulary notebook.

Similarly, SA and SC reported that they did not like using the keypad on their phone or tablet for typing the information in relation to the new words. Altogether, these results echo the results of study 1 in which almost all students used their laptop or tablet to enter the new word-related information into Evernote due to laptops' relative advantages (bigger screen and key board size) and their accessibility at home. As explained in Chapter 7, a similar result was also reported by Stockwell (2007) and Vasudeva et al. (2017). It can therefore be concluded that freedom of choice and smartphone disadvantages are the most important factors in identifying the students' actual technology use and very important predictors of actual use of smartphones. Therefore, it seems that the implementation of SALL will face more challenges in educational settings in which students have a choice of device in comparison to the ones in which they do not have such a choice.

9.6.2.2. Students' Post-use Attitudes Towards SALL

Similar to the pre-use data analysis, the mean for the total Likert scale items in the post-use questionnaire for the individual students, the mean for the individual items for all three students and the mean for all the attitude and intention items for all 3 student participants were calculated and the results are presented in Table 9.5.

Overall, the results indicated the individual students' positive attitudes and the whole class positive attitudes towards the use of smartphones for English language learning inside classroom (total attitude mean $3.8 > 3$) after the intervention in study 3.

Table 9.5: Study 3 – Students' post-use attitudes toward SALL (test value = 3)

Likert Scale Items	Student A (SA)	Student B (SB)	Student C (SC)	Mean
Perceived Ease of Use (PEU1)	5	3	5	4.3
Perceived Ease of Use (PEU2)	5	4	5	4.7
Perceived usefulness (PU1)	4	3	5	4.0
Perceived usefulness (PU2)	4	3	2	3.0
Perceived playfulness (PP1)	5	4	4	4.3
Perceived playfulness (PP2)	3	5	4	4.0
Affect towards use (AU1)	4	4	4	4.0
Affect towards use (AU2)	5	3	4	4.0
Relative advantage (RA1)	1	1	2	1.3
Relative advantage (RA2)	1	2	2	1.7
Facilitating conditions (FC1)	4	5	5	4.7
Facilitating conditions (FC 2)	5	5	5	5.0
Mean	3.8	3.5	3.9	3.8

The comparison of the pre-use and post-use attitude data (Figure 9.2) showed a change in the attitude of the participants of the study. SA's and SB' negative attitudes changed into positive, and SC's attitude mean score decreased from 4.2 to 3.9, but it was still positive. The students' total attitude means scores increased.

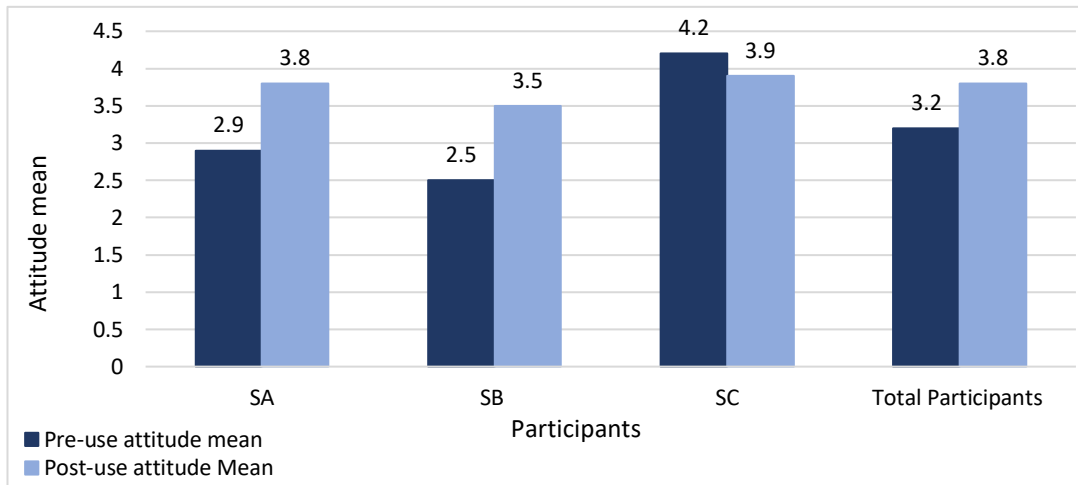


Figure 9.2: Study 3 – Comparison of the students’ total pre- and post-use attitude scores

The comparison of the students’ total mean score for the individual items of the pre- and post-use Likert scale also showed modifications in all the related mean scores (Figure 9.3).

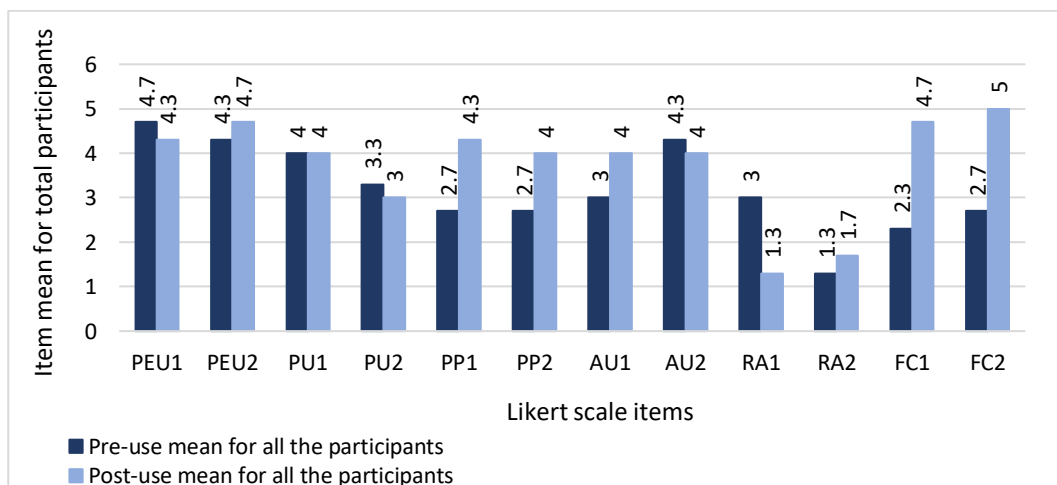


Figure 9.3: Study 3 – Comparison of the total students’ pre- and post-use mean score for the Likert scale individual items

From all these changes, the changes in the total mean scores of the items of PP, RA and FC seems more significant. For PP1 and PP2 a great increase in the mean score can be seen. This indicates that although the students did not expect to be engaged and enjoy the use of smartphones, they experienced high engagement with

the use of smartphone and Evernote app. Such an engagement was not recorded by the students who used Evernote in study 1. This difference can be explained by the variety in the activities and their collaborative nature in the current study. It could also be due to the small class size and the fact that all the students were constantly using Evernote in class with the presence of a teacher who actively promoted its use.

RA1 mean score shows a considerable decrease in comparison to its pre-use mean score. In contrast, a small increase in the mean score of RA2 may be the result of the students' satisfaction with the use of smartphones in class. However, both results still show students disagreement with the items, meaning that the students did not prefer the use of smartphones to the use of desktop/laptop computers or tablets and traditional methods of language learning. This result is in line with the findings of study 1 in relation to the moderating impact of choice of technology on the students' intentions. The mean score of both items of FC also shows a considerable increase, meaning that the students were satisfied with the amount of instruction and support that they received from the teacher.

Overall, these results indicate how the students' attendance in the course and their experience with the instructed use of smartphones in class changed their perceptions and even their total attitudes towards the use of smartphones for educational purposes. In line with what was discussed in chapter 7, all the above changes can be explained by Fishbein and Ajzen's (1975) definition of attitude which describe attitude as a learned predisposition. They also confirm Lemon's (1973) and Shaw et al.'s (1967) claim that attitudes are learnable and change by experience.

9.6.3. CELTA/Delta Experts' Data Analysis Results and Discussion

This section reports on two TEFL experts' feedback and comments on the course, together with their interview data.

9.6.3.1. CELTA/Delta Experts' Current Smartphone Uses

The interview data indicated that both CELTA/Delta experts were highly experienced EFL teachers and teacher trainers. E1 had 20 years of teaching experience and E2 had 14 years. Both experts explained that they never banned smartphone use in their classes and they had their own uses of smartphones for teaching purposes. E1 explained that he always encouraged his students and trainee teachers to use their smartphone as an electronic dictionary and a resource. He asked his students to download apps such as light, sight detector, or distance measurer, and also use their phone as resource for completing a report on building safety and building safety requirements in their Academic English course. However, he himself had only used Zoom to teach an online CELTA course. E2 explained that he had used Kahoot to test students and had sometimes asked his students to use WhatsApp to send him their work.

In line with study 1 and study 2, this result showed both experts' familiarity with some smartphone affordances.

9.6.3.2. CELTA/Delta Experts' Attitudes Towards SALL and its Implementation

- **Experts' Perceptions of Smartphones' Ease of Use**

E1 and E2's interview responses indicated that both experts believed in the ease of smartphone use for language teaching and learning and considered the users' age and familiarity with the device as a moderator of ease of use. However, they

believed that the familiarity with smartphones does not diminish the necessity of teachers' and even students' training for expanding the educational uses of smartphones. For instance, E2 explained:

I'm certain it is easy for students, especially younger students, to learn how to use different smartphone apps for language learning, and with a training session on how to use the app, they can grasp the related skills quickly.

E2 introduced the implementation of SALL as a change which teachers found hard to be accept due to their workload. Au and Lam (2014) also reported teachers' unwillingness to use social media for educational purposes in their study due to an increase in their workload and recommended the use of incentives as a solution. Altogether, these perspectives echoed the results of study 2 in terms of the necessity of providing students and teachers with SALL related training as well as extending the courses duration to fit the smartphone use in class. They therefore echo Stockwell's (2008) findings which showed learners' familiarity with their phone does not indicate that they know how to use them for language learning purposes.

- **Experts' Perceptions of Smartphones' Usefulness and Relative Advantages**

E1 and E2 showed that they believe in the auxiliary role that smartphones can play in the process of teaching and learning in class. In their view, smartphones speed up work and facilitate language learning if they are used appropriately. For instance, E1 explained:

There are advantages. There is more variety, different angles, and there is all the stuff on the Internet. It is a no brainer; the smartphone just speeds everything up so much. I only wish I had used them more, probably. Then, I would be better at carrying on the transition from totally classroom teaching to totally online teaching which has happened as a result of the COVID 19.

These advantages are also in line with those identified by teachers and students in studies 1 and 2 and support previous studies' results (e.g. Kafyulilo, 2014).

However, both experts explained that they preferred their students used language labs and computers if they were available inside their educational settings or their own tablet or laptop, since the smartphone screen is small. Moreover, they believed that smartphones were not suitable for certain activities. For instance, E2 explained:

If I'm teaching online and I'm using Zoom, I really don't like that people do it on their smartphones.

Likewise, the interview participants in study 1 and study 2 explained that they thought each technology was appropriate for certain activities and mentioned that whenever computers and tablets were available and accessible, they preferred to use those technologies as smartphone screens and keypads are small. As explained in Chapter 7, this result is in line with Stockwell's (2007) and Vasudeva et al.'s (2017) findings.

The other problems with the use of smartphones for educational purposes which were reviewed by these experts also echo the findings of study1 and study 2 and the available literature. These problems were instability of Wi-Fi internet connection; students' non-educational uses of their phone; their use of first language for looking up at things; high dependence; plagiarism; and teachers' unwillingness to take part in unpaid training.

- **Experts' Perceptions of Playfulness and Affect towards Use of Smartphones**

The experts' responses indicated that they did not think that students' curiosity, concentration, and enjoyment, in other words, the students' engagement in tasks and activities, is specific to the use of smartphones for language learning purposes. In E1's view there are many fun activities which can be done with paper and pencil,

such as matching pictures with words. In addition, according to E2 not all smartphone-based activities are fun.

If they have a quiz and they are doing Kahoot, they are always engaged and have a good time, but if they are using their phone to look for information in a dictionary, probably they are not that engaged.

As explained in Chapter 4, Wang et al. (2009) found that with no gender or age differences, perceived playfulness impacts users' behavioural intention to use m-learning significantly. Therefore, they recommended m-learning systems should be playful and enjoyable to be able to attract more learners. Teacher 3 in study 1 also thought the use of Evernote for vocabulary learning could have been more fun for the students if it also included a flash card game for reviewing the words. However, the students who attended the SALL course in study 3 expressed that the use of smartphones and Evernote in collaboration with their peers was very engaging even without the function that Teacher 3 explained. Therefore, it can be concluded that it is not just the gamification of the apps which might create engagement and fun; the types of activity and the way they are implemented also play an important role in this regard.

- **Experts' Perceptions of the Necessary of the Presence of Facilitating Conditions**

Both experts also believed in the role of facilitating conditions when implementing SALL. For instance, E2 talked about how his attempt to use Google classroom in Japan failed due the prohibition of smartphones in the school and lack of technology skill training. However, he explained that teachers' willingness to take part in training sessions on the use of technology and smartphones depends on whether it

is paid or not and private language schools should consider this if they want to move towards the implementation of SALL.

E1 also explained that while Cambridge courses such as the CELTA, Delta, and ICELT have been designed to familiarise the trainees with classroom skills, no room for digital literacy skill training has been considered in these courses, except one session of quick review of educational technologies in the CELTA. This means if the trainees want to learn or improve their digital literacy and be able to incorporate technology into their lessons, they need to pay extra fees and attend separate courses, which is a real drawback. Therefore, it is important that Cambridge ESOL consider their trainee teachers' and their future students' needs more and include more training for teachers. It is surprising to see that Cambridge ESOL has been offering a blended version of CELTA (Online CELTA) for over 10 years, but it has not yet felt the necessity of training its teachers in the digital literacy skills which are needed for the uptake of technology in their own teaching.

9.6.3.3. CELTA/Delta Experts' Perspectives of the Smartphone-Assisted Vocabulary and Pronunciation Course of the Study

Both experts thought that the objectives of the course were good and were well supported through smartphone-assisted activities and tasks. They both explained that the use of smartphones in the course was a good idea as we are living in an ever-changing world in which everyone has a smartphone.

From E1's point of view, while the interactions that the students could have in this course were not specific to the use of smartphones, the sharing feature of the app was very useful. He explained that besides the possibility of keeping all the work in one place, which speeds up access and increases the amount of vocabulary the students learn, the sharing feature was really an advantage in the course,

although it could not necessarily guarantee that the students could recognize and remember the words the next time they read or heard them.

Although E1 did not substantiate his claim about the usefulness of sharing in the app, Pask's (1976) Conversation theory and Lave and Wenger's (1991) concept of Situated Learning introduce learning as an activity that needs to be done through interactional conversation and in collaboration with educators and peers. According to Activity theory, smartphones as a tool, a tutor, a stimulus, a source of information and a means of communication facilitate all the processes of learning vocabulary and pronunciation from finding information through to storing and sharing it with peers and teachers in the course of the study. Sharing also helped with the implementation of Craik and Lockhart's (1972) Level of Processing hypothesis and Paivio's Dual Coding theory (1979) through providing the chances of deeper processing of the new words and adding pictures which defined the meaning of the words.

The experts' feedback and interview data also showed that they thought the implementation of the course would be fairly easy for teachers. The three teachers who participated in study 1 and used Evernote to review their students' vocabulary notebooks, gave them feedback, and marked their notebooks at the end of the course also found using the app easy and they even helped the researcher with instructing their students to use the app. However, E2 thought that teachers might have some challenges with students' going beyond searching for the words on the phone. E2 also felt the time limitation of the course had limited the vocabulary and pronunciation teaching and learning activities. Therefore, E2 thought it would be much better if the course could be implemented within a longer timeframe with more varieties in the activities.

9.7. Summary and Conclusion

Study 3 looked at the possibility of incorporating the use of the Evernote note-taking app and its features into students' vocabulary and pronunciation learning in a CLT classroom environment. The first research question was related to the students' current uses and attitudes towards using their smartphones for English language learning before attending the course, and the results showed that all three students who attended the course and the study were somewhat autonomous learners, they all had iPhones and two were frequent smartphone users who used their phone for more than three hours a day.

The results also showed that the students used their phones for both educational and non-educational purposes both inside and outside their classrooms. However, their use of smartphone apps and features was limited to informal and non-instructed use of bilingual dictionaries, search engines, YouTube, language learning apps, and the recording features of their phone to expand their English language knowledge. They perceived smartphones as an easy-to-use device and useful technology which could assist their language learning. Nevertheless, two of the three did not have positive attitudes towards the use of smartphones for language learning before the intervention. They did not see the unavailability of free Wi-Fi as an issue, and they expressed that they thought they would prefer the use of smartphones for language learning to other technologies such as tablets and laptops.

The second question with its sub-questions were related to the students' experience and the actual use of smartphones for vocabulary and pronunciation learning during the course, their level of satisfaction with the use of smartphones and their post-use attitudes. Overall, the students' data during and after their actual experiment in the course indicated that their expectations in terms of smartphones'

ease of use and usefulness were met. They confirmed their affect towards the use of the device and found the use of smartphones in class more engaging than traditional methods of language learning.

They found the amount of smartphone use in the course at an appropriate level and they liked the smartphone-assisted activities and tasks. They described the sharing and chatting features of Evernote as the most useful and important options available on the app as they provided them with the chance of virtual interactions and collaboration beside their face-to-face interactions and collaboration in class, and this sped up their learning.

Despite the slow synchronising process of the app and difficulty of working on a shared note at the same time, which needs to be considered by teachers while designing their own collaborative tasks and activities for their students, the students did not find the use of smartphones a barrier to groupwork and collaborative language learning. This result can counter the possible perception of smartphones' inappropriateness for group work and collaborative language learning found, for example, in study 1. However, this is an area which still needs more investigation in larger scale studies.

Students also found Evernote a useful virtual platform which gave them the opportunity to complete their tasks and activities and store them as either separate notes or notebooks for their future review. In addition, they were satisfied with recording their voice for their own or the teacher's review and feedback, but they were reluctant to share recordings with their peers. This is an important point that needs to be considered by teachers who want to incorporate the voice or video recording features of smartphones into their activities as a part of collaborative

learning in a CLT environment. Overall, these results highlight the pedagogy behind SALL in the light of activity theory (AT) in an actual experiment.

The above results reflected students' satisfaction with the use of smartphones for language learning inside the classroom, their positive attitudes, and intentions for future use of the device. However, similar to study 1, students found smartphones more suitable for less demanding tasks and activities due to their small screen and keypad size and this changed their preference in relation to the use of smartphones over tablets and laptops. Therefore, this study also concludes that smartphone disadvantages, type of activity, and freedom of choice can have a great impact on students' choice of technology and its actual use. Consequently, it seems that the implementation of SALL can face more challenges in educational settings in which students have the choice of device than ones in which students do not have such a choice.

The third research question examined two CELTA/Delta experts' perceptions of the use of smartphones for educational purposes and their perspectives on the course. The results showed that both experts who reviewed the course had never banned smartphones in their classes, either in their EFL courses or in their teacher training courses. They had always encouraged their students or trainee teachers to use their phones for educational purposes and they themselves had also used them. However, all these uses were limited to the use of dictionaries and search engines by their students and trainee teachers, and Kahoot, WhatsApp, and Zoom as a platform for online teaching.

Examining the experts' attitudes towards the use of smartphones for educational purposes against the six constructs of the projects' pre-use attitude and intention model – PEU, PU, PP, AU, RA, and FC – indicated that both experts believed in

the smartphones' ease of use for educational purposes. However, they supposed that students are better than their teachers in this regard as they saw age and familiarity with smartphones as two important factors in defining smartphones' ease of use. However, they suggested that both teachers and students need training to be able to use the apps and features of smartphones for educational purpose.

The experts did not perceive students' engagement and having fun as aspects in language learning which are specific to the use of smartphones. However, they expressed their belief in smartphones' roles as a tool and an unlimited resource which can speed up and facilitate learning; notwithstanding, they introduced screen size and type of tasks and activities as important factors which should be considered in the process of designing smartphone-assisted tasks and activities.

In addition, despite barriers such as intensive curriculum, teachers' workload and unwillingness, and teachers' and students' lack of digital literacy, and problems such as students' high dependence and non-educational uses of their phone, use of first language for looking up information, and plagiarism, both experts believed that smartphones should be used today for educational purposes and E1 highlighted that:

It's silly not to. Everything was changing even before COVID, but we've got even more online because of COVID. Students use their phones in class anyway whether in relation to their lesson or to text their friends or play a game, so take advantage of it when they want to use it.

Therefore, it is recommended that EALD teachers start taking advantage of smartphones more and use them as educational technologies either on their own or in integration with other technologies, considering the availability and accessibility of ICTs.

CHAPTER 10: CONCLUSION

10.1. Summary and Conclusion

The current PhD project aimed to address a significant gap – lack of field-specific theories and theory use – which exists in the SALL literature and to examine the possibility of smartphone use for English language teaching and learning in EALD classroom settings from pedagogical and attitudinal perspectives. To this end, a theoretical review and three empirical studies were carried out in which questionnaires, interviews, observations, and feedback sheets provided the necessary data depending on the purposes of the study. A pilot study was also run which let the researcher examine the preliminary pre-use questionnaires and validate the constructs of the project's attitude and intention models. It also gave her an initial impression of the teachers' and students' attitudes towards the implementation of SALL.

The following research questions were posed:

1. What is the theoretical justification behind the use of a technology such as smartphones for language teaching and learning?
2. For what educational purposes do EALD teachers and students use their smartphones?
3. What attitudes do EALD students have towards using their smartphones to learn English?

3.1. Do gender, English language proficiency, and amount of smartphone use have any impact on their attitudes towards SALL?

4. What attitudes do EALD teachers have towards the implementation of SALL?

4.1. Do age, gender, type of mobile phone, qualification, teaching experience, and amount of smartphones use have any impact on their attitudes towards SALL?

The theoretical reviews in Chapters 2, 3, and 4 led to framing the possibility of the implementation of SALL in the three empirical studies of the project from pedagogical and attitudinal perspectives as follows:

Considering mobility, ubiquity, and computing features of smartphones as their most important affordances and focusing on the auxiliary role they can play in English language education, SALL was defined as both instructed and/or non-instructed use of smartphones as an aid for language learning, either in an educational setting such as a classroom, or a non-educational one, anywhere and at any time. Activity theory, which describes human individual and social activity in the light of the mediation and the tie between semiotic and technological tools, was used to show how smartphones interact with theories. This let the researcher discuss the pedagogy behind the use of smartphone-assisted tasks and activities in study 1 and 3, and as a result, clarify the pedagogy behind the implementation of SALL in EALD classroom settings of these studies.

Expectation disconfirmation theory, the theory of interpersonal behaviour, and user acceptance models were used to generate two separate models that could frame the study of attitudes towards SALL in all three studies of the project. From these theories, *perceived usefulness*, *perceived ease of use*, *perceived playfulness*, *affect towards use*, *relative advantage*, and *facilitating conditions* were used to study teachers' and student' pre- and post-use attitudes; find out about their intentions to smartphone use; and predict the possibility of the implementation of SALL inside EALD classroom settings.

Study 1 examined EALD teachers' and students' pre- and post-use attitudes and intentions towards the use of smartphones for English language teaching and learning in general English language classroom settings at an Australian university English language centre. The study used mixed methods and included a pre-use data collection, an intervention, and a post-use data collection to look at the teachers' and students' own educational uses of their smartphone and examine the use of the Evernote note-taking app for creating and using electronic vocabulary notebooks using questionnaires, interviews, and observations.

The pre-use results showed 100% smartphone ownership with an iOS or Android operating system by the teachers and the students and confirmed unlimited accessibility to the device by them. They also revealed a higher amount of smartphone use by the students than their teachers, with about 70% of the students using their phone more than 3 hours a day. The majority of students (95%) could be categorised as either frequent (16-30 times) or extensive (30+ times) users of smartphones based on their weekly non-instructed uses of their phone for language learning both inside and outside the classroom. However, the students' greatest uses of their phones were limited to the use of online dictionaries, search engines, email, and camera for language learning. Teachers claimed that they occasionally integrated the use of the latter apps and features into the students' tasks and activities to make their smartphone uses more instructed and formal, or used Kahoot educational game to make their language learning more engaging and productive.

From pedagogical perspectives and with regards to activity theory, the study confirmed the potential of Evernote for being adapted to the vocabulary notebook task of the students and as a result, it confirmed the potential of smartphones as a tool, a means of communication, and a source of information for assisting teachers

with the implementation of cognitivist and constructivist theories. However, the results showed that the successful implementation of SALL relies on students' communicating their problems with their teachers and peers as well as on the amount of effort they put into the use of smartphone apps and features for the purpose of language learning. They also showed that although non-educational uses of smartphones did not seem so distracting as they have been recorded in the literature, it is better that students consider not using their phone for purposes other than language learning inside classroom.

From an attitudinal perspective, the results reflected both teachers' and students' overall agreement with all or almost all the items of the constructs in the project's attitude and intention to use smartphones models, reflecting their positive attitudes and, as a result, their intention to use SALL both before and after experiencing the use of Evernote. However, they also showed that teachers' and students' attitudes and intention to SALL were not only moderated by facilitating conditions, which were predefined in the projects' models, but also by mindset, voluntariness, type of activity, having a choice of technology, and smartphone disadvantages, particularly their small screen and keypad size. The pre-defined moderating factors – gender, English language proficiency, and amount of smartphone use – did not have any significant impact on students' attitude and intentions to use smartphones for language learning.

Study 2 investigated worldwide EALD teachers' current uses of their smartphones including their use for language teaching. It also examined the teachers' attitudes towards SALL and looked at the possible impacts of the differences in their age, gender, type of mobile phone, qualification, teaching experience, and amount of smartphone use on such attitudes. The study applied

mixed methods of data collection, and online questionnaires and interviews were used to collect the necessary data.

The results showed 97% smartphone ownership by 85 EALD teacher participants of the study who were from 20 countries in the globe. Smartphones were the most accessible technology in the language educational settings of the participants due to their high rate of personal ownership, and 95% of the teachers allowed their students to use their phone for educational purposes inside their classrooms even if their institution had a deterrence policy in this regard. However, 42% were still strict about their students' non-educational uses of their phone inside classroom which confirmed the necessity of defining the no-other-purposes-use of smartphone rule inside classrooms which were recommended by one of the teachers and a student in their interview in study 1.

Study 2 classified 60% of the teacher participants of the study as frequent users of smartphones, using their phone for both educational and non-educational purposes more than 15 times a week. The results showed the teachers' familiarity with many of the possible ways they can take advantage of smartphones for English language teaching. Teachers reviewed the ways that they had already integrated the use of smartphones into their lessons (e.g., polling apps such as Padlet and Poll everywhere; games such as Socrative, Kahoot, and Quizlet; social media such as Facebook, Twitter, and WhatsApp; search engines; dictionaries; and Google classroom) and recommended their use to EALD teachers. However, the majority of teachers, even many of those who had already attended SALL-related professional training, expressed their need and readiness for attending professional training on the use of smartphones for language teaching, preferably as part of their work hours and for work promotion purposes.

Many advantages with the educational use of smartphones were reviewed by the teachers and the results confirmed their overall positive attitudes towards the use of smartphones for educational purposes. However, most of them did not consider smartphones as a technology that can fully replace the use of computers, laptops, and tablets, or the traditional methods and the use of course books and printed materials for language teaching and learning due to their disadvantages. These disadvantages were recorded as small screen, lack of reliability in terms of charge, being time consuming and distracting, decreasing teacher-student and student-student interactions, students' confusion, possible misuses and their high reliance on them. Gender, age, qualification, teaching experience, smartphone type, and amount of smartphone use did not have a significant impact on the teachers' attitudes towards the use of smartphones for educational purposes.

Study 3 examined the possibility of incorporating the use of Evernote and its features into students' vocabulary and pronunciation learning in a Communicative Language Teaching classroom environment in a short course designed and implemented by the researcher in the same Australian University as study 1. Three students' and two TEFL experts' attitudes and intention to use SALL and their perspectives on the course were examined in this study by questionnaires, interviews, observations, and feedback sheets.

The pre-use attitude data showed that the three student participants of the study were used to using bilingual dictionaries, search engines, YouTube, language learning apps, and the recording features of their phone to expand their English language knowledge. They perceived smartphones as a useful, easy to use, and engaging device that they liked to use for language learning and preferred to their laptops and tablets. The overall attitude of the students was positive towards

smartphones and SALL. They did not see the availability of free unlimited Wi-Fi for the use of smartphones as a necessity, but they believed they would need instruction and support with the formal use of their phone for language learning in the course if the uses would go beyond their own current educational uses of their phone.

The post-use data indicated that the students' expectations in terms of smartphones' ease of use, usefulness, and playfulness were met. They liked the sharing and chatting options of Evernote which gave them the chance of virtual interactions and collaborations. They thought these options sped up their work and made the use of smartphones very engaging. These were all signs of students' satisfaction, their positive attitudes, and their intention for future use of the device.

However, similar to study 1, two of three participants showed unwillingness to use their smartphones for working on Evernote and despite the teachers' request, one only used her tablet throughout the course. All three confirmed their change of perspectives and preference in terms of the exclusive use of smartphones for language learning in their post-use questionnaire. The students also found smartphones' small screen and keypad size as their main disadvantage and therefore found smartphones more suitable for less demanding tasks and activities; they did not like the idea of sharing their voice recording with their peers. The results confirmed the impact of four of the six moderating factors of intentions to use smartphones for language learning – effort, type of activity, choice of technology, and smartphone limitations – that study 1 came up with, and this led to the conclusion that the implementation of SALL can face more challenges in educational settings in which students have a choice of device.

The CELTA/Delta experts who reviewed the course expressed positive attitudes towards the course and its use of smartphones. They had never banned smartphones and had always used and encouraged their students or their trainee teachers to use their phone for educational purposes. However, all their uses were limited to the use of dictionaries and search engines, Kahoot, WhatsApp, and Zoom as a platform for online teaching.

Both experts believed in the ease of use of smartphones, especially for students who are from the younger generation. However, they thought both students and teachers still need training. They believed that smartphones speed up and facilitate students' learning; however, they did not see engagement with activities and having fun as specific to the use of smartphones. Finally, they believed that smartphones should be used by teachers despite their disadvantages. Both experts confirmed the possibility of the implementation of the course by other teachers and thought the smartphone-assisted vocabulary and pronunciation course in study 3 would be useful and easy for other teachers to implement.

Drawing together the results of the three studies in this thesis, it can be concluded that smartphones are now the most accessible technology for EALD teachers and students in many language institutions due to their high rate of personal ownership; therefore, there is a potential for the implementation of SALL in language institutions. However, both teachers and students need to be instructed and supported not only in how use to smartphones' unfamiliar apps and features, but also in the use of dictionaries. It can also be concluded that both EALD teachers and students have positive attitudes towards SALL and are ready to use their smartphones for English language educational purposes, but as a complement to the other technological devices (desktop/laptop computers and tablets) which are

available to them and for less demanding tasks and activities. Therefore, it seems that the exclusive use of smartphones and SALL is more possible in language educational settings in which teachers and students have no other choice of technology.

10.2. Implications

This PhD project addressed a significant gap – the lack of field-specific theory and theory use in SALL from both pedagogical and attitudinal perspectives. This gap was explained by Viberg and Grönlund (2013) and was reconfirmed by Peng et al.'s (2020) systematic review and the current project's review of literature in Chapters 2 and 4.

The theoretical review in Chapters 2 and 3 led to proposing a definition for SALL which explains the full pedagogy of the use of smartphones for educational purposes and is not limited to the mobility of smartphones and mobile learning anymore. It also framed this pedagogy within activity theory (AT) as a field-specific theory which clarifies the way the use of smartphones interacts with other language learning theories. AT shows that the pedagogy of SALL lies at the heart of the mediatory role of smartphones as a tool, a tutor, a stimulus, a means of communication, and a source of information in assisting teachers with the implementation of language learning theories (which are originated from three schools of behaviourism, cognitivism, and constructivism) and designing theory-based tasks and activities for their students.

It also shows that with the same mediatory role, smartphones have the potential to assist students with completing their smartphone-assisted tasks and activities and advancing their English language knowledge. Finally, the theory shows that the successful implementation of SALL depends not only on the presence of

smartphones as the technology of SALL, but also on the amount of effort that teachers and students exert to familiarise themselves with the device apps and features, obtain the necessary skills they need to deal with their problems, as well as on the necessary rules for the use of the device (Figure 10.1). The project results confirmed the theory, the versatility of smartphones, and the important role that the teachers' and students' efforts play via the successful use of the Evernote app. They also showed that it is better if the students' follow a *no-other-purposes-use* of smartphone rule to avoid the possible distractions made by the technology.

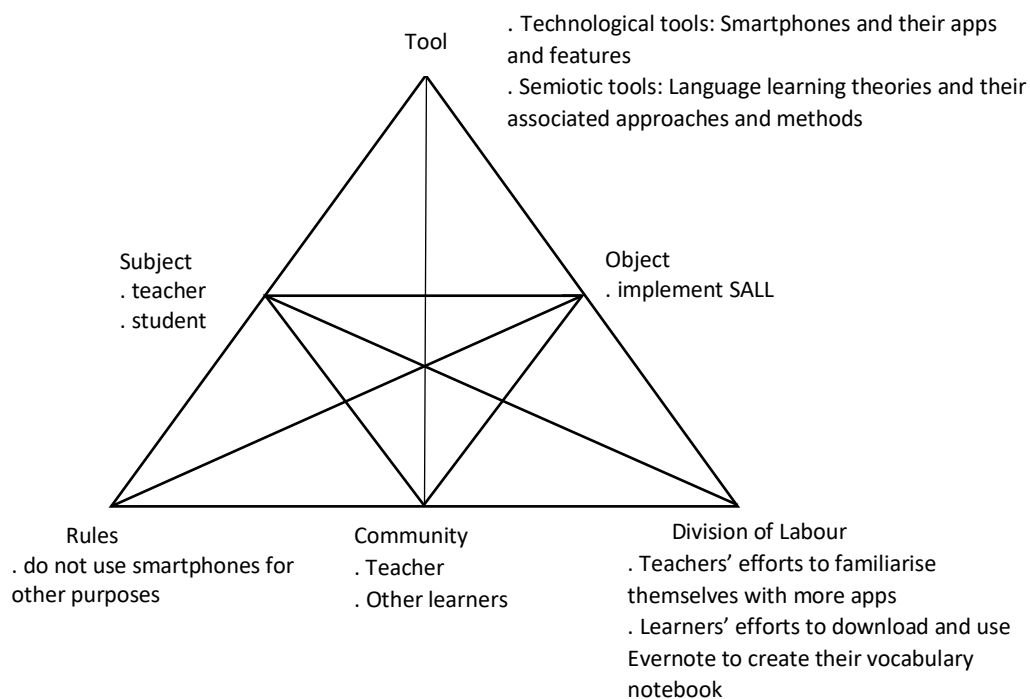


Figure 10.1: Factors impacting the possibility of the implementation of SALL from pedagogical perspectives

The theoretical review in Chapter 4 also uncovered the most significant determinants of attitudes towards the use of technology and informed the pre- and post-use attitude models which were used to examine teachers' and students' attitudes and intention to use SALL both before and after the formal use of

smartphones inside EALD classroom settings. Putting these theories into practice, the empirical studies helped examine the possibility of the formal use of smartphones for language teaching and learning within these settings through studying teachers' and students' pre- and post-use attitudes and intention towards SALL. The results confirmed the teachers' and students' positive attitudes; however, it showed that the successful implementation of SALL goes beyond teachers' and students' positive attitudes and the presence of the facilitating conditions. The study found the direct moderating impact of effort, mindset, voluntariness, freedom of choice of technology, and smartphone limitations and the indirect moderating impact of type of activity/task on teachers' and the students' intention to use SALL. This led the researcher to theorise the actual use of smartphones and successful implementation of SALL as it is depicted in Figure 10.2.

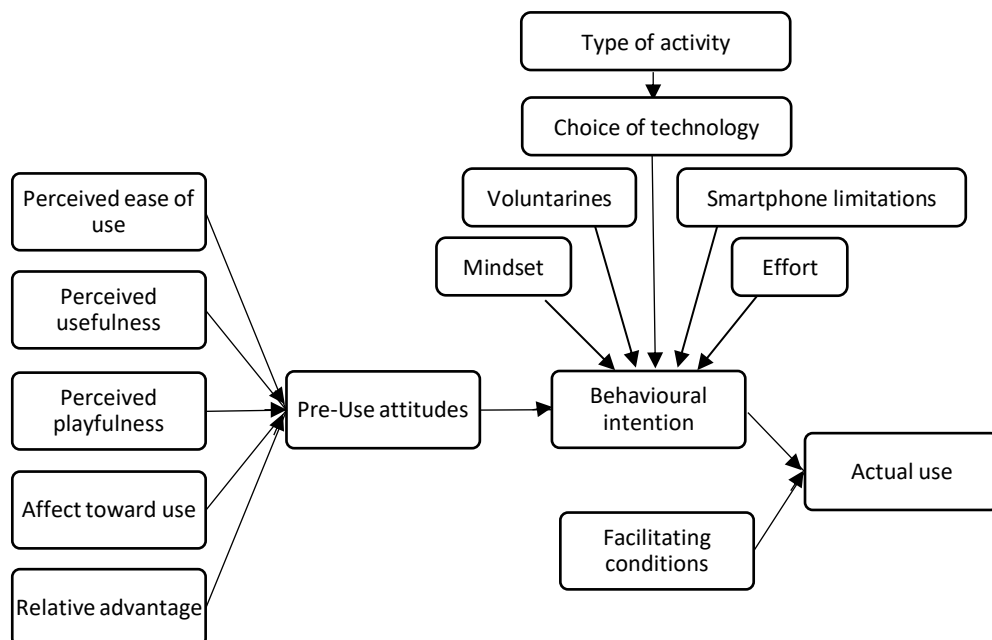


Figure 10.2: Factors impacting the formal implementation of SALL

Overall, the project revealed the barriers and challenges which EALD teachers and students might face in relation to the use of smartphones for English language teaching and learning. It also showed that the implementation of SALL is more possible in the language institutions where students have no other choice of device; otherwise, they will just use their phone as a complement to their use of other technologies for less demanding tasks.

These all have both theoretical and pedagogical implications. The model presented in Figure 10.2 can be tested and used by SALL researchers to study teachers' and students' attitudes and intention towards SALL in future studies. The project results provide language institution stakeholders and managers with an idea of what they need to do to implement SALL in their institutions. They also provide English language teachers, course designers, and material developers with an insight into the use of SALL theories and suggest how, and to what extent, they can integrate students' smartphones into their courses and materials.

10.3. Limitations and Recommendations for Future Research

The main limitations of the current project were as follows:

In study 1, the limited time of the EALD courses, the intensive curriculum, and the limited number of students who created and used Evernote and electronic vocabulary notebooks did not allow students to use Evernote on their phone in class and collaborate with their peers to create their vocabulary notebooks. Therefore, students completed their electronic vocabulary notebooks individually and mostly at home. In addition, the focus of the study was only on one aspect of language, namely vocabulary. Study 3 tried to address these limitations.

The aim of study 2 was to investigate worldwide EALD teachers' current uses and attitudes towards SALL. However, the majority of teachers who participated in

the study were from Australia, Europe, Asia, and the Middle East; there were only two teacher participants from South America, one from Africa and none from North America. Therefore, it is recommended that future research on teachers' attitude and intention to use SALL include participants in these three continents.

In study 3, the small number of students and the short length of the course due to COVID 19 restrictions limited the generalisability of the results. In addition, the scope of the study was limited to vocabulary and pronunciation, the Evernote app, and limited types of communicative and collaborative tasks and activities. Therefore, it is recommended that future research examines other aspects of language (grammar, reading, listening, writing, and speaking); other available pre-installed and commercial apps, or new self-developed apps and platforms; and other communicative language learning activities and tasks (e.g., gap-fill tasks, role-plays, presentations) in longer courses and with larger sample sizes.

The focus in the current thesis was on the possibility of the use of smartphones for English language teaching and learning in EALD classroom settings. Teachers' and students' attitudes to the creation and use of electronic vocabulary notebooks were examined in detail. However, no specific data were collected on the type of dictionary that students used to create their vocabulary notebook pages or the type of dictionary that teachers recommended their students to use, as these were outside the scope of the study. This is an important area for future research.

Finally, the project found that teachers' and students' positive attitudes and intention to use smartphones for language teaching and learning. It also found that the presence of facilitating conditions do not guarantee the actual use of smartphones when the use of smartphones goes beyond the teachers' and students' current educational uses of the device which they are familiar with. In this regard,

the study found that teacher's and students' mindset, voluntariness, having a choice of technology, type of activity, and smartphone limitations were the moderators of intention and actual use of smartphones for language teaching and learning. Therefore, it is recommended that future research on the possibility of the implementation of SALL explores these factors through quantitative and qualitative research.

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APPENDICES

Appendices A: Methodology Chapter and Pilot Study Appendices

Appendix A1: Students' Pre-use Attitude Questionnaire

Students' Pre-use Attitude Questionnaire

This survey is being conducted by Mrs. Shila Panadgoo and will form the basis for her PhD degree at the University of Adelaide. The title of the research is 'Smartphone Assisted Language Learning (SALL)' and as it has been explained in the related information sheet, it is about the use of smartphones for English language teaching and learning, and teachers' and students' attitudes to using smartphones to learn English. It will only take a maximum of 30 minutes to complete the questionnaire and all your answers will be confidential. If you have any concerns or questions about this study, please contact Shila Panadgoo at shila.panadgoo@adelaide.edu.au

By beginning the survey, you acknowledge that you have read this information and agreed to participate in this research.

Thank you in advance for your time and help.

Please tick the answers.

Part A: Demographic Information, English Language Proficiency, and Smartphone Ownership and Use

1) What is your gender?

..... Female

..... Male

..... Other

2) How old are you?

..... 18-25

..... 26-35

..... 36-45

..... 46-55

..... 56 and older

3) What is your first language?

.....

- 4) What is your English language course level?

- 5) How many smartphones do you have?
 One
 Two
 Other. Please specify
- 6) What type of smartphone(s) do you have?
 Android
 iOS (iPhone)
 Other. Please give the operating system name
- 7) What language do you use on your smartphone(s) menu and why?
 English. Please say why
- Other. Please say why
- 8) How much time do you usually spend using your smartphone each day?
 about half an hour or less
 about 1 hour
 about 2 hours
 about 3 hours
 about 4 hours
 about 5 hours
 more than 5 hours
- 9) Do you use your smartphone for English language learning during your English language class?
 Yes.
 No. Please give the reason(s)

- 10) Do you use your smartphone for English language learning outside your English language class?
 Yes
 No. Please give the reason(s).....

11) If you use your smartphone for English language learning, name the features or Apps that you usually use:

During your English language class

.....

Outside your English language class

.....

12) Please tick, **how many times in a week** you usually **use your smartphone** for the purposes below. Please also write the **total hours** you spend on each activity in a week in the last column.

In a typical week I use my smartphone to	Never	Under 5 times	5 - 15 times	15 ⁺
Look at a bilingual dictionary				
Look at a monolingual dictionary in my own language				
Look at a monolingual English learner's dictionary				
Look at grammar reference websites				
Look at a thesaurus				
Look at a concordancer				
Chat in English online				
Send English text messages				
Talk to people in English				
Read texts in English				
Send English emails				
Read English emails				
Write English Facebook, Twitter, or other social media posts				
Read English Facebook, Twitter, or other social media posts				
Surf the web				
Listen to podcasts/radio in English				
Watch movies, videos and/or TV programmes in English				
Learn English with language learning apps				
Visit English language learning websites				

Part B: Students' Pre-use Attitudes Towards Using their Smartphones to Learn English

Please tick the box that best describes your feelings. If a question does not apply to you (e.g., because you have not used smartphones for language learning before this study), please tick 'not applicable'.		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Not applicable
1	It is/would be easy for me to learn how to use my smartphone for English language learning.						
2	It is/would be easy for me to become very good at using my smartphone for English language learning.						
3	Using my smartphone for English language learning helps/would help me to learn more.						
4	Using my smartphone makes/would make it easier to do my language tasks.						
5	Time passes/would pass quickly whenever I am/would be using my smartphone for English language learning.						
6	Using my smartphone for English language learning makes/would make me to do more search.						
7	Using my smartphone makes/would make English language learning more interesting.						
8	I look forward to the time that I can use my smartphone for language learning inside the classroom.						
9	I prefer/would prefer to use my smartphone for English language learning rather than desktop or laptop computers, or tablets.						
10	I prefer/would prefer to use my smartphone for English language learning rather than learning through coursebooks and traditional ways.						
11	I need free-Wi-Fi to be able to use my smartphone for English language learning.						
12	I need my teacher's help and instruction to be able to use my smartphone for English language learning.						

Remarks

Please add any comments you think are necessary.

.....

.....

Thank you

Appendix A2: Students' Pre-use Attitudes Interview Questions

1. As an ESL student, do you have any specific language learning style or strategies for English language learning (e.g., learning vocabulary better through looking up the meaning in a dictionary, repetition)?
2. What technologies (e.g., computers, laptops) are available in your classroom/language school here that can be used for language teaching and learning? If so, what are they?
 - 2.1. How much do you think your teacher will use them for teaching English?
 - 2.2. How much do you think you can use them for language the learning?
3. Do you use your smartphone for language learning?
 - 3.1. Which do you use more for language learning - your smartphone, your laptop or desk-top computer or your tablet?
 - 3.2. Are you allowed to use your smartphone for language learning in class?
 - 3.3. If yes, does it help you with English language learning and how?
 - 3.4. If you have never used it, do you think it would help and why?
4. Have you ever seen other students using their smartphones for language learning in your classroom? Can you give some examples?
5. Have you ever seen other students using their smartphones for other purposes in the classroom?
 - 5.1. How did you feel?
 - 5.2. Was it distracting?
 - 5.3. Why do you think they do this?
6. You know that your teacher will tell you how to use your smartphone to learn English language during your class this term. How do you feel about that?
 - 6.1. Do you think the use of smartphones will support your learning?
 - 6.2. Do you think you are going to learn more?
 - 6.3. Do think using smartphones in class will be distracting?
7. Is there anything else you would like to add?

Appendix A3: Students' Post-use Attitude Questionnaire

Students' Post-use Attitude Questionnaire

This survey is being conducted by Mrs. Shila Panadgoo and will form the basis for her PhD degree at the University of Adelaide. The title of the research is 'Smartphone Assisted Language Learning (SALL)' and as it has been explained in the related information sheet, it is about the use of smartphones for English language teaching and learning, and teachers' and students' attitudes to using smartphones to learn English. It will only take a maximum of 15 minutes to complete the questionnaire and all your answers will be confidential. If you have any concerns or questions about this study, please contact Shila Panadgoo at shila.panadgoo@adelaide.edu.au. By beginning the survey, you acknowledge that you have read this information and agreed to participate in this research.

Thank you in advance for your time and help.

Please tick the box that best describes your feelings. If a question does not apply to you (e.g., because you have not used smartphones for language learning before this study), please tick 'not applicable'.		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Not applicable
1	Learning how to use my smartphone for English language learning was easy.						
2	Becoming skilled at using my smartphone for English language learning was easy.						
3	Using my smartphone for English language learning helped me with learning the language more.						
4	Using my smartphone made doing my language tasks easier than I expected.						
5	Time passed quickly whenever I was using my smartphone for English language learning.						
6	Using my smartphone for English language learning made me to do more search.						
7	Using my smartphone made English language learning more interesting.						
8	I look forward to time that I can use my smartphone for language learning inside the classroom next terms.						
9	I prefer to use my smartphone for English language learning rather than desktop or laptop computers, or tablets.						
10	I prefer to use my smartphone for English language learning rather than learning through coursebooks and traditional ways.						
11	Free Wi-Fi was available in my classroom and will be available in future.						
12	My teacher told me how to use my smartphone for language learning.						

Remarks

Please add any comments you think are necessary.

.....
.....

Thank you

Appendix A4 : Students' Post-use Attitude Interview Questions

1. Have you been here in the language before or was it your first term here this term?
2. Did you use Evernote to create your vocabulary notebook?
 - 2.1. Did you face any problem with downloading and using Evernote?
 - 2.2. Why did you choose the app for creating your vocabulary notebook?
3. Which device did you use more for completing your vocabulary notebook in class, your smartphone or your tablet/laptop computer? Why?
4. How about when you were in class, did you use your phone or your tablet/laptop to complete your vocabulary notebook inside classroom?
5. Which device did you use to review your vocabulary and often did you review them?
6. When you used Evernote, could you access all the information you needed for completing your vocabulary notebook via the app or you needed to go out of the app to access the information?
7. Did you add any extra information such as picture, pronunciation, etc to your tables or you only added the obligatory information as those in the paper version? Why?
8. How hard was it to enter the information onto the app and did you have any difficulty with it?
 - 8.1. If you had any difficulty, did you ask your teacher or me to help you with your problem(s)?
9. Did you use Evernote for creating any other notebook such as grammar notebook?
10. What other smartphone features or apps did your teacher ask you to use?
 - 10.1. Do you think they good?
11. Overall, do you think creating a vocabulary notebook on Evernote was good and useful and helped you with your vocabulary learning and do you think you will continue and use it next term?

Appendix A5: Teachers' Pre-use Attitude Questionnaire

Teachers' Pre-use Attitude Questionnaire

This anonymous survey is being conducted by Mrs. Shila Panadgoo and will form the basis for her PhD degree at the University of Adelaide. The title of the research is 'Smartphone Assisted Language Learning (SALL)' and it is about the use of smartphones for English language teaching and learning and teachers' and students' attitudes to using smartphones to learn English. It will only take maximum of 20 minutes to complete the questionnaire and all your answers will be confidential. If you have any concerns or questions about this study, please contact her at shila.panadgoo@Adelaide.edu.au. By beginning the survey, you acknowledge that you have read this information and agreed to participate in this research.

In advance, Thanks for your time and help.

Please tick the answer/answers.

Part A: Demographic Information, Qualifications and Teaching Experience, and Smartphone Ownership and Use

1) What is your gender?

..... Female

..... Male

..... Other

2) How old are you?

..... 18-25

..... 26-35

..... 36-45

..... 46-55

..... 56-65

..... 66 and above

3) Is English your first language

..... Yes

..... No. Please specify

4) What is your highest qualification?

..... PhD

- Masters
- Bachelors
- Diploma
- Certificate
- Other. Please specify

5) Which teaching qualification(s) do you have?

- Master of TESOL
- Master of Education (TESOL specialisation)
- Delta (Diploma in in English language teaching to adults)
- CELTA (Certificate in English Language Teaching to Adults)
- Certificate in EMI Skills (English as a Medium of Instruction)
- ICELT (In-Service Certificate in English Language Teaching)
- Other. Please specify

6) How long have you been teaching English?

.....

.....

7) What GEAP level(s) have you taught?

.....

.....

8) How many smartphones do you have?

- One
- Two
- Other. Please specify

9) What type of smartphone(s) do you have?

- Android
- iOS (iPhone)
- Other. Please give the operating system name

10) What language do you use on your smartphone menu?

- English
- Other. Please specify

11) How much time do you usually spend using your smartphone in a day?

- About 1 hour
- About 2 hours
- About 3 hours
- About 4 hours
- About 5 hours
- More than 5 hours

12) Are your students allowed to use their smartphones in relation to language learning inside the classroom?

- Yes
- No. Please specify the reasons

13) Have you ever tried to take advantage of the students' smartphones presence in class and integrate it into your lessons?

- Yes
- No. Please specify the reasons

14) If you use smartphones for English language teaching, please name the smartphone features and/or apps that you use most often.

.....

15) In a typical week, how many times do you usually **use your smartphone** for the purposes below?

Smartphone usage in a typical week	Never	Under 5 times	5 - 15 times	15+
Looking at bilingual/monolingual dictionaries				
Looking at a thesaurus				
Looking at a concordancer				
Looking at grammar reference websites				
Looking at English language teaching/learning apps				
Visiting English language teaching/learning websites				
Chatting online				
Reading and sending texts				
Reading and sending emails				
Talking to people				
Writing Facebook, twitter, or other social media posts				
Reading Facebook, twitter, or other social media posts				
Surfing the web				
Listening to Podcasts/radio				
Watching movies, videos and/or TV programmes				

Section B: Teachers' Pre-use Attitudes Towards Using their Smartphones to Teach English

Please tick the most appropriate answer. If a question does not apply to you (e.g., because you have not used smartphones in your teaching before this study or vice versa), please tick 'not applicable'.		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Not applicable
1	It is/would be easy for me to learn how to integrate the use of smartphones into my English language teaching.						
2	It is/would be easy for me to become skillful at integrating the use of smartphones into my lessons.						
3	Integrating the use of smartphones into my lessons improves/would improve my teaching quality.						
4	Integrating the use of smartphones into my lessons gives/would give me more time to do extra activities in class.						
5	Using smartphones in my lessons is/would be so engaging that I do not/would not notice the time passing while I am teaching in class.						
6	Using smartphones to teach English leads/would lead me to look for new smartphone-based activities and materials for my students.						
7	Integrating the use of smartphones into my lessons makes/would make English language teaching more interesting.						
8	I look forward to the time that I can integrate the use of smartphones into my lessons using a well-designed smartphone-integrated English language program.						
9	I prefer/would prefer to use smartphones for English language teaching rather than desktop or laptop computers, or tablets.						
10	I prefer/would prefer to use smartphones for English language teaching rather than having a traditional classroom.						
11	Free Wi-Fi is/will be available to me and the students inside my classroom.						
12	Guidance on how to use smartphone features and apps is/will be available to me.						

Remarks

Please feel free to add any comments you think are necessary.

.....

.....

Thank you

Appendix A6: Teachers' Pre-use Attitude Interview Questions

1. What kind of technologies (e.g., computers, laptops) are available in your classroom/school that can be used for language teaching and learning? If so, what are they?
 - 1.1. How much do you use them for teaching English?
 - 1.2. How much are your students allowed to use them for language learning?
2. Are your students allowed to use their smartphones in relation to language learning inside the classroom? Why?
 - 2.1. If yes, do you use any specific strategies to control the possible distractions which may happen (e.g., some students might use them for purposes other than language learning)?
3. Have you ever tried to take advantage of this technology and integrate its use into your lessons?
 - 3.1. If yes, what smartphone features or apps do you usually use?
 - 3.2. How do you think such usage has affected your teaching?
 - 3.3. How do you think it has affected your students' language learning?
4. What facilities or help do you think you might need if you want to integrate the use of smartphones (e.g., an app such as Evernote, Kahoot, ...) into your lesson (e.g., any teacher preparation sessions)?
5. You know that you will integrate the use some smartphone apps and features (e.g., Evernote, Microsoft PowerPoint, video/audio recording, Kahoot, and ...) into your lessons,
 - 5.1. Do you have any concerns about the use of these apps?
 - 5.2. Do you think the use of the apps will be useful for you and your students and in what way(s)?
 - 5.3. How do you think the use of Evernote for creating vocabulary notebook by the students as a strategy might help your students with their vocabulary and pronunciation learning in their L2 learning journey?
 - 5.4. How much do you feel you and your students will like using the apps?
6. If everything goes well with the use of the apps, would you like to continue to integrate its use into your lessons in future?
7. Is there anything else you would like to add?

Appendix A7: Teachers' Post-use Attitude Questionnaire

Teachers' Post-use Attitude questionnaire

This survey is being conducted by Mrs. Shila Panadgoo and will form the basis for her PhD degree at the University of Adelaide. The title of the research is 'Smartphone Assisted Language Learning (SALL)' and as it has been explained in the related information sheet, it is about the use of smartphones for English language teaching and learning, and teachers' and students' attitudes to using smartphones to learn English. It will only take a maximum of 10 minutes to complete the questionnaire and all your answers will be confidential. If you have any concerns or questions about this study, please contact Shila Panadgoo at shila.panadgoo@adelaide.edu.au. By beginning the survey, you acknowledge that you have read this information and agreed to participate in this research. Thank you in advance for your time and help.

Please tick the most appropriate answer. If a question does not apply to you (e.g., because you have not used smartphones in your teaching before this study or vice versa), please tick 'not applicable'.		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Not applicable
1	It was easy for me to learn how to integrate the use of smartphones into my English language teaching.						
2	It was easy for me to become skillful at integrating the use of smartphones into my lessons.						
3	Integrating the use of smartphones into my lessons improved my teaching quality.						
4	Integrating the use of smartphones into my lessons gave me more time to do extra activities in class.						
5	Using smartphones in my lessons was so engaging that I did not notice the time passing while I was in class.						
6	Using smartphones to teach English led me to look for new smartphone-based activities and materials for my students.						
7	Integrating the use of smartphones into my lessons made English language teaching more interesting.						
8	I look forward to the time that I can integrate the use of smartphones into all my classes.						
9	I prefer to use smartphones for English language teaching rather than other technologies such as desktop or laptop computers, or tablets.						
10	I prefer to use smartphones for English language teaching rather than having a traditional classroom.						
11	Free Wi-Fi was available to me and the students inside my classroom.						
12	Guidance on how to implement the course and use smartphone features and apps for English language teaching was available to me during the course.						

Remarks

.....
.....

Thank you

Appendix A8: Teachers' Post-use Attitude Interview Questions

1. Did you download and use Evernote to follow and mark the students' vocabulary notebooks?
2. Was it easy or hard for you to download and use the app?
3. How often did you look at the students' work and progress on the app?
4. Did you use the Work Chat feature of the app to chat with the students at all?
5. How do you think the use of Evernote and creating electronic vocabulary notebook was a different experience for the students who used the app?
6. What do you think were the students' main reasons for choosing Evernote to create and use an electronic vocabulary notebook?
7. What do you think were the students' main reasons for choosing to create and use a paper vocabulary notebook?
8. Did you use your phone or your tablet/laptop to check and mark the students' vocabulary notebook?
9. How was this teaching experience different from your previous terms and how happy are you with it?
10. Were there any distractions with the use of smartphones in your class and what strategies did you apply to control and stop it?
11. Do you feel the use of smartphones in the lessons helped your students learn the new vocabulary better?
12. How was the use of smartphones for language teaching in class and its benefits to you close to your former expectations?
13. Overall, do you think that the integration of the smartphones into your lessons was useful and it must be continued?
 - 13.1. Will you continue to integrate this technology into your lessons in future?
 - 13.2. Will you recommend other teachers to integrate the use of smartphones into their lessons?

Appendix A9: Observation Protocol

OBSERVATION PROTOCOL

Session:

Date:

Time of observation:

Start:

End:

Case code:

Teacher's gender:

Number of students:

Female: Male:

Students' nationalities:

Course book(s) used:

A. Classroom context:

1. Classroom resources
2. Classroom space
3. Room arrangement
4. Aims of the lesson

B. Activities/tasks observed

No	Activities/Tasks	materials	Time	Interactions & their levels		Smartphone use	Smartphone feature(s)/Apps used	Teacher's Use of smartphones	Students' use of smartphones	Comments
1										
	Teacher's roles:									
	Students' roles:									
2										
	Teacher's roles:									
	Students' roles:									
3										
	Teacher's roles:									
	Students' roles:									

Criteria for choosing the level of interactions:

- L1 might be just Question and answer type interaction-very basic
- L2 might be interactions where students discuss key aspects of the task
- L3 might be where the conversation goes past the task and into more global high-level discussion

Teachers' and students' roles:

Researcher, Discoverer, Designer, Enabler, Facilitator, Monitor, Communicator, Recorder, Reviewer, editor, evaluator, Teacher

Appendix A10: Reliability Test Results (Pilot Study)

Pilot study – Reliability statistics (Cronbach's alpha)

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.813	.827	12


Pilot study – Reliability statistics (Inter-item correlation matrix)

	PEU1	PEU2	PU1	PU2	PP1	PP2	AU1	AU2	RA1	RA2	FC1	FC2
PEU1	1.000	.515	.293	.420	.351	.408	.256	.260	.292	.275	.014	.320
PEU2	.515	1.000	.466	.554	.511	.366	.270	.160	.326	.366	.195	.094
PU1	.293	.466	1.000	.636	.325	.465	.355	.028	.428	.192	.276	.165
PU2	.420	.554	.636	1.000	.555	.543	.448	.260	.339	.279	.213	.266
PP1	.351	.511	.325	.555	1.000	.600	.505	.148	.144	.260	.276	.095
PP2	.408	.366	.465	.543	.600	1.000	.409	.259	.199	.252	.214	.173
AU1	.256	.270	.355	.448	.505	.409	1.000	.141	.305	.273	.280	.031
AU2	.260	.160	.028	.260	.148	.259	.141	1.000	.150	.196	-.040	.504
RA1	.292	.326	.428	.339	.144	.199	.305	.150	1.000	.312	.252	.178
RA2	.275	.366	.192	.279	.260	.252	.273	.196	.312	1.000	.111	.178
FC1	.014	.195	.276	.213	.276	.214	.280	-.040	.252	.111	1.000	-.084
FC2	.320	.094	.165	.266	.095	.173	.031	.504	.178	.178	-.084	1.000


	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
PEU 1	42.69	25.662	.532	.406	.797
PEU 2	42.96	24.406	.584	.538	.790
PU 1	42.60	24.726	.558	.555	.793
PU 2	42.96	23.110	.701	.610	.778
PP 1	43.15	24.127	.558	.572	.791
PP 2	42.78	24.470	.589	.512	.790
AU 1	42.87	24.891	.497	.382	.797
AU 2	43.42	25.433	.326	.350	.812
RA 1	43.40	23.170	.444	.316	.805
RA 2	43.51	24.180	.415	.223	.805
FC 1	42.56	26.769	<u>.252</u>	.188	.815
FC 2	43.29	25.247	<u>.296</u>	.362	.817

Appendices B: Study 1 Appendices

Appendix B1: Ethics Approval

<p>Our reference 33095</p> <p>22 August 2018</p> <p>Dr Julia Miller School of Education</p> <p>Dear Dr Miller</p> <p>ETHICS APPROVAL No: H-2018-177</p> <p>PROJECT TITLE: Smartphone Assisted Language Learning (SALL): a study of teachers' and adult students' attitudes towards the use of smartphones for English language teaching and learning and the effectiveness of a smartphone assisted language learning course</p> <p>The ethics application for the above project has been reviewed by the Low Risk Human Research Ethics Review Group (Faculty of Arts and Faculty of the Professions) and is deemed to meet the requirements of the <i>National Statement on Ethical Conduct in Human Research (2007)</i> involving no more than low risk for research participants.</p> <p>You are authorised to commence your research on: 22/08/2018 The ethics expiry date for this project is: 31/08/2021</p> <p>NAMED INVESTIGATORS:</p> <table border="0"><tr><td>Chief Investigator:</td><td>Dr Julia Miller</td></tr><tr><td>Student - Postgraduate Doctorate by Research (PhD):</td><td>Mrs Shila Panadgoo</td></tr><tr><td>Associate Investigator:</td><td>Associate Professor Edward Palmer</td></tr><tr><td>Associate Investigator:</td><td>Dr Cally Guerin</td></tr></table> <p>CONDITIONS OF APPROVAL: Thank you for your responses to the matters raised. The revised application provided on 09.08.18 by Mrs Shila Panadgoo has been approved.</p> <p>Ethics approval is granted for three years and is subject to satisfactory annual reporting. The form titled Annual Report on Project Status is to be used when reporting annual progress and project completion and can be downloaded at http://www.adelaide.edu.au/research-services/oreci/human/reporting/. Prior to expiry, ethics approval may be extended for a further period.</p> <p>Participants in the study are to be given a copy of the information sheet and the signed consent form to retain. It is also a condition of approval that you immediately report anything which might warrant review of ethical approval including:</p> <ul style="list-style-type: none">- serious or unexpected adverse effects on participants,- previously unforeseen events which might affect continued ethical acceptability of the project,- proposed changes to the protocol or project investigators; and- the project is discontinued before the expected date of completion. <p>Yours sincerely,</p> <p>Dr Anna Olijnyk Convenor</p> <p>Dr Jungho Suh Convenor</p> <p>The University of Adelaide</p>	Chief Investigator:	Dr Julia Miller	Student - Postgraduate Doctorate by Research (PhD):	Mrs Shila Panadgoo	Associate Investigator:	Associate Professor Edward Palmer	Associate Investigator:	Dr Cally Guerin	 <p>RESEARCH SERVICES OFFICE OF RESEARCH ETHICS, COMPLIANCE AND INTEGRITY THE UNIVERSITY OF ADELAIDE</p> <p>LEVEL 4, RUNDLE MALL PLAZA 50 RUNDLE MALL ADELAIDE SA 5000 AUSTRALIA</p> <p>TELEPHONE +61 8 8313 5137 FACSIMILE +61 8 8313 3700 EMAIL hrec@adelaide.edu.au</p> <p>CRICOS Provider Number 00123M</p>
Chief Investigator:	Dr Julia Miller								
Student - Postgraduate Doctorate by Research (PhD):	Mrs Shila Panadgoo								
Associate Investigator:	Associate Professor Edward Palmer								
Associate Investigator:	Dr Cally Guerin								

Appendix B2: Teachers' Instructional Slides




University of Adelaide

Using
Evernote
to
Create an Electronic Vocabulary
Notebook

Shila Panadgoo
PhD Candidate at the university of Adelaide

Supervisors: Dr Julia Miller & A/Prof Edward Palmer




www.bing.com

Outline

- Introduction to the study
- Apps to be used
- Teachers' concerns
- Vocabulary Notebook (General Description)
- Advantages of creating a vocabulary notebook
- The superiorities of creating and using an electronic vocabulary notebook over traditional paper one
- Evernote (General Description)
- The converted template and assessment rubric
- How to create a personal dictionary/vocabulary notebook on Evernote and share it with others (teachers & peers)

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Smartphone Assisted Language Learning (SALL)

- ▶ Teachers' and students' pre- and post-use attitudes towards the use of smartphones for English language teaching and learning
- ▶ Looking at the integration of a few smartphone apps into classroom lessons

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Apps to be used

- Search engines & Microsoft PowerPoint to search for information and create PowerPoint slides for Oral Presentation (OP) tasks (Replacing the use of computer room)
- Video/Audio recording to record their own presentations for self-reflection and further assessment by the teacher
- Evernote to create digital vocabulary notebook and replace the traditional paper one

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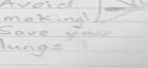
Teachers' concerns

- The efficacy of the use of Evernote and creating digital vocabulary notebooks
- If it can replace their current vocabulary notebook template and be assessed based on their assessment rubric
- If they can keep a record of the students' digital vocabulary notebook
- Concern about students' copying and pasting the information
- Missing paper and pencil (writing part of the work) means missing practicing and as a result, learning

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Evernote corporation

Vocabulary notebook	Definition	Drawing
2. humerus	A vocabulary notebook/personal dictionary is a recorded notebook of the new words, their meanings and any other important aspects such as part of speech, pronunciation, other word forms, collocations, synonyms, antonyms, a context sentence, etc. which is created by a learner (Wang, Zou, & Xing, 2014)	
3. descend		<p>I like the 3 steps because they always make me laugh.</p>
4. avoid		<p>After dad called me, I had to descend to his study.</p>
		<p>Avoid smoking. Save your lungs!</p> 

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The Advantages of Creating and Using Vocabulary Notebooks

- Promoting conscious and intentional acquisition of vocabulary in a second language (Dubiner, 2017)
- Engaging learners more meaningfully with the new words through their deeper processing (e.g. using words in context, focusing on different meanings and connotations, identifying affixes, etc.) (Dubiner, 2017)
- Enhancing storage in learners' long-term memory (Dubiner, 2017)
- Beneficial for retention (Sökmen, 1997)
- Improving learners' ability of using dictionary and guessing from context (Ledbury, 2006)
- Enhancing vocabulary study (Schmitt & Schmitt, 1995)
- Developing learners' self-management strategies (Fowle, 2002)
- Enhancing learner independence/autonomy (Fowle, 2002; Schmitt & Schmitt, 1995)
- Keeping teachers informed of learners' progress (Fowle, 2002; Nation, 1990)

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The Advantages of Creating and Using an Electronic Vocabulary Notebook

- Not needing to carry notebooks (Rydland, Grøver, & Lawrence, 2014)
- Solving paper-related problems such as space and edition issues, limited number of pages, difficulties when sorting words alphabetically or reviewing vocabulary by categories, etc. (Bazo, Rodríguez, & Fumero, 2016)
- Enhancing functionality through multimedia features, automatic backups, ubiquity, easy editors, advanced filtering options for studying (Bazo, Rodríguez, & Fumero, 2016)
- Quicker access to the information (Bazo, Rodríguez, & Fumero, 2016)
- Anywhere/anytime accessibility
- Easy sharing
- Fun and more engaging

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Description

- Evernote is a note-taking application software which was designed by Evernote Corporation in 2008.
- It has both a smartphone app for **Android, iOS, Windows Phone, and BlackBerry** and a **web version for Windows and Mac PCs**.
- Its basic version is **free to download** for up to 60MB data per month with the capacity of being upgraded into premium version with 1GB data and offline storage of notes for about \$10 per month.
- It allows its users to **create notes in different formats** (e.g. texts, photographs, videos, voice memos, hand writing, etc.) and **sort their notes into different categories** (e.g. notebooks, tagged, annotated, edited, searched and exported).
- It stores notes in the cloud and sync them based on the changes the user makes to his/her notes from his/her account on any device.

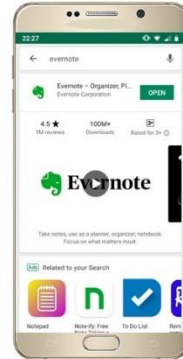
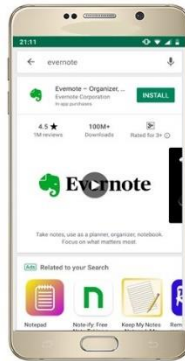


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Downloading Stage

- Search for the app in the app store.
- Install the app and open it.



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Registration

- Enter your email, and a password for your account and sign in.



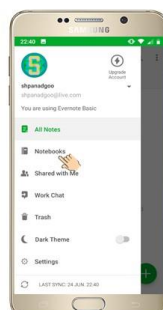
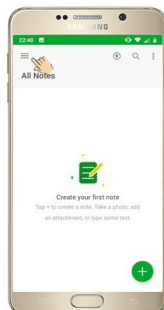
Note: You might receive a verification email at this stage or maybe later while you are using the app.

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Creating a vocabulary notebook with the school template

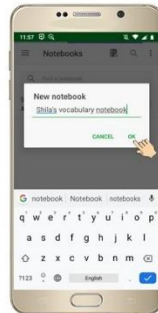
- Tap the menu on the top left to open it and tap on notebooks.



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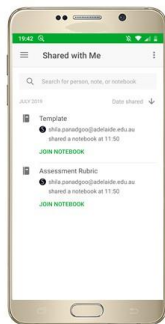
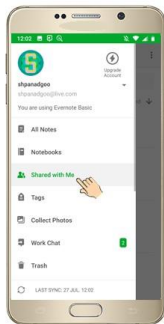
- ▶ Tap the adding icon on the bottom right to create a new notebook.
- ▶ Type the name of your notebook on the little opened window and tap ok.



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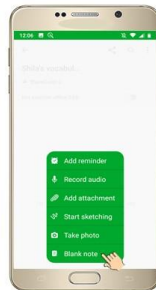
- ▶ Go back to the menu and tap on shared with me to find a copy of the Assessment rubric and vocabulary notebook template that your teacher has shared with you.



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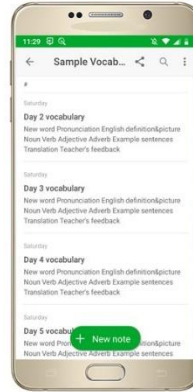
- ▶ Open the template, tap on it and hold till the options appear, tap on select all and then copy.
- ▶ Go back to your notebook, tap on new note, open a blank note, and tap on the page and hold, paste option appears, tap on it and paste the template onto your page.
- ▶ Type "Day 1 vocabulary" on the "Note Title" space and tap on tick on the top left to save the template.



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- Continue and add up to 14 notes (pages) with the template in your notebook and title them Day 2, 3, 4, ... vocabulary in order.
- Add a page with the assessment rubric attached into it, too. Now you have a vocabulary notebook with 15 notes (pages) which include the assessment rubric page plus 14 pages of template.
- Follow the sharing steps to share your vocabulary notebook with your teacher.

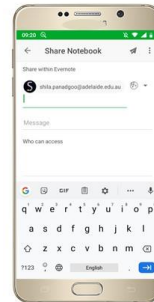
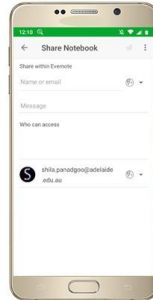
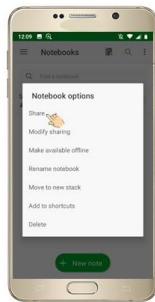


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Sharing your vocabulary

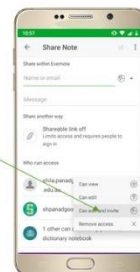
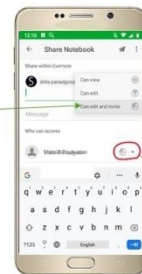
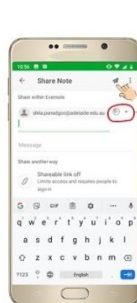
- Go to your notebook, tap on it and hold till the share option appears.
- Tap on share (As a first-time user, you might be asked for access to contacts), allow and enter your teacher email address to share your notebook with her/him.



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- Choose the level of sharing by tapping on the right-hand side arrow as can edit and invite.
- Tap on the black arrow on top right and confirm sharing.



Note: You can also change the level of sharing or even remove access after sending your invitation.

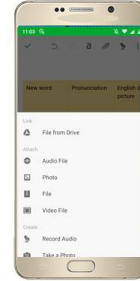
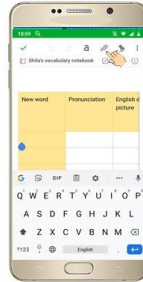
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Evernote corporation

Complete your notebook

- Complete your notebook following the instruction that your teacher gives inside classroom.
- Keep in mind that you can use the search engine for accessing online dictionaries, pictures and any other information that you will need to complete your tables through the app.
- You can save pictures and use the attach icon on the top righthand side of your page.
- You can practise the word pronunciation, record you're your best practice and attach it to your table for the teacher to check.



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Evernote corporation

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Thank you

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Appendix B3: Students' Instructional Slides



University of Adelaide

Using
Evernote
to
Create an Electronic Vocabulary
Notebook

Shila Panadgoo
PhD Candidate at the university of Adelaide


Supervisors: Dr Julia Miller, A/Prof Edward Palmer & Dr Walter Barbieri



Outline

- ✓ Evernote (General Description)
- ✓ Downloading and Signing up Stage
- ✓ Creating Notebooks and Notes
- ✓ Sharing Notebooks and Notes
- ✓ Accessing Shared Notebook(s)/Note(s)
- ✓ Completing Your Vocabulary Notebook Using the School Template


University of Adelaide



Evernote
Evernote corporation

Description

- Evernote is a note-taking application software which allows its users to **create notes in different formats** (e.g. texts, photographs, videos, voice memos, handwriting, etc.) and **sort their notes into different categories** (e.g. notebooks, tagged, annotated, edited, searched and exported).
- It has both a smartphone app for **Android, iOS, Windows Phone, and BlackBerry** and a **web version for Windows and Mac PCs**.
- Its basic version is **free to download** for up to 60MB data per month with the capacity of being upgraded into premium version with 1GB data and offline storage of notes for about \$10 per month.
- It stores notes in the cloud and sync them based on the changes the user makes to his/her notes from his/her account on any device.

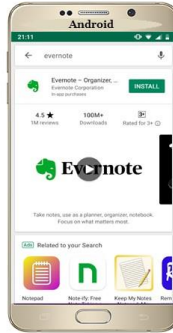


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Downloading and Signing up Stage

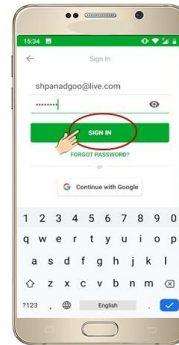
1. Go to **app/play store** depending on your smartphone type and **search for Evernote**. **Install** the app and **Open** it.



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2. **Sign up** to create an account: enter an email (use **University email address**), tap on **Continue**. Enter your own password (**create any password**), then tap on **Sign in/Create Account**.

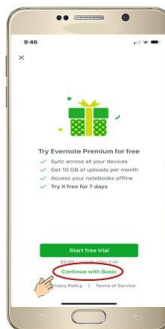


Note: You might receive a verification email at this stage or maybe later while you are using the app.

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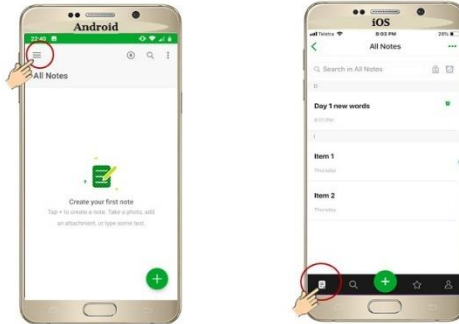
3. Tap on **Continue with Basic**, then, **No thanks!** And finally, **Quit Tour** to enter the app.



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Creating Notebooks

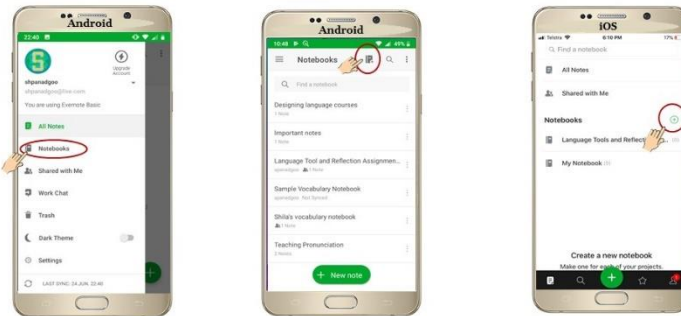
1. Tap the Menu (3 lines) on the top left on Android/(notebook pic) on the bottom left on iOS to open it.



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2. On Android, tap on Notebooks and then, the Add Notebook icon on the top right to create a new notebook.

2. On iOS, tap the Add icon (+) on the right-hand side of Notebooks to create a new notebook.



Note: You might be asked to upgrade to be able to use your notebooks offline. Choose No Thanks.


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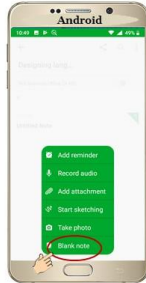
3. Type the name of your notebook on the open window and tap OK/Create to confirm the name of your notebook.



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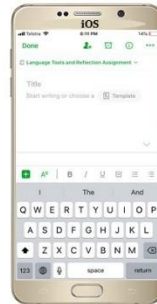
Creating Notes

1. Go to the **Menu**, choose the notebook you'd like to add notes into and tap on it.
2. On **Android**, tap on the **Add New Note**, then on **Blank Note** and on **iOS only tap on the Add Icon** .



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3. A new page opens. You tap on the page, the keypad appears, and you can **type** whatever you like.



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Note:

You can create notes in different formats (e.g. typing, handwriting, pictures, audio and video format).



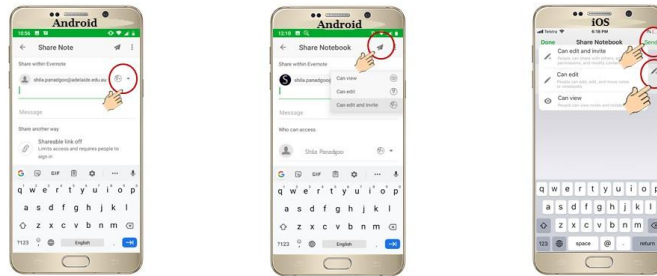
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Sharing Notebooks/Notes

1. Go to your notebook/Note which you like to share.
2. Tap on the share option  /  depending on the type of your phone (As a first-time user, you might be asked for access to contacts), you can allow/decline.
3. Enter the email address of the person you want to share your notebook/note with.



4. You can choose the level of sharing by tapping on the right-hand side picture of a pencil and plus icon.
5. Tap on **Send/black arrow** on the top right to confirm sharing (An invitation email will be sent to the person have shared a note/notebook with).

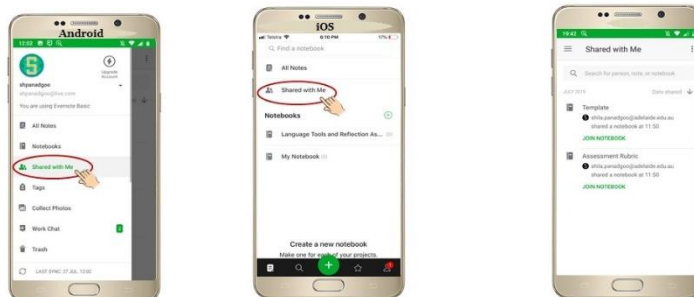


Note: You can also change the level of sharing or even remove access after sending your invitation.

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Accessing Shared Notebook(s)/Note(s)

Open menu and tap on shared with me to find a copy of whatever shared with you.

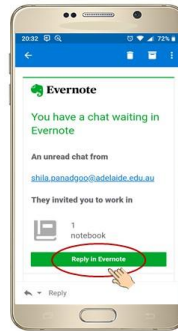


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Note:

However, as a first-time user, you might need to go to your email, open the email which you have received from the person who has shared a notebook/note with you and tap on a link which take you to Evernote. You might also need to sign in again.



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Completing Your Vocabulary Notebook Using the School Template

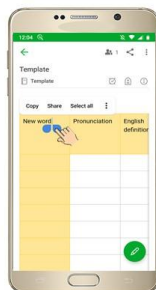
I'll share you the vocabulary notebook assessment rubric and its template. Please follow the steps of accessing what is shared with you to find a copy of them.



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1. Open the template, tap on it and hold till the options appear, tap on select all and then copy.
2. Go back to the notebook you have created, tap on new note, open a blank note, and tap on the page and hold, paste option appears, tap on it and paste the template onto your page.
3. Type "Day 1 vocabulary" on the "Note Title" space and tap on tick on the top left to save the template.



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Evernote corporation

4. Continue and add up to 15 notes (pages) with the template in your notebook and title them Day 2, 3, 4, ... vocabulary in order. (do it at home)

5. Add a page with the assessment rubric attached into it, too.

Now you have a vocabulary notebook with 15 notes (pages) which include the assessment rubric page plus 14 pages of template. (do it at home)

6. Follow the sharing steps to share your vocabulary notebook with your teacher.



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Appendix B4: Surdents' Pre-use Attitude Questionnaire

This survey is being conducted by Mrs. Shila Panadgoo and will form the basis for her PhD degree at the University of Adelaide. The title of the research is 'Smartphone Assisted Language Learning (SALL)' and as it has been explained in the related information sheet, it is about the use of smartphones for English language teaching and learning, and teachers' and students' attitudes to using smartphones to learn English. It will only take a maximum of 30 minutes to complete the questionnaire and all your answers will be confidential. If you have any concerns or questions about this study, please contact Shila Panadgoo at shila.panadgoo@adelaide.edu.au. By beginning the survey, you acknowledge that you have read this information and agreed to participate in this research.

Thank you in advance for your time and help.

Please tick the answers.

Part A: Demographic Information and Smartphone Ownership and Usage

1) What is your gender?

..... Female

..... Male

..... Other

2) How old are you?

..... 18-25

..... 26-35

..... 36-45

..... 46-55

..... 56 and older

3) What is your first (home) language?

.....

4) What is your GEAP level (e.g., 2, 3B, ...)?

.....

5) How many smartphones do you have?

..... One

..... Two

..... Other. Please specify

6) What type of smartphone(s) do you have?

..... Android

..... iOS (iPhone)

..... Other. Please give the operating system name

.....

7) What language(s) do you use on your smartphone(s) menu and why? Please tick the reasons – why you use that language on your smartphone – you can tick more than one reason for each language.

- First (home) language.
 - It is my home language and easier to understand and work with.
 - It lets me connect with family and friends.
 - It is a habit.
 - It is my home country phone.
 - Other. Please explain

- English.
 - I am in Australia and the apps are in English.
 - I need to practise using English.
 - I want to create an English environment to help me learn English.
 - I have always used English on my phone.
 - It is a habit.
 - It is user friendly.
 - It is my Australian phone.
 - Other. Please explain

..... Other language(s). Please say why

8) How much time do you usually spend using your smartphone each day?

- about half an hour or less
- about 1 hour
- about 2 hours
- about 3 hours
- about 4 hours
- about 5 hours
- more than 5 hours

9) Do you use your smartphone for English language learning during your English language class?

- Yes. Please say why
- No. Please give the reason(s)

10) If yes, what apps and features do you usually use for language learning inside the classroom?

- Online dictionaries
- Camera

- Audio recording features
- Email
- Web browsers (e.g., Internet Explorer, Safari, Edge, Firefox, Chrome, etc.)
- Internet search engines (e.g., Google)
- YouTube
- Microsoft Office Apps (Word, Excel, PowerPoint, OneNote)
- Notepads (e.g., Evernote, Google Keep, Simplenote, etc.)
- Online learning platform such as Canvas/Moodle/etc.
- Other. Please specify using the box below

11) Do you use your smartphone for English language learning outside of the classroom?

..... Yes. Please say why

..... No. Please give the reason(s)

12) If yes, what apps and features do you usually use for language learning outside the classroom?

- Online dictionaries
- Camera
- Audio recording features
- Email
- Web browsers (e.g., Internet Explorer, Safari, Edge, Firefox, Chrome, etc.)
- Internet search engines (e.g., Google)
- YouTube
- Microsoft Office Apps (Word, Excel, PowerPoint, OneNote)
- Notepads (e.g., Evernote, Google Keep, Simplenote, ...etc.)
- Online learning platform such as Canvas/Moodle/etc.

13) Please tick, **how many times in a week** you usually **use your smartphone** for the purposes below. Please also write the **total hours** you spend on each activity in a week in the last column.

In a typical week I use my smartphone to	Never	Under 5 times	5 - 15 times	15+
Look at a bilingual dictionary				
Look at a monolingual dictionary in my own language				
Look at a monolingual English learner's dictionary				
Look at grammar reference websites				
Look at a thesaurus				
Look at a concordancer				
Chat in English online				
Send English text messages				
Talk to people in English				
Read texts in English				
Send English emails				
Read English emails				
Write English Facebook, Twitter, or other social media posts				
Read English Facebook, Twitter, or other social media posts				
Surf the web				
Listen to podcasts/radio in English				
Watch movies, videos and/or TV programmes in English				
Learn English with language learning apps				
Visit English language learning websites				

Part B: Students' Pre-use Attitudes Towards SALL

Please tick the box that best describes your feelings. If a question does not apply to you (e.g., because you have not used smartphones for language learning before this study), please tick 'not applicable'.		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Not applicable
1	It is/would be easy for me to learn how to use my smartphone for English language learning.						
2	It is/would be easy for me to become very good at using my smartphone for English language learning.						
3	Using my smartphone for English language learning helps/would help me to learn more.						
4	Using my smartphone makes/would make it easier to do my language tasks.						
5	Time passes/would pass quickly whenever I am/would be using my smartphone for English language learning.						
6	Using my smartphone for English language learning makes/would make me to do more search.						
7	Using my smartphone makes/would make English language learning more interesting.						
8	I look forward to the time that I can use my smartphone for language learning inside the classroom.						
9	I prefer/would prefer to use my smartphone for English language learning rather than desktop or laptop computers, or tablets.						
10	I prefer/would prefer to use my smartphone for English language learning rather than learning through coursebooks and traditional ways.						
11	I need free-Wi-Fi to be able to use my smartphone for English language learning.						
12	I need my teacher's help and instruction to be able to use my smartphone for English language learning.						

Remarks

Please add any comments you think are necessary.

.....

.....

Thank you

Appendix B5: Students' Pre-use Attitude Interview Questions

1. As an ESL student, do you have any specific language learning style or strategies for English language learning (e.g., learning vocabulary better through looking up the meaning in a dictionary, repetition)?
2. What technologies (e.g., computers, laptops) are available in your classroom/language school here that can be used for language teaching and learning? If so, what are they?
 - 2.1. How much do you think your teacher will use them for teaching English?
 - 2.2. How much do you think you can use them for language the learning?
3. Do you use your smartphone for language learning?
 - 3.1. Which do you use more for language learning - your smartphone, your laptop or desk-top computer or your tablet?
 - 3.2. Are you allowed to use your smartphone for language learning in class?
 - 3.3. If yes, does it help you with English language learning and how?
 - 3.4. If you have never used it, do you think it would help and why?
4. Have you ever seen other students using their smartphones for language learning in your classroom? Can you give some examples?
5. Have you ever seen other students using their smartphones for other purposes in the classroom?
 - 5.1. How did you feel?
 - 5.2. Was it distracting?
 - 5.3. Why do you think they do this?
6. You know that your teacher will tell you how to use your smartphone to learn English language during your class this term. How do you feel about that?
 - 6.1. Do you think the use of smartphones will support your learning?
 - 6.2. Do you think you are going to learn more?
 - 6.3. Do think using smartphones in class will be distracting?
7. Is there anything else you would like to add?

Appendix B6: Students' Post-use Attitude Questionnaire

This survey is being conducted by Mrs. Shila Panadgoo and will form the basis for her PhD degree at the University of Adelaide. The title of the research is 'Smartphone Assisted Language Learning (SALL)' and as it has been explained in the related information sheet, it is about the use of smartphones for English language teaching and learning, and teachers' and students' attitudes to using smartphones to learn English. It will only take a maximum of 15 minutes to complete the questionnaire and all your answers will be confidential. If you have any concerns or questions about this study, please contact Shila Panadgoo at shila.panadgoo@adelaide.edu.au. By beginning the survey, you acknowledge that you have read this information and agreed to participate in this research.

Thank you in advance for your time and help.

Please tick and/or write down the answers.

Part A: Smartphone use and its problems

1) Which smartphone features and/or apps did you use for English language learning in class this term?

- Online dictionaries
- Camera
- Audio recorder
- Video recorder
- Email
- Web browsers (e.g., Internet explorer, Safari, Edge, Firefox, Chrome, etc.)
- Internet search engines (e.g., Google)
- YouTube
- Microsoft Office Apps (Word, Excel, PowerPoint, OneNote)
- Notepads (e.g., Evernote, Google Keep, Simplenote, etc.)
- Online learning platform such as Canvas/Moodle/etc.
- Mobile communication tools (e.g., WeChat, WhatsApp)
- Other. Please specify

2) Which of the following versions did you choose to create your vocabulary notebook during the term 8?

- Traditional (Paper Vocabulary Notebook), please say why
- Evernote (Electronic Vocabulary Notebook), please say why
- Both, please say why

3) Did you face any problems with downloading and using Evernote to create an electronic vocabulary notebook?

..... Yes, Please tick the problems (you can tick more than one).

..... finding the app in the app shop/Google Play/App Store

..... downloading and signing up

..... creating new notebooks and notes

..... accessing the shared template and assessment Rubric

..... copy and pasting what was shared and completing creating your vocabulary notebook

..... using dictionary and/or web browsers/search engine to find information via Evernote

..... Other. Please explain

..... No

4) Did you discuss your problems with your teacher and/or the researcher and/or any of your peers in class?

..... Yes, please say why

..... No, please say why

5) If you have used Evernote, did you also download and use Evernote web version on your tablet or laptop?

..... Yes

..... No

6) If yes, which one did you use more for completing your vocabulary notebook on Evernote?

..... My smartphone. Please say why

..... My laptop/tablet. Please say why

Part B: Students' Post-use Attitudes Towards SALL

Please tick the box that best describes your feelings.		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Not applicable
1	Learning how to use my smartphone for English language learning was easy.						
2	Becoming skilled at using my smartphone for English language learning was easy.						
3	Using my smartphone for English language learning helped me with learning the language more.						
4	Using my smartphone made doing my language tasks easier than I expected.						
5	Time passed quickly whenever I was using my smartphone for English language learning.						
6	Using my smartphone for English language learning made me do more search.						
7	Using my smartphone made English language learning more interesting.						
8	I look forward to time that I can use my smartphone for language learning inside the classroom next terms.						
9	I prefer to use my smartphone for English language learning rather than desktop or laptop computers, or tablets.						
10	I prefer to use my smartphone for English language learning rather than learning through coursebooks and traditional ways.						
11	Free Wi-Fi was available in my classroom.						
12	My teacher and the researcher told me how to use my smartphone for language learning and helped me with the problems I faced.						

Remarks

Please add any comments you think are necessary.

.....

.....

Thank you

Appendix B7: Students' Post-use Attitude Interview Questions

1. Have you been here in the language before or was it your first term here this term?
2. Did you use Evernote to create your vocabulary notebook?
 - 2.1. Did you face any problem with downloading and using Evernote?
 - 2.2. Why did you choose the app for creating your vocabulary notebook?
3. Which device did you use more for completing your vocabulary notebook in class, your smartphone or your tablet/laptop computer? Why?
4. How about when you were in class, did you use your phone or your tablet/laptop to complete your vocabulary notebook inside classroom?
5. Which device did you use to review your vocabulary and often did you review them?
6. When you used Evernote, could you access all the information you needed for completing your vocabulary notebook via the app or you needed to go out of the app to access the information?
7. Did you add any extra information such as picture, pronunciation, etc to your tables or you only added the obligatory information as those in the paper version? Why?
8. How hard was it to enter the information onto the app and did you have any difficulty with it?
 - 8.1. If you had any difficulty, did you ask your teacher or me to help you with your problem(s)?
9. Did you use Evernote for creating any other notebook such as grammar notebook?
10. What other smartphone features or apps did your teacher ask you to use?
 - 10.1. Do you think they good?
11. Overall, do you think creating a vocabulary notebook on Evernote was good and useful and helped you with your vocabulary learning and do you think you will continue and use it next term?

Appendix B8: Teachers' Pre-use Attitude Questionnaire

This survey is being conducted by Mrs. Shila Panadgoo and will form the basis for her PhD degree at the University of Adelaide. The title of the research is 'Smartphone Assisted Language Learning (SALL)' and as it has been explained in the related information sheet, it is about the use of smartphones for English language teaching and learning, and teachers' and students' attitudes to using smartphones to learn English. It will only take a maximum of 20 minutes to complete the questionnaire and all your answers will be confidential. If you have any concerns or questions about this study, please contact Shila Panadgoo at shila.panadgoo@adelaide.edu.au. By beginning the survey, you acknowledge that you have read this information and agreed to participate in this research.

Thank you in advance for your time and help.

Please tick the answer/answers.

Part A: Demographic Information, Smartphone Ownership and Use

1) What is your gender?

..... Female

..... Male

..... Other

2) How old are you?

..... 18-25

..... 26-35

..... 36-45

..... 46-55

..... 56-65

..... 66 and above

3) What is your first language?

..... English

..... Other. Please specify

4) What is your highest qualification?

..... PhD

..... Masters

..... Bachelors

..... Diploma

..... Certificate

..... Other. Please specify

- 5) Which teaching qualification(s) do you have?
 Master of TESOL
 Master of Education (TESOL specialisation)
 Bachelor of Education
 Graduate Diploma in Education
 Graduate Certificate in TESOL
 Certificate IV in TESOL
 Delta (Diploma in in English language teaching to adults)
 CELTA (Certificate in English Language Teaching to Adults)
 Other. Please specify
- 6) How long have you been teaching English?

- 7) What English language course(s) and what level(s) have you taught?

- 8) How many smartphones do you have?
 One
 Two
 Other. Please specify
- 9) What type of smartphone(s) do you have?
 Android
 iOS (iPhone)
 Other. Please specify
- 10) What language do you use on your smartphone menu?
 English
 Other. Please specify
- 11) How much time do you usually spend using your smartphone in a day?
 About 1 hour
 About 2 hours
 About 3 hours

- About 4 hours
- About 5 hours
- More than 5 hours

12) Are your students allowed to use their smartphones in relation to language learning inside the classroom?

- Yes
- No. Please specify the reasons for your answer

13) Have you ever tried to take advantage of the students' smartphones presence in class and integrate it into your lessons?

- Yes
- No. Please specify the reasons for your answers

14) If you use smartphones for English language teaching, please tick which of the following smartphone features and/or apps you use most often.

- My Uni
- Google search, Internet explorer, Safari, Edge, Firefox, Chrome, etc.
- YouTube
- WhatsApp
- Kahoot
- Online dictionaries
- Camera and photos
- Other. Please specify

15) In a typical week, how many times do you usually **use your smartphone** for the purposes below?

Smartphone usage in a typical week	Never	Under 5 times	5 - 15 times	15+
Looking at bilingual/monolingual dictionaries				
Looking at a thesaurus				
Looking at a concordancer				
Looking at grammar reference websites				
Looking at English language teaching/learning apps				
Visiting English language teaching/learning websites				
Chatting online				
Reading and sending texts				
Reading and sending emails				
Talking to people				
Writing Facebook, twitter, or other social media posts				
Reading Facebook, twitter, or other social media posts				
Surfing the web				
Listening to Podcasts/radio				
Watching movies, videos and/or TV programmes				

Section B: Teachers' Pre-use Attitudes Towards SALL

Please tick the most appropriate answer. If a question does not apply to you (e.g., because you have not used smartphones in your teaching before this study or vice versa), please tick 'not applicable'.		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Not applicable
1	It is/would be easy for me to learn how to integrate the use of smartphones into my English language teaching.						
2	It is/would be easy for me to become skillful at integrating the use of smartphones into my lessons.						
3	Integrating the use of smartphones into my lessons improves/would improve my teaching quality.						
4	Integrating the use of smartphones into my lessons gives/would give me more time to do extra activities in class.						
5	Using smartphones in my lessons is/would be so engaging that I do not/would not notice the time passing while I am teaching in class.						
6	Using smartphones to teach English leads/would lead me to look for new smartphone-based activities and materials for my students.						
7	Integrating the use of smartphones into my lessons makes/would make English language teaching more interesting.						
8	I look forward to the time that I can integrate the use of smartphones into my lessons using a well-designed smartphone-integrated English language program.						
9	I prefer/would prefer to use smartphones for English language teaching rather than desktop or laptop computers, or tablets.						
10	I prefer/would prefer to use smartphones for English language teaching rather than having a traditional classroom.						
11	Free Wi-Fi is/will be available to me and the students inside my classroom.						
12	Guidance on how to use smartphone features and apps is/will be available to me.						

Remarks

Please feel free to add any comments you think are necessary.

.....

.....

Thank you

Appendix B9: Teachers' Pre-use Attitude Interview Questions

2. What kind of technologies (e.g., computers, laptops) are available in your classroom/school that can be used for language teaching and learning? If so, what are they?
 - 2.1. How much do you use them for teaching English?
 - 2.2. How much are your students allowed to use them for language learning?
3. Are your students allowed to use their smartphones in relation to language learning inside the classroom? Why?
 - 3.1. If yes, do you use any specific strategies to control the possible distractions which may happen (e.g., some students might use them for purposes other than language learning)?
8. Have you ever tried to take advantage of this technology and integrate its use into your lessons?
 - 8.1. If yes, what smartphone features or apps do you usually use?
 - 8.2. How do you think such usage has affected your teaching?
 - 8.3. How do you think it has affected your students' language learning?
9. What facilities or help do you think you might need if you want to integrate the use of smartphones (e.g., an app such as Evernote, Kahoot, ...) into your lesson (e.g., any teacher preparation sessions)?
10. You know that you will integrate the use some smartphone apps and features (e.g., Evernote, Microsoft PowerPoint, video/audio recording, Kahoot, and ...) into your lessons,
 - 10.1. Do you have any concerns about the use of these apps?
 - 10.2. Do you think the use of the apps will be useful for you and your students and in what way(s)?
 - 10.3. How do you think the use of Evernote for creating vocabulary notebook by the students as a strategy might help your students with their vocabulary and pronunciation learning in their L2 learning journey?
 - 10.4. How much do you feel you and your students will like using the apps?
11. If everything goes well with the use of the apps, would you like to continue to integrate its use into your lessons in future?
12. Is there anything else you would like to add?

Appendix B10: Teachers' Post-use Attitude Questionnaire

This survey is being conducted by Mrs. Shila Panadgoo and will form the basis for her PhD degree at the University of Adelaide. The title of the research is 'Smartphone Assisted Language Learning (SALL)' and as it has been explained in the related information sheet, it is about the use of smartphones for English language teaching and learning, and teachers' and students' attitudes to using smartphones to learn English. It will only take a maximum of 10 minutes to complete the questionnaire and all your answers will be confidential. If you have any concerns or questions about this study, please contact Shila Panadgoo at shila.panadgoo@adelaide.edu.au. By beginning the survey, you acknowledge that you have read this information and agreed to participate in this research.

Thank you in advance for your time and help.

Please tick the box that best describes your feelings. If a question does not apply to you (e.g., because you have not used smartphones for language learning before this study), please tick 'not applicable'.		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Not applicable
1	It was easy for me to learn how to integrate the use of smartphones into my English language teaching.						
2	It was easy for me to become skillful at integrating the use of smartphones into my lessons.						
3	Integrating the use of smartphones into my lessons improved my teaching quality.						
4	Integrating the use of smartphones into my lessons gave me more time to do extra activities in class.						
5	Using smartphones in my lessons was so engaging that I did not notice the time passing while I was in class.						
6	Using smartphones to teach English led me to look for new smartphone-based activities and materials for my students.						
7	Integrating the use of smartphones into my lessons made English language teaching more interesting.						
8	I look forward to the time that I can integrate the use of smartphones into all my classes.						
9	I prefer to use smartphones for English language teaching rather than other technologies such as desktop or laptop computers, or tablets.						
10	I prefer to use smartphones for English language teaching rather than having a traditional classroom.						
11	Free Wi-Fi was available to me and the students inside my classroom.						
12	Guidance on how to implement the course and use smartphone features and apps for English language teaching was available to me during the course.						

Remarks

.....
.....

Thank you

Appendix B11: Teachers' Post-use Attitude Interview Questions

1. Did you download and use Evernote to follow and mark the students' vocabulary notebooks?
2. Was it easy or hard for you to download and use the app?
3. How often did you look at the students' work and progress on the app?
4. Did you use the Work Chat feature of the app to chat with the students at all?
5. How do you think the use of Evernote and creating electronic vocabulary notebook was a different experience for the students who used the app?
6. What do you think were the students' main reasons for choosing Evernote to create and use an electronic vocabulary notebook?
7. What do you think were the students' main reasons for choosing to create and use a paper vocabulary notebook?
8. Did you use your phone or your tablet/laptop to check and mark the students' vocabulary notebook?
9. How was this teaching experience different from your previous terms and how happy are you with it?
10. Were there any distractions with the use of smartphones in your class and what strategies did you apply to control and stop it?
11. Do you feel the use of smartphones in the lessons helped your students learn the new vocabulary better?
12. How was the use of smartphones for language teaching in class and its benefits to you close to your former expectations?
13. Overall, do you think that the integration of the smartphones into your lessons was useful and it must be continued?
 - 13.1. Will you continue to integrate this technology into your lessons in future?
 - 13.2. Will you recommend other teachers to integrate the use of smartphones into their lessons?

Appendix B13: Validity Test Results (Study 1, Students' Post-Use Attitude Likert Scale)

Study 2 – Validity statistics (KMO and Bartlett's test results)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.674
Bartlett's Test of Sphericity	210.325	196.544
	66	55
	.000	.000

Study 2 – Validity statistics (component matrix)

	Component		
	1	2	3
PU2	.785		
AU1	.747	-.409	
AU2	.744		
RA2	.716		-.331
PEU2	.687	.504	
PU1	.587	.442	
RA1	.508		
PP2	.500	-.436	
PEU1	.474	.767	
FC1			.784
FC2	.334		.720
Extraction Method: Principal Component Analysis.			
a. 3 components extracted.			

Appendix B14: Reliability Test Results (Study 1, Students' Post-Use Attitude Likert Scale)

Study 1 – Reliability statistics (Cronbach's alpha)

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.802	.805	12

Study 1 – Reliability statistics (Inter-item correlation matrix)

	PEU1	PEU2	PU1	PU2	PP1	PP2	AU1	AU2	RA1	RA2	FC1	FC2
PEU1	1.000	.661	.470	.368	-.201	-.042	.076	.196	.217	.286	.070	.104
PEU2	.661	1.000	.562	.471	.170	.158	.371	.345	.232	.312	.183	.233
PU1	.470	.562	1.000	.330	.293	.081	.155	.422	.289	.198	.082	.227
PU2	.368	.471	.330	1.000	.127	.395	.571	.577	.436	.470	-.001	.339
PP1	-.201	.170	.293	.127	1.000	.227	.410	.401	.102	.230	.098	.231
PP2	-.042	.158	.081	.395	.227	1.000	.460	.349	.176	.311	.085	.239
AU1	.076	.371	.155	.571	.410	.460	1.000	.550	.321	.646	.157	.178
AU2	.196	.345	.422	.577	.401	.349	.550	1.000	.196	.580	-.184	.132
RA1	.217	.232	.289	.436	.102	.176	.321	.196	1.000	.394	.070	-.037
RA2	.286	.312	.198	.470	.230	.311	.646	.580	.394	1.000	-.081	.052
FC1	.070	.183	.082	-.001	.098	.085	.157	-.184	.070	-.081	1.000	.337
FC2	.104	.233	.227	.339	.231	.239	.178	.132	-.037	.052	.337	1.000

Study 1 – Reliability statistics (Item-total statistics)

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
PEU 1	38.96	42.520	.330	.640	.797
PEU 2	39.30	40.344	.576	.630	.779
PU1	39.04	41.389	.476	.528	.787
PU2	39.64	36.540	.682	.658	.763
PP 1	39.47	41.820	.330	.454	.798
PP 2	39.38	40.459	.403	.283	.792
AU 1	39.57	36.772	.675	.679	.764
AU 2	39.77	37.966	.591	.639	.773
RA 1	40.34	38.360	.395	.384	.797
RA 2	40.26	36.325	.579	.598	.773
FC1	38.72	44.378	.099	.305	.819
FC 2	39.02	43.326	.300	.358	.799

Appendix B15: Test of Normality (Study 1, Students' Post-use Attitude Likert Scale)

Study 1 – Reliability statistics (Cronbach's alpha)


	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Total post-use attitude	.067	48	.200*	.984	48	.761

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Appendices C: Study 2 Appendice

Appendix C1: Ethics Approval

Our reference 34050	 RESEARCH SERVICES OFFICE OF RESEARCH ETHICS, COMPLIANCE AND INTEGRITY THE UNIVERSITY OF ADELAIDE LEVEL 4, RUNDLE MALL PLAZA 50 RUNDLE MALL ADELAIDE SA 5000 AUSTRALIA TELEPHONE +61 8 8313 5137 FACSIMILE +61 8 8313 3700 EMAIL hrec@adelaide.edu.au CRICOS Provider Number 00123M
06 November 2019	
Dr Julia Miller School of Education	
Dear Dr Miller	
ETHICS APPROVAL No:	H-2019-212
PROJECT TITLE:	Smartphone Assisted Language Learning (SALL): An investigation into teachers usage and attitudes towards the use of smartphones for English language learning
<p>The ethics application for the above project has been reviewed by the Low Risk Human Research Ethics Review Group (Faculty of Arts and Faculty of the Professions) and is deemed to meet the requirements of the <i>National Statement on Ethical Conduct in Human Research 2007 (Updated 2018)</i> involving no more than low risk for research participants.</p>	
You are authorised to commence your research on:	06/11/2019
The ethics expiry date for this project is:	30/11/2022
NAMED INVESTIGATORS:	
Chief Investigator:	Dr Julia Miller
Associate Investigator:	Associate Professor Edward Palmer
Student - Postgraduate Doctorate by Research (PhD):	Mrs Shila Panadgoo
Chief Investigator:	Dr Walter Barbieri
CONDITIONS OF APPROVAL: Thank you for addressing the feedback raised. The application submit on the 1st of November 2019 is approved.	
Ethics approval is granted for three years and is subject to satisfactory annual reporting. The form titled Annual Report on Project Status is to be used when reporting annual progress and project completion and can be downloaded at http://www.adelaide.edu.au/research-services/oreci/human/reporting/ . Prior to expiry, ethics approval may be extended for a further period.	
Participants in the study are to be given a copy of the information sheet and the signed consent form to retain. It is also a condition of approval that you immediately report anything which might warrant review of ethical approval including:	

- serious or unexpected adverse effects on participants,
- previously unforeseen events which might affect continued ethical acceptability of the project,
- proposed changes to the protocol or project investigators; and
- the project is discontinued before the expected date of completion.

Yours sincerely,

Dr Anna Olijnyk
Convenor

Dr Douglas Bardsley
Convenor

The University of Adelaide

Appendix C2: EALD Teachers' Online Questionnaire

Smartphone Assisted Language Learning (SALL)

An investigation into teachers' usage and attitudes towards the use of smartphones for English language teaching

PROJECT TITLE: Smartphone Assisted Language Learning (SALL): An investigation into teachers' usage and attitudes towards the use of smartphones for English language teaching

HUMAN RESEARCH ETHICS COMMITTEE APPROVAL NUMBER: HREC-2019-2012

PRINCIPAL INVESTIGATOR: Dr Julia Miller

STUDENT RESEARCHER: Mrs Shila Panadgoo

STUDENT'S DEGREE: PhD in Education

Dear teacher,

You are invited to participate in the research project described below.

What is the project about?

The project investigates English language teachers' current smartphone use and their attitudes towards using smartphones for teaching English to adults. The study aims to collect data about English teachers' use of smartphones in the English language classroom via online questionnaires and interviews with teachers from all over the world. The data may benefit researchers, course designer, and materials developers through giving them an insight of the possibilities of the integration of smartphone-based tasks and activities into the English teaching courses and materials.

Who is undertaking the project?

This project is being conducted by Mrs Shila Panadgoo and will form the basis for her PhD degree in Education at the University of Adelaide under the supervision of Dr Julia Miller, A/Prof Edward Palmer, and Dr Walter Barbieri.

Why am I being invited to participate?

The focus of the study is on teachers' current smartphone usage and attitudes towards the use of smartphones for teaching English, and you are being invited to participate because you are an English language teacher at a language school or university with experience in teaching English to adult's face to face in a classroom.

What am I being invited to do?

- a) You are invited to complete a questionnaire given to you by your school director. This will take a maximum 15 minutes of your time.
- b) After the questionnaire, you may also choose to take part in an online interview with the student researcher. This will give you the opportunity to elaborate on your responses. The interview will be conducted via Skype, WhatsApp, or another platform of your choice, or by telephone. If you live in Adelaide, you may also choose to take part in a face-to-face interview. To participate in an interview, you will be invited to send your email address to Shila Panadgoo at the end of the questionnaire. She will

contact you to arrange a time at your convenience. Please note that the interview will be audio-recorded.

How much time will my involvement in the project take?

Completing the questionnaire will take a maximum 15 minutes of your time, and if you also volunteer to take part in the related online interview, it will take a maximum of 30 minutes.

Are there any risks associated with participating in this project?

There are no foreseeable risks. You can withdraw from the questionnaire at any stage before submitting your answers.

If you are uncomfortable at any time during the interview, it will be discontinued and any information you have already given will be destroyed, with your consent.

You will be referred to only by a number in the research findings.

You will be advised to talk to your director of studies or school director if you feel any distress during the interview or prompted to refer to a local helpline if such exists.

What are the potential benefits of the research project?

This project will give you the opportunity to think of the possible ways that you can use technology like smartphones for language teaching. The result of the study will provide information for specialists in the field, including course designers and materials developers, about the possibility of integrating smartphone use into their language courses and materials. All participants will also have the chance to participate in a free prize draw to win one of four AUD50 Apple or Google Play vouchers.

Can I withdraw from the project?

Participation in this project is completely voluntary, and non-participation or withdrawal will not affect your ongoing employment. Moreover, even if you agree to participate, you still can withdraw at any time before submitting the questionnaire, and if you take part in an interview you can withdraw within a week of reading your interview transcript.

What will happen to my information?

Confidentiality and privacy:

- The questionnaire will be completely anonymous unless you consent to take part in an online interview, in which case you will be invited to leave a contact email address at the end of the questionnaire. After the interview, your email address will be deleted from the questionnaire findings.
- You will have the option to review your interview transcript by request within four weeks of the interview.
- You will be referred to only by a number in the research findings.
- Your identity will be protected by removal of all identifying information on any documentation collected. No names will be included in the storage of any audio files, which will be identified only by a code.
- No personal information about you will be used in reports or journal articles about the study.

- The interview will be audio-recorded but, aside from the interviewer, only the other researchers in the study will be able to listen to the recordings, and they will not know your name.

Storage:

- The data, including audio recordings, will be securely stored on university servers.
- The principal supervisor will keep the records for 5 years from the date of any publication or public interest.

Publishing:

- Results may be made accessible to the public in the form of a book chapter/journal article/thesis/conference presentation, but the study participants will not be identifiable.
- Your information will only be used as described in this participant information sheet and it will only be disclosed according to the consent provided, except as required by law.

Sharing:

- Your de-identified data may be used for future research purposes by any researcher in any field.

Who do I contact if I have questions about the project?

Should you have any questions regarding this project, the supervisors and the student researcher are happy to discuss them with you. For this purpose, please feel free to contact them using the details below:

Name	Phone	Email
Dr Julia Miller	(+61) 8 8313 4721	julia.miller@adelaide.edu.au
A/Prof Edward Palmer	(+61) 8 8313 6036	edward.palmer@adelaide.edu.au
Dr Walter Barbieri	(+61) 8 8313 4164	walter.barbieri@adelaide.edu.au
Shila Panadgoo	(+61) 8 8313 6064	shila.panadgoo@adelaide.edu.au

What if I have a complaint or any concerns?

The study has been approved by the Human Research Ethics Committee at the University of Adelaide (approval number H-2019-212). This research project will be conducted according to the NHMRC National Statement on Ethical Conduct in Human Research 2007 (Updated 2018). If you have questions or problems associated with the practical aspects of your participation in the project or wish to raise a concern or complaint about the project, then you should consult the Principal Investigator. If you wish to speak with an independent person regarding concerns or a complaint, the University's policy on research involving human participants, or your rights as a participant, please contact the Human Research Ethics Committee's Secretariat on:

Phone: +61 8 8313 6028

Email: hrec@adelaide.edu.au

Post: Level 4, Rundle Mall Plaza, 50 Rundle Mall, ADELAIDE SA 5000

Any complaint or concern will be treated in confidence and fully investigated. You will be informed of the outcome.

If I want to participate, what do I do?

If you would like to participate in this study, please complete the questionnaire that your school director will give you. Please note that completing and submitting the questionnaire will be taken as an indication of your consent to participate in the study. If you would also like to take part in the related online interview, please enter your email address at the end of the questionnaire in the place provided and Shila Panadgoo will contact you to arrange a time for the interview at your convenience.

Yours sincerely,

Dr Julia Miller

A/Prof Edward Palmer

Dr Walter Barbieri

Mrs Shila Panadgoo

Please tick the answer/answers.

Part A: Demographic Information, Qualifications and Teaching Experience, and Smartphone Ownership and Usage

- 1) Within the last five years, have you taught English to students who are aged 18 or over?
 Yes
 No. Thank you. The survey aims to collect data from those who have recently taught adult learners of English. As you are not in that category, we will not be able to use your answers. Please do not answer any more questions.

- 2) Within the last five years, have you taught English to students face to face in a classroom?
 Yes
 No. Thank you. The survey aims to collect data from those who have recently taught adult learners of English face to face in a classroom. As you are not in that category, we will not be able to use your answers. Please do not answer any more questions.

- 3) What is your gender?
 Prefer not to identify
 Female
 Male
 Other

- 4) How old are you?
 18-25
 26-35
 36-45
 46-55
 56-65

66 and above

5) What is your country of residency?

Australia

Other. Please specify using the box below

6) What is your first language?

English

Other. Please specify using the box below

7) What is your highest qualification?

PhD

Masters

Postgraduate diploma

Postgraduate certificate

Honours degree

Bachelors

Diploma (non-university)

Certificate (non-university)

Other. Please specify using the box below

8) Which teaching qualification(s) do you have?

Master of TESOL

Master of Education (TESOL specialisation)

Bachelor of Education

Graduate Diploma in Education

Graduate Certificate in TESOL

Certificate IV in TESOL

Delta (Diploma in in English language teaching to adults)

CELTA (Certificate in English Language Teaching to Adults)

Other. Please specify using the box below

9) How long have you been teaching English?

Less than 1 year

1-5 years

- 6-10 years
- 11-15 years
- 16-20 years
- 21+

10) What kind of course(s) do you teach?

- General English
- English for Academic purposes
- Business English
- English for Specific Purposes
- Exam preparation (e.g., IELTS, TOEFL, ...) courses
- Other. Please specify using the box below

11) Where do you teach at the moment?

- In a language school
- At a university
- Other. Please specify the type of organisation in which you teach using the box below; ***do not give the name of the organisation.***

12) How many smartphones do you have?

- None
- One
- Two
- Other. Please specify using the box below

13) What type of smartphone(s) do you have?

- Android (e.g., Huawei, Nokia, Samsung, LG, Sony, ...)
- iOS (iPhone)
- Other. Please specify using the box below

14) What language do you use on your smartphone menu?

- English
- Other. Please specify using the box below

15) How much time do you usually spend using your smartphone in a day?

- Less than an hour
- 1-2 hours/day
- 3-4 hours/day
- 5-6 hours
- 6+

16) Does your institution's policy allow your students to use smartphones in class?

- Yes
- No
- Other. Please explain using the box below

17) Do you allow your students to use their smartphones for language learning inside the classroom?

- Yes
- No.

Please specify the reasons for your decision using the box below

18) If yes, what apps and features of their smartphones have you noticed that students usually use for language learning inside the classroom?

- Online dictionaries
- Camera
- Audio recording features
- Email
- Web browsers (e.g., Internet Explorer, Safari, Edge, Firefox, Chrome, etc.)
- Internet search engines (e.g., Google)
- YouTube
- Microsoft Office Apps (Word, Excel, PowerPoint, OneNote)
- Notepads (e.g., Evernote, Google Keep, Simplenote, ...etc.)
- Online learning platform such as Canvas/Moodle/etc.
- Other. Please specify using the box below

19) Can you name any Apps your students commonly use?

20) Have you ever noticed your students using their smartphone inside the classroom for purposes other than language learning?

Yes

No

21) What is your reaction to such usage and how do you try to control this in your classroom? (Please explain if you have a specific policy)

22) Have you ever tried to instruct the students in using smartphones in class?

Yes

No.

Please give reasons for your answer

23) If yes, please tick which of the following smartphone features and/or apps you advise your students to use.

Online dictionaries

Audio recording features

Email

Web browsers (e.g., Internet Explorer, Safari, Edge, Firefox, Chrome, etc.)

Internet search engines (e.g., Google)

YouTube

Microsoft Office Apps (Word, Excel, PowerPoint, OneNote)

Notepads (e.g., Evernote, Google Keep, Simplenote, ...etc.)

Online learning platform such as Canvas/Moodle/etc.

Other. Please specify

24) Which three smartphone features and/or apps do you advise your students to use most often, in the order 1-3, with 1 being the feature you recommend most to students?

1.

2.

3.

25) Have your students ever faced any problems with using their smartphone apps and features for language learning inside the classroom?

Yes

No.

Please specify using the box below

26) If yes, how did you help them with their problems and/or questions?

27) Which of the following options of smartphone use for English language teaching and learning do you prefer? Tick all that apply.

In-class activities

Out of class activities/homework

Both in and out of class activities

28) Have you ever received any training on smartphone use for teaching?

Yes

No

29) Do you think you need training to be able to use smartphones in your class?

Yes

No

30) Do you think your place of employment will give you time or pay for you to attend training sessions in using smartphones for teaching?

Yes

No

31) How much time would you be prepared to spend *at work* learning how to use smartphones for English language teaching? (Please tick one answer)

Up to 1 hour in total as self-directed learning

Up to 1 hour a week throughout a course I am teaching

Up to 2 hours a week throughout a course I am teaching

More than 2 hours a week throughout a course I am teaching

I would *not* be prepared to spend time at work learning how to use smartphones for English language teaching

Please give reasons for whichever answer you have chosen using the box below

32) How much *private* (i.e., non-work) time would you be prepared to spend learning how to use smartphones for English language teaching? (Please tick one answer)

- Up to 1 hour in total
- Up to 1 hour a week throughout a course
- Up to 2 hours a week throughout a course
- More than 2 hours a week throughout a course
- I would *not* be prepared to spend private time learning how to use smartphones in my teaching

Please give reasons for your answer

33) In a typical **week**, how many times do you usually **use your smartphone** anywhere for the purposes below?

Smartphone usage in a typical week	Never	Under 5 times	5 - 15 times	15+
Looking at bilingual/monolingual dictionaries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Looking at a thesaurus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Looking at concordances	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Looking at grammar reference websites	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Looking at English language teaching/learning apps	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Visiting English language teaching/learning websites	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Creating English language teaching activities and/or materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chatting online	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reading and sending texts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reading and sending emails	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Talking to people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Writing Facebook, twitter, or other social media posts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reading Facebook, twitter, or other social media posts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Surfing the web	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Listening to podcasts/radio	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Watching movies, videos and/or TV programmes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

34) How do you feel about using smartphones for English language teaching to adults?

<p style="text-align: center;">Please tick the most appropriate answer. If a question does not apply to you, please tick 'not applicable'.</p>	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Not applicable
It is/would be easy for me to learn how to integrate the use of smartphones into my English language teaching.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is/would be easy for me to become skilful at creating smartphone learning activities and materials.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Integrating the use of smartphones into my lessons improves/would improve my teaching quality.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Integrating the use of smartphones into my lessons gives/would give me more time to do extra activities in class.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using smartphones in my lessons is/would be so engaging that I do not/would not notice the time passing while I am teaching in class.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using smartphones to teach English leads/would lead me to look for new smartphone-based activities and materials for my students.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Integrating the use of smartphones into my lessons makes/would make English language teaching more interesting.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I look forward to the time that I can integrate the use of smartphones into my lessons using a well-designed smartphone-integrated English language program.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I prefer/would prefer to use smartphones for English language teaching rather than desktop or laptop computers, or tablets.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I prefer/would prefer to use smartphones for English language teaching rather than having a traditional classroom.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Free Wi-Fi is necessary for the implementation of Smartphone Assisted Language Learning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Guidance on how to use smartphone features and apps is necessary for a successful Smartphone Assisted Language Learning program.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Further Comments

Please feel free to add any comments you think are necessary.

Thank you for taking part in this survey. Your answers will remain entirely confidential.

If you would like to take part in an **online interview** via Skype or another platform, please write your email address here:

Mrs. Shila Panadgoo (shila.panadgoo@adelaide.edu.au) will contact you to arrange a time for the interview.

Appendix C3: EALD Teachers' Interview Questions

1. Are there any technologies (e.g., computers, laptops, etc.) available in your classroom that can be used for language teaching and learning? If so, what are they?
 - 1.1. How much do you use them for teaching English?
 - 1.2. How much are your students allowed to use them for language learning?
2. Are your students allowed to use their smartphones in relation to language learning inside the classroom? Why?
 - 2.1. If yes, do you use any specific strategies to control the possible distractions which may happen (e.g., some students might use them for purposes other than language learning)?
3. Have you ever tried to use smartphones for teaching purposes in the classroom?
 - 3.1. Would you please tell me about any apps you use and how you use them? What were the outcomes?
 - 3.2. How do you think such usage has affected your teaching?
 - 3.3. How do you think it has affected your students' language learning?
4. Have you ever asked your students to use their smartphones for out of class activities and homework? If yes, would you please give the details and what were the outcomes?
5. What facilities or help do you think you might need if you want to integrate the use of smartphones into your lesson (e.g., any particular apps or training)?
6. How much time and effort would you be willing to commit to be able to use Smartphones in your classes effectively. Explain the issues that surround training for you.
7. Overall, do you think the use of smartphones for language teaching and learning is a good idea? Explain.
8. Is there anything else you would like to add?

Appendix C4: Validity Test Results

Study 2 – Validity statistics (KMO and Bartlett's test results)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.806
Bartlett's Test of Sphericity	Approx. Chi-Square	443.800
	df	66
	Sig.	.000

Study 2 – Validity statistics (component matrix)

	Component		
	1	2	3
AU1	.846		-.328
PU1	.817		
PP1	.812		
PP2	.767		
AU2	.701		.383
RA2	.684		
RA1	.662		.429
PEU2	.661	-.471	
PEU1	.616	-.406	
PU2	.604		
FC2		.656	.582
FC1		.648	
Extraction Method: Principal Component Analysis.			
a. 3 components extracted.			

Appendix C5: Reliability Test Results

Study 2 – Reliability statistics (Cronbach's alpha)

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.870	.867	12

Study 2 – Reliability statistics (Inter-item correlation matrix)

	PEU1	PEU2	PU1	PU2	PP1	PP2	AU1	AU2	RA1	RA2	FC1	FC2
PEU1	1.000	.648	.451	.236	.418	.443	.395	.233	.401	.374	.046	-.012
PEU2	.648	1.000	.434	.196	.366	.411	.391	.422	.519	.533	-.078	.023
PU1	.451	.434	1.000	.484	.641	.572	.749	.502	.432	.515	.095	.129
PU2	.236	.196	.484	1.000	.427	.367	.528	.398	.220	.473	.105	.195
PP1	.418	.366	.641	.427	1.000	.635	.832	.522	.449	.391	.172	.131
PP2	.443	.411	.572	.367	.635	1.000	.625	.544	.409	.441	.041	.200
AU1	.395	.391	.749	.528	.832	.625	1.000	.520	.392	.484	.206	.158
AU2	.233	.422	.502	.398	.522	.544	.520	1.000	.513	.312	.061	.407
RA1	.401	.519	.432	.220	.449	.409	.392	.513	1.000	.553	-.052	.155
RA2	.374	.533	.515	.473	.391	.441	.484	.312	.553	1.000	.034	.109
FC1	.046	-.078	.095	.105	.172	.041	.206	.061	-.052	.034	1.000	.297
FC2	-.012	.023	.129	.195	.131	.200	.158	.407	.155	.109	.297	1.000

Study 2 – Reliability statistics (Item-total statistics)

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
PEU1	38.99	65.473	.525	.536	.862
PEU2	39.69	64.080	.569	.611	.859
PU1	39.21	63.062	.729	.629	.849
PU2	39.72	65.502	.510	.424	.863
PP1	38.92	64.994	.717	.740	.851
PP2	38.96	64.931	.677	.541	.853
AU1	38.99	63.473	.764	.797	.848
AU2	39.27	63.685	.626	.601	.855
RA1	39.99	65.013	.583	.520	.858
RA2	40.36	62.558	.615	.574	.856
FC1	38.40	74.919	.110	.188	.882
FC2	38.75	73.138	.236	.285	.876

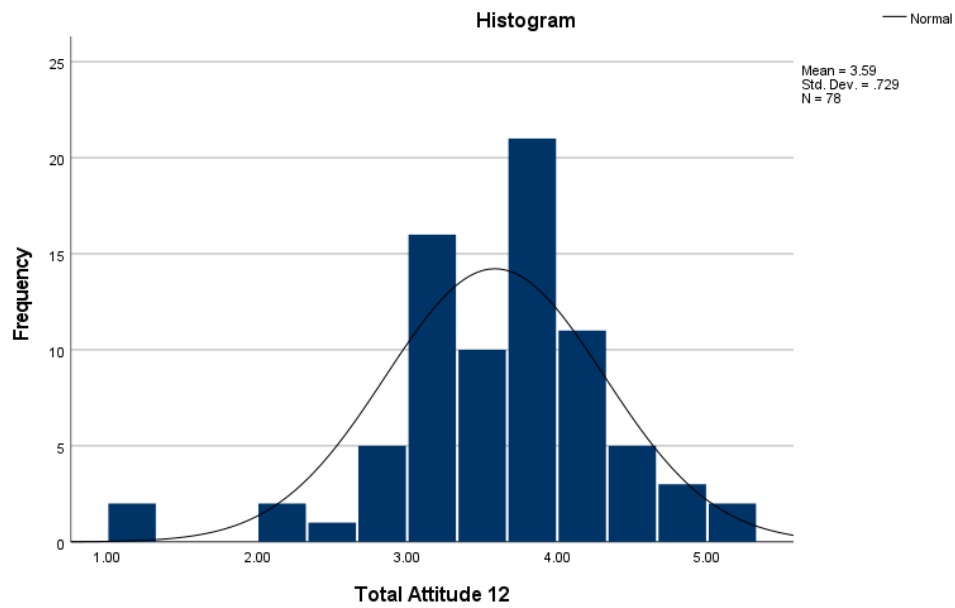
Appendix C6: Test of Normality Results

Study 2 – Test of normality (Kolmogorov-Smirnov)

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Total Attitude (12 item scale)	.095	78	.081	.946	78	.002

a. Lilliefors Significance Correction

Study 2 – Test of normality (Histogram)



Appendix C7: Impacts of the Moderating Factors (T-Test and One-way ANOVA Results)

- Impacts of Gender and Age**

Study 2 – Group statistics (Impact of teachers’ gender)

	Gender 2	N	Mean	Std. Deviation	Std. Error Mean
Total Attitude 12	Female	53	3.5915	.71335	.09799
	Male	22	3.5242	.79928	.17041

Study 2 – Independent samples t-test (Impact of teachers’ gender)

		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2-tailed)	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Total Attitude 12	Equal variances assumed	.001	.979	.359	73	.721	.18745	-.30634	.44082
	Equal variances not assumed			.342	35.610	.734	.19657	-.33158	.46605

Study 2 – Descriptive results (Impacts of teachers’ age)

Total Attitude 12	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
26-35	5	3.7833	.65245	.29179	2.9732	4.5935
36-45	28	3.6017	.68766	.12995	3.3351	3.8684
46-55	32	3.5635	.66753	.11800	3.3229	3.8042
56+	13	3.5256	1.01743	.28218	2.9108	4.1405
Total	78	3.5850	.72944	.08259	3.4206	3.7495

Study 2 – Test of homogeneity of variances (Impacts of teachers’ age)

		Levene			
		Statistic	df1	df2	Sig.
Total Attitude 12	Based on Mean	1.314	3	74	.276
	Based on Median	1.208	3	74	.313
	Based on Median and with adjusted df	1.208	3	67.894	.313
	Based on trimmed mean	1.356	3	74	.263

• **Impacts of Teachers’ Qualification and Teaching Experience**

Study 2 – Descriptive results (Impacts of teachers’ qualification)

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Total attitude 12 items						
PhD	18	3.7083	.64185	.15129	3.3891	4.0275
Master's or a postgraduate certificate/diploma	54	3.5333	.67897	.09240	3.3480	3.7186
Bachelor's or a non-university certificate	6	3.6806	1.34621	.54959	2.2678	5.0933
Total	78	3.5850	.72944	.08259	3.4206	3.7495

Study 2 – Test of homogeneity of variances (Impacts of teachers’ qualification)

		Levene			
		Statistic	df1	df2	Sig.
Total Attitude 12	Based on Mean	1.825	2	75	.168
	Based on Median	.725	2	75	.488
	Based on Median and with adjusted df	.725	2	35.267	.491
	Based on trimmed mean	1.290	2	75	.281

Study 2 – Descriptive results (Impacts of teachers’ teaching experience)

Total Attitude 12	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
1-5 years	5	3.9167	.27003	.12076	3.5814	4.2520
6-10 years	19	3.5526	.96992	.22252	3.0851	4.0201
11-15 years	17	3.3451	.76575	.18572	2.9514	3.7388
16-20 years	12	3.6957	.41138	.11875	3.4343	3.9571
21+ years	25	3.6533	.66740	.13348	3.3778	3.9288
Total	78	3.5850	.72944	.08259	3.4206	3.7495

Study 2 – Test of homogeneity of variances (Impacts of teachers’ teaching experience)

		Levene Statistic	df1	df2	Sig.
Total Attitude 12	Based on Mean	2.323	4	73	.065
	Based on Median	1.891	4	73	.121
	Based on Median and with adjusted df	1.891	4	57.279	.124
	Based on trimmed mean	2.164	4	73	.082

• **Impacts of Type of Smartphone and its Amount of Use**

Study 2 – Descriptive results (Impacts of teachers’ type of smartphones)


	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Total Attitude 12						
Android	38	3.6372	.67101	.10885	3.4167	3.8578
iOS	35	3.5452	.67741	.11450	3.3125	3.7779
Both (Android & iOS)	2	4.0000	.70711	.50000	-2.3531	10.3531
Total	75	3.6040	.67019	.07739	3.4498	3.7582

Study 2 – Test of homogeneity of variances (Impacts of teachers’ type of smartphones)

		Levene Statistic	df1	df2	Sig.
Total Attitude 12	Based on Mean	.015	2	72	.985
	Based on Median	.038	2	72	.963
	Based on Median and with adjusted df	.038	2	70.044	.963
	Based on trimmed mean	.027	2	72	.973

Appendices D: Study 3 Appendices

Appendix D1: Ethics Approval

Our reference 34087	 RESEARCH SERVICES OFFICE OF RESEARCH ETHICS, COMPLIANCE AND INTEGRITY THE UNIVERSITY OF ADELAIDE LEVEL 4, RUNDLE MALL PLAZA 50 RUNDLE MALL ADELAIDE SA 5000 AUSTRALIA TELEPHONE +61 8 8313 5137 FACSIMILE +61 8 8313 3700 EMAIL hrec@adelaide.edu.au CRICOS Provider Number 00123M
25 November 2019	
Dr Julia Miller School of Education	
Dear Dr Miller	
ETHICS APPROVAL No:	H-2019-237
PROJECT TITLE:	Smartphone Assisted Language Learning (SALL): an investigation into the effectiveness of the use of smartphones for English language teaching and learning from pedagogical and attitudinal perspectives
<p>The ethics application for the above project has been reviewed by the Low Risk Human Research Ethics Review Group (Faculty of Arts and Faculty of the Professions) and is deemed to meet the requirements of the <i>National Statement on Ethical Conduct in Human Research 2007 (Updated 2018)</i> involving no more than low risk for research participants.</p>	
You are authorised to commence your research on:	25/11/2019
The ethics expiry date for this project is:	30/11/2022
NAMED INVESTIGATORS:	
Chief Investigator:	Dr Julia Miller
Student - Postgraduate Doctorate by Research (PhD):	Mrs Shila Panadgoo
Associate Investigator:	Associate Professor Edward Palmer
Associate Investigator:	Dr Walter Barbieri
CONDITIONS OF APPROVAL: Thank you for addressing the feedback. The revised ethics application provided on the 22.11.2019 has been approved.	
<p>Ethics approval is granted for three years and is subject to satisfactory annual reporting. The form titled Annual Report on Project Status is to be used when reporting annual progress and project completion and can be downloaded at http://www.adelaide.edu.au/research-services/oreci/human/reporting/. Prior to expiry, ethics approval may be extended for a further period.</p>	

Participants in the study are to be given a copy of the information sheet and the signed consent form to retain. It is also a condition of approval that you immediately report anything which might warrant review of ethical approval including:

- serious or unexpected adverse effects on participants,
- previously unforeseen events which might affect continued ethical acceptability of the project,
- proposed changes to the protocol or project investigators; and
- the project is discontinued before the expected date of completion.

Yours sincerely,

Dr Douglas Bardsley
Convenor

Dr Anna Olijnyk
Convenor

The University of Adelaide

Appendix D2: Students' Pre-use Online Questionnaire

This survey is being conducted by Mrs. Shila Panadgoo and will form the basis for her PhD degree at the University of Adelaide. The title of the research is 'Smartphone Assisted Language Learning (SALL)' and as it has been explained in the related information sheet, it is about the use of smartphones for English language teaching and learning, and teachers' and students' attitudes to using smartphones to learn English. It will only take a maximum of 30 minutes to complete the questionnaire and all your answers will be confidential. If you have any concerns or questions about this study, please contact Shila Panadgoo at shila.panadgoo@adelaide.edu.au.

By beginning the survey, you acknowledge that you have read this information and agreed to participate in this research.

Thank you in advance for your time and help.

Please tick the answers.

Part A: Demographic Information and Smartphone Ownership and Usage

1) What is your gender?

..... Female

..... Male

..... Other

2) How old are you?

..... 18-25

..... 26-35

..... 36-45

..... 46-55

..... 56 and older

3) What is your first (home) language?

.....

4) What are you studying at the University of Adelaide (e.g., Bachelor/Master of Education, Biotechnology, Psychology, etc.)?

.....

5) What is your English language proficiency level?

..... Beginner to pre-intermediate

..... Intermediate to upper-intermediate

..... Advanced

6) How many smartphones do you have?

..... One

..... Two

..... Other. Please specify

7) What type of smartphone(s) do you have?

..... Android

..... iOS (iPhone)

..... Other. Please give the operating system name

8) What language(s) do you use on your smartphone(s) menu and why? Please tick the reasons – why you use that language on your smartphone – you can tick more than one reason for each language.

..... First (home) language.

..... It is my home language and easier to understand and work with.

..... It lets me connect with family and friends.

..... It is a habit.

..... It is my home country phone.

..... Other. Please explain

..... English.

..... I am in Australia and the apps are in English.

..... I need to practise using English.

..... I want to create an English environment to help me learn English.

..... I have always used English on my phone.

..... It is a habit.

..... It is user friendly.

..... It is my Australian phone.

..... Other. Please explain

..... Other language(s). Please say why

9) How much time do you usually spend using your smartphone each day?

..... about half an hour or less

- about 1 hour
- about 2 hours
- about 3 hours
- about 4 hours
- about 5 hours
- more than 5 hours

10) Have you ever used your smartphone for English language learning during your English language classes?

- Yes. Please say why
- No. Please give the reason(s).....

11) If yes, what apps and features do you usually use for language learning inside the classroom?

- Online dictionaries
- Camera
- Audio recording features
- Email
- Web browsers (e.g., Internet Explorer, Safari, Edge, Firefox, Chrome, etc.)
- Internet search engines (e.g., Google)
- YouTube
- Microsoft Office Apps (Word, Excel, PowerPoint, OneNote)
- Notepads (e.g., Evernote, Google Keep, Simplenote, etc.)
- Online learning platform such as Canvas/Moodle/etc.
- Other. Please specify using the box below

12) Have you ever used your smartphone for English language learning outside your English language classes?

- Yes. Please say why
- No. Please give the reason(s).....

13) If yes, what apps and features do you usually use for language learning outside the classroom?

- Online dictionaries
- Camera
- Audio recording features
- Email

- Web browsers (e.g., Internet Explorer, Safari, Edge, Firefox, Chrome, etc.)
- Internet search engines (e.g., Google)
- YouTube
- Microsoft Office Apps (Word, Excel, PowerPoint, OneNote)
- Notepads (e.g., Evernote, Google Keep, Simplenote, ...etc.)
- Online learning platform such as Canvas/Moodle/etc.

14) Please tick, **how many times in a week** you usually **use your smartphone** for the purposes below. Please also write the **total hours** you spend on each activity in a week in the last column.

In a typical week I use my smartphone to	Never	Under 5 times	5 - 15 times	15+
Look at a bilingual dictionary				
Look at a monolingual dictionary in my own language				
Look at a monolingual English learner's dictionary				
Look at grammar reference websites				
Look at a thesaurus				
Look at a concordancer				
Chat in English online				
Send English text messages				
Talk to people in English				
Read texts in English				
Send English emails				
Read English emails				
Write English Facebook, Twitter, or other social media posts				
Read English Facebook, Twitter, or other social media posts				
Surf the web				
Listen to podcasts/radio in English				
Watch movies, videos and/or TV programmes in English				
Learn English with language learning apps				
Visit English language learning websites				

Part B: Students' attitudes towards using their smartphones to learn English

<p>Please tick the box that best describes your feelings. If a question does not apply to you (e.g., because you have not used smartphones for language learning before this study), please tick 'not applicable'.</p>		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Not applicable
1	It is/would be easy for me to learn how to use my smartphone for English language learning.						
2	It is/would be easy for me to become very good at using my smartphone for English language learning.						
3	Using my smartphone for English language learning helps/would help me to learn more.						
4	Using my smartphone makes/would make it easier to do my language tasks.						
5	Time passes/would pass quickly whenever I am/would be using my smartphone for English language learning.						
6	Using my smartphone for English language learning makes/would make me to do more search.						
7	Using my smartphone makes/would make English language learning more interesting.						
8	I look forward to the time that I can use my smartphone for language learning inside the classroom.						
9	I prefer/would prefer to use my smartphone for English language learning rather than desktop or laptop computers, or tablets.						
10	I prefer/would prefer to use my smartphone for English language learning rather than learning through coursebooks and traditional ways.						
11	I need free-Wi-Fi to be able to use my smartphone for English language learning.						
12	I need my teacher's help and instruction to be able to use my smartphone for English language learning.						

Remarks

.....

.....

Thank you

Appendix D3: Students' Pre-use Interview Questions

1. When and where did you start learning English language, at school, in a private language institution, at university?
2. Were there any technologies (e.g., computers, laptops) available to you by your school or institution for language learning? What were they?
3. Do you use your smartphone for language learning?
 - a. What apps and features of your smartphones do you usually use for language learning?
 - b. How useful do you think the apps and features, you have used, were, and how have they helped you with your English language learning?
4. What technology (laptop, tablet, or smartphones) do you prefer to use for language learning? Why?
5. Do you have any specific styles or strategies for language learning?
6. Have you ever seen other students' educational and non-educational uses of smartphones inside classroom and how did you feel about? Did you find it distracting?
7. Have you ever used your smartphones for educational and non-educational purposes inside classroom?
8. What do you think the use of smartphones in the course will be like?
9. Do you think the use of smartphones in the course will be useful and help them with their language learning?
10. Would you like to add anything to what you mentioned?

Appendix D4: Students' Post-use Online Questionnaire

This survey is being conducted by Mrs. Shila Panadgoo and will form the basis for her PhD degree at the University of Adelaide. The title of the research is 'Smartphone Assisted Language Learning (SALL)' and as it has been explained in the related information sheet, it is about the use of smartphones for English language teaching and learning, and teachers' and students' attitudes to using smartphones to learn English. It will only take a maximum of 15 minutes to complete the questionnaire and all your answers will be confidential. If you have any concerns or questions about this study, please contact Shila Panadgoo at shila.panadgoo@adelaide.edu.au

By beginning the survey, you acknowledge that you have read this information and agreed to participate in this research.

Thank you in advance for your time and help.

Please tick and/or write down the answers.

Part A: Smartphone use and its problems

1) Did you face any problems with downloading and using Evernote to create an electronic vocabulary notebook?

..... Yes, Please tick the problems (you can tick more than one).

..... finding the app in the app shop/Google Play/App Store

..... downloading and signing up

..... creating new notebooks and notes

..... accessing the shared template and assessment Rubric

..... copy and pasting what was shared and completing creating your vocabulary notebook

..... Using dictionary and/or web browsers/search engine to find information via Evernote

..... Other. Please explain

..... No

2) Did you discuss your problems with your teacher and/or the researcher and/or any of your peers in class?

..... Yes, please say why

..... No, please say why

3) Could they help you with your questions or problems?

..... Yes

..... No

- 4) Did you also download and use the Evernote web version on your tablet or laptop?
 Yes. Please say why
 No. Please say why
- 5) Which one did you use more for completing your vocabulary notebook on Evernote?
 My smartphone. Please say why
 My tablet/laptop. Please say why
- 6) Which smartphone features and/or apps other than Evernote did you use for English language learning in class this term?
 Online dictionaries
 Camera
 Audio recorder
 Video recorder
 Email
 Web browsers (e.g., Internet explorer, Safari, Edge, Firefox, Chrome, etc.)
 Internet search engines (e.g., Google)
 YouTube
 Microsoft Office Apps (Word, Excel, PowerPoint, OneNote)
 Notepads (e.g., Evernote, Google Keep, Simplenote, etc.)
 Online learning platform such as Canvas/Moodle/etc.
 Mobile communication tools (e.g., WeChat, WhatsApp)
 Other. Please specify

Part B: Students' Post-use Attitudes towards SALL

Please tick the box that best describes your feelings. If a question does not apply to you (e.g., because you have not used smartphones for language learning before this study), please tick 'not applicable'.		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Not applicable
1	Learning how to use my smartphone for English language learning was easy.						
2	Becoming skilled at using my smartphone for English language learning was easy.						
3	Using my smartphone for English language learning helped me with learning the language more.						
4	Using my smartphone made doing my language tasks easier than I expected.						
5	Time passed quickly whenever I was using my smartphone for English language learning.						
6	Using my smartphone for English language learning made me do more search.						
7	Using my smartphone made English language learning more interesting.						
8	I look forward to time that I can use my smartphone for language learning inside the classroom next terms.						
9	I prefer to use my smartphone for English language learning rather than desktop or laptop computers, or tablets.						
10	I prefer to use my smartphone for English language learning rather than learning through coursebooks and traditional ways.						
11	Free Wi-Fi was available in my classroom.						
12	My teacher and the researcher told me how to use my smartphone for language learning and helped me with the problems I faced.						

Remarks

Please add any comments you think are necessary.

.....

.....

Thank you

Appendix D5: Students' Post-use Interview Questions

1. Do you think Evernote was an ideal app and the features which it gave you were enough for creating electronic vocabulary notebooks?
2. Did you download Evernote on your tablet/laptop? Did the app give you different feature on those devices?
3. What features and functions did the app offer you and did you face any problem with using any of those features?
 - 3.1. What did you do to resolve the problem(s)?
 - 3.2. What features do you recommend to be added to the app to become more appropriate for using it for vocabulary and pronunciation learning?
4. How useful did you find the use of Evernote for completing your tasks and activities?
5. Which smartphone-assisted task or activity did like the most? Which one did you like the least?
6. Which device did you use more for completing your vocabulary notebook and your other tasks and activities in class? Which one did you use to complete your work at home if needed? Why?
7. Do you think if somebody does not have laptop/tablet, smartphone can replace the use of those technologies?
8. Which collaborative vocabulary learning task did you like more, the one which you completed the work separately and then share your work, or the one which you started to work on the words and their related information together?
9. Do you think it was better if you had a template for creating your vocabulary notebook? Why?
10. How useful do you think the use of smartphones and Evernote to your vocabulary and pronunciation learning?
11. Do you think the use of smartphones in class make you more isolated or increased your chances of interaction with your peers and teacher?
12. Do you think the amount of smartphone use in class was ok, do you think it was better if it was more or less?

13. Do you think sharing knowledge made you focus on tasks and activities more and learn better?
14. Do you think you will continue to use your smartphone, Evernote, and the other apps which were introduced to you in the course for language learning?
15. How useful did you find creating an electronic vocabulary notebook for yourself?
16. Do you think teachers should use smartphones for English language teaching?
17. Would you like to add anything else to what you said?

Appendix D6: Students' Feedback Questions

1. I enjoyed

.....

2. I didn't enjoy

.....

3. I liked using my phone for

.....

4. I didn't like using my phone for

.....

5. I hadn't thought of using my phone for

....., but I'd like to do it again.

6. I will use my phone for

when I'm working on my own.

Appendix D7: Smartphone-assisted Vocabulary and Pronunciation Course



**A Short Smartphone-Assisted Vocabulary and Pronunciation
Course**

by

Shila Panadgoo

PhD Candidate at the University of Adelaide

March 2020

Introduction

As part of my PhD research project, a smartphone-assisted vocabulary and pronunciation course with four 90-minute sessions was designed and implemented by the researcher at an Australian University.

Section One: Course Details

Context

The course is designed for students who are doing bachelor or master's study at university and have English as an additional language.

Aims and Objectives

- To use a communicative learner-centred approach.
- To integrate the use of the students' smartphone into the activities.
- To design collaborative activities which will be completed through both face-to-face and virtual interactional communications.
- To foster learners' autonomy through giving students the opportunity to choose the daily vocabulary and the related activities that they would like to deal with.
- To familiarise students with useful vocabulary and pronunciation learning strategies.

Materials

Students' smartphones work as an unlimited source of information for both teachers and students. They can access online dictionaries, various websites, and useful information using the search engines on their phone. They can take advantage of a range of pre-installed apps on their phone, as well as commercial ones which are available to them via their phone store.

The basic version of Evernote app is used in this course by the teacher and students. The teacher uses the Work Chat platform of the app to contact and chat with the students whenever necessary. Students use the app for creating a vocabulary notebook for themselves. Instructional PowerPoint slides on the use of Evernote are used by the teacher to instruct the students on the use of the app. A printed version of the instruction is shared with the students to help them follow the instructions in class. Coxhead's Academic Word List (AWL) is also used as the vocabulary resource of the course, and it is shared with students via Evernote.

Teacher's Role

The main role of the teacher is to provide students with the structures for finding the answers, not to provide them with the answers.

Students' Role

To practice a learner-centred atmosphere in this classroom, learning is viewed as a process of shared decision making and the students are directed towards negotiating with their peers while completing tasks and activities. In addition, they are given the opportunity to choose the new Academic vocabulary that they would like to process and focus on in each session. Overall, they practise a variety of roles, including the role of a researcher, discoverer, designer, enabler, facilitator, communicator, reviewer and evaluator.

Assessment plan

No formal assessment such as tests and/or quizzes was designed for this course as participation in the course was totally voluntary. However, the students receive the teacher's feedback on all their work. Students were asked to complete a short online quiz to provide instant feedback at the end of each session and help the teacher make improvements throughout the course.

Session No & Overview	Length of the Lesson
<p style="text-align: center;"><u>Session 1</u> Introductory session Instruction on Evernote and its use (PowerPoint Slides) Coxhead 2000 AWL Hand-out</p> <ul style="list-style-type: none"> • Advantages of creating an electronic vocabulary notebook • Downloading, signing up and creating a vocabulary notebook on Evernote • Creating an example vocabulary notebook page • 	90 minutes
<p style="text-align: center;"><u>Session 2</u> Intentional vocabulary learning Evernote Coxhead (2000) AWL</p> <p>Learning 9 new academic words from AWL Practising the words in a paragraph writing activity More practice and recapping by telling a summary</p>	90 minutes
<p style="text-align: center;"><u>Session 3</u> Collaborative vocabulary review and pronunciation learning and practice Evernote BBC Learning English Website</p> <ul style="list-style-type: none"> • Creating vocabulary tests to test peers • Collaborative learning of 3 important pronunciation tips (Assimilation of /t/ followed by /j/, Intrusive /r/ & Schwa) • 	90 minutes
<p style="text-align: center;"><u>Session 4</u> Intentional vocabulary learning Evernote</p> <ul style="list-style-type: none"> • Learning 6 new academic words from the AWL • Using the words in a group discussion • Writing a summary of the discussion to recap 	90 minutes

Section Two: Lesson Plans

Lesson Plan 1

<p>Level: Upper-intermediate – advanced</p>	<p>Length of the lesson: 90 minutes</p>	<p>Lesson type: Smartphone-assisted vocabulary and pronunciation lesson</p>
<p>Main aims: at the end of the lesson, the students will have ... Learned about creating a vocabulary notebook as a vocabulary learning strategy Learned about the advantage of creating a personal vocabulary notebook, especially its electronic version Learned how to download and use Evernote to create an electronic vocabulary notebook Learned how to share their notebooks or notes with others on Evernote Learned how to access what is shared with them on Evernote Downloaded and used Evernote to create a vocabulary page for their chosen new word from Coxhead (2000) AWL and shared it with the teacher</p>		
<p>Subsidiary aims: Speaking</p>		
<p>Assumed knowledge: Students have possibly experienced creating a kind of vocabulary notebook in their English language journey, at least making the traditional paper version ones, and might be familiar with Evernote as a notetaking app and this allows the teacher to advance the session with the help of the students. However, it's very unlikely that they are familiar with all its features and have used the app for creating a vocabulary notebook for themselves. Overall, it will be interesting for them to see that they can use the phone that they like for creating a vocabulary notebook to keep a record of their words and practice them. Students will be interested in learning the most frequent words of the Academic Word List in the Academic Corpus proposed by Dr Averil Coxhead (2000), since learning and practising the words will help them with their academic study. But, as the students' level of English language knowledge is upper-intermediate to advanced and their English language vocabulary knowledge is at a good level, they might be familiar with most of the vocabulary in AWL, especially the</p>		

ones in the very first sub-list (e.g., sub-list 1-4). Therefore, following a learner-centred approach, they will be given the opportunity to look at the list and choose the words which are new to them, and they would like to deal with. Creating electronic vocabulary notebook pages in groups will be a fun and an engaging activity which will help students not only with vocabulary learning and retention, but also with learning different strategies in relation to vocabulary learning.

Anticipated problems:

Students who use their first language on their phone menu might have Evernote within their own language which will make it hard for the teacher to help her with problems and questions.

The students might face problems at different stages of downloading and using the app, especially with accessing what is shared with them on Evernote.

Students might prefer to use their tablets or laptop computer while they use Evernote.

Solutions:

Asked students to go to the settings on their phones and change the language of their phone into English first.

Teacher monitors students at all the times and works with individual students to help them with their problems and questions.

The teacher explains that they are free to use their laptop or tablet while they are out of class and when the course finishes if they prefer.

Materials:

- Computer and a large LCD screen
- Students' smartphones
- PowerPoint Slides (Instructions on downloading and using Evernote to create a vocabulary notebook)
- Hand-outs [Copy of the PowerPoint slides and Coxhead (2000) AWL, available at <https://www.victoria.ac.nz/lals/resources/academicwordlist> and a copy of the PowerPoint slides]

Procedure	Interaction	Timing	Materials	Aim
<p><u>Warmup and Introduction</u></p> <p>Teacher greets and asks students about how their day have been so far and what they have done.</p> <p>Teacher shows the aims of the lesson on the PowerPoint slide No 2:</p> <ul style="list-style-type: none"> • Vocabulary Notebooks and Their advantages • Evernote (General Description) • Downloading and Signing up Stage • Creating Notebooks and Notes • Sharing Notebooks and Notes • Accessing Shared Notebook(s)/Note(s) 	<p>T-Ss S-Ss S-T T-Ss</p>	<p>10 mins</p>	<p>PowerPoint slide # 2</p>	<p>To warm up and inform Ss of what they should expect from the lesson. This will help them with measuring their performance at the end of the class.</p>
<p><u>Schema-raising</u></p> <p>Teacher asks students to talk about the strategies they use for vocabulary learning (e.g., using dictionary, highlighting words in reading text and using dictionaries to find the meaning, writing them down somewhere, etc.).</p> <p>Then she shows a picture of a vocabulary notebook page to the students and ask them if they know what it is and try to elicit the word “vocabulary notebook” or “personal dictionary” from the students. She also asks them if they have ever created one for themselves and what kind of information they have added to their words.</p>	<p>T-Ss S-Ss S-T T-Ss</p>	<p>10 mins</p>	<p>PowerPoint slides 3 (without definition)</p>	<p>To activate the students’ schemata through personalising which is encouraging and engaging. This also allows T to diagnose the Ss’ knowledge of the topic.</p>

Teacher finishes the instructions by showing an example vocabulary page to give students an idea of how they can work on their vocabulary pages.			Slides 21	
<p><u>Recap</u></p> <p>Teacher distributes a copy of Coxhead (2000) Academic Wordlist handout and asks Ss to go through the first four pages of the list and choose a new word to work with in class and create a vocabulary notebook page for that that word.</p>	T-Ss S	10 mins	Hand-out [a copy of Coxhead (2000) AWL]	To evaluate the students' learning and their confidence with the use of Evernote and diagnose their weaknesses and problems to help them with and recap the lesson.
<p><u>Students' Instant Feedback</u></p> <p>Teacher asks students to copy and paste the feedback questions that she had shared with them earlier, on a separate note, complete the questions and share the page with the teacher.</p>	T-Ss S-T	10 mins	Evernote	To collect students' instant feedback via completing a short quiz and help the T make improvements throughout the course.

Lesson plan 2

Level: Upper-intermediate – advanced	Length of the lesson: 90 minutes	Lesson type: Smartphone-assisted vocabulary and pronunciation lesson Supporting skills: Writing and speaking
Main aims: at the end of the lesson, the students will have ... Learned 9 new words from Coxhead (2000) AWL using their smartphone		
Subsidiary aims: To practice writing and speaking skills		
Assumed knowledge: Students will be interested in learning the most frequent words of the Academic Word List in the Academic Corpus proposed by Dr Averil Coxhead (2000), since learning and practising the words will help them with their study at the University of Adelaide. But, because the students' level of English language knowledge is upper-intermediate to advanced and their English language vocabulary knowledge is at a good level, they might be familiar with most of the vocabulary in AWL, especially the ones in the very first sub-list (e.g., sub-list 1-4). Therefore, following a learner-centred approach, they will be given the opportunity to look at the list and choose 3 words which are new to them, and they would like to deal with. Creating electronic vocabulary notebook pages in groups will be a fun and an engaging activity which will help students not only with vocabulary learning and retention of the words, but also with learning different strategies in relation to vocabulary learning.		

<p>Anticipated problems: Students might prefer to use their tablets or laptop computer while they use Evernote.</p> <p>Students might have forgotten to bring their printed copy of Coxhead (2000) AWL</p> <p>Students might be reluctant to record their voice in the final speaking activity.</p>	<p>Solutions: Listen to the students' reasons for choosing to work with their tablet/laptop. Then explain that except for the smaller screen, everything is the same on the phone and their tablet/laptop, and in less than 15 minutes they will get used to working with their phone.</p> <p>Teacher will share a copy with them via Evernote Work Chat.</p> <p>Explain the advantages of recording their voice while speaking (e.g., they can find out about their pronunciation, grammatical problems, they can have an idea about their choice of words, and overall, they can find out about their speaking accuracy and fluency).</p>
<p>Materials:</p> <ul style="list-style-type: none"> • Students' smartphones • hand-outs [Coxhead (2000) AWL] 	

Stages & Procedure	Interaction	Timing	Materials	Aim
<p><u>Warmup and Introduction</u></p> <p>Teacher greets and asks students how their day have been so far. A quick chat about COVID 19 and reminding the important points they need to consider and follow to keep themselves and others safe.</p> <p>Teacher sends the aims of the lesson to the students using the work chat feature on Evernote:</p> <ul style="list-style-type: none"> • learn 9 new academic words from AWL • Write a paragraph using the new words • Give a summary of their partner’s paragraph 	<p>T-Ss S-Ss S-T</p> <p>T-Ss</p>	<p>10 mins</p>	<p>Evernote Work Chat</p>	<p>To warm up and inform Ss of what they should expect from the lesson, so they measure their performance in the class.</p>
<p><u>Schema-raising</u></p> <p>Teacher asks students to have a quick review of what they dealt with in the previous session and what they were asked to do.</p> <p>Then, she asks the students to share the vocabulary notebook page that they have created in the previous session with the other students in class on Evernote, look at other students’ pages and see what information their peers have added to their new words.</p> <p>Teacher also asks individuals to give a short description of a peer’s work that they particularly like and give their reason(s) for their choice.</p>	<p>T-Ss S-Ss S S-T</p> <p>T-Ss</p>	<p>10 mins</p>	<p>Students’ vocabulary notebooks on Evernote</p>	<p>To let the students become familiar with each other’s work. Also let them to talk about their likes in relation to their peers’ vocabulary notebook and their reasons behind it. This helps with raising the students’ schemata for the next stages of the lesson.</p>

<p><u>Intentional Vocabulary Learning through Collaboration</u></p> <p>Teacher gives instruction:</p> <p>Pick 3 words from AWL, enter them into your notebook on Evernote (check with the other students in your group to make sure you are not working on the same vocabulary). Use a separate note for each word and search for the information you would like to include in your vocabulary notebook (e.g., definition, pronunciation in phonetic symbols or a link, part of speech, picture, example sentence, etc.)</p> <p>Share your whole notebook with me and your separate three vocabulary notes with your peers.</p> <p>Copy and paste your peers' vocabulary pages onto your own notebooks to have 6 more pages of vocabulary. In total you'll have 9 vocabulary pages with their information in your notebook.</p> <p>Instruction Check Questions (ICQs):</p> <ol style="list-style-type: none"> 1. Are you going to work individually? 2. Are going to work on your own chosen words? 3. Are you going to find all the information related to an individual word by yourself? 4. Are you going to share your vocabulary notebook with your peers? <p>Teacher monitors the students during the whole activity.</p>	<p>T-Ss S S-Ss</p> <p>S-T</p> <p>S</p> <p>T-Ss Ss-T</p>	<p>20 mins</p>	<p>Students' vocabulary notebooks on Evernote Dictionary and search engines</p>	<p>To give instruction and let students practise using the app and adding information to their vocabulary notebook and see how they can take advantage of the sharing option of the app to share their work. If necessary, teacher can ask ICQs to make sure of the students' understanding.</p> <p>Teacher also monitors students and when their notebooks are shared via the app (virtual world) helps students with their problems and questions and gives feedback on their work.</p>
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<p>Students might be reluctant to record their voice, so the teacher explains the advantages of recording their voice while speaking.</p> <p>Teacher also explains that they need to listen to their voice at home and assess their own summary telling in terms of the use of the words and their pronunciation and they can share their own voice and self-assessment with the teacher for her feedback if they like.</p>	<p>T-Ss</p> <p>T-Ss</p>			
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Lesson plan 3

Level: Upper-intermediate – advanced	Length of the lesson: 90 minutes	Lesson type: Smartphone-assisted vocabulary and pronunciation lesson Supporting skills: Speaking
<p>Main aims: At the end of the lesson, the students will have ... Created vocabulary tests and tested one another on the vocabulary they have learned in the previous session Collaboratively learned 3 important pronunciation tips and practised them</p>		
<p>Subsidiary aims: To practice listening, writing and speaking</p>		
<p>Anticipated problems: Students might not know what kind of tests they can create.</p>		<p>Solutions: Teacher will give them examples (e.g., fill-in-the blanks, matching activity to match the words with their meanings or a picture which represents the meaning of the word, crosswords)</p>
<p>Materials:</p> <ul style="list-style-type: none"> • Students' smartphones and earphones • Links to 3 pronunciation tips (Assimilation of /t/ followed by /j/, Intrusive /r/ & Schwa) on BBC Learning English Website shared via Evernote app 		

Stages and Procedures	Interaction	Timing	Materials	Aim
<p><u>Warming up and Introduction</u> Teacher greets and welcome students to the lesson. Then, she asks how they have been and what arrangements they have made to deal with COVID 19.</p> <p>Teacher shares the aims of the lesson with the students via Evernote and asks them to go to the Work chat to review them:</p> <ol style="list-style-type: none"> 1. To create vocabulary tests on their own three words and test their peers on those words. 2. To learn 3 pronunciation tips collaboratively and practice them 	<p>T-Ss S-Ss S-T</p> <p>T-S</p>	<p>10 mins</p>	<p>Evernote Work chat</p>	<p>To warm up and provide clear and accurate aims which help Ss measure their performance in class.</p>
<p><u>Schema-raising</u> Teacher asks students to work in a group and discuss if they have ever created a vocabulary quiz, give the name of some vocabulary tests, and explain what kind of test they will go with if they are asked to create a quiz and why. Teacher monitors when students talk about their experiences and ideas.</p> <p>Before going to the next stage and working on Evernote, T asks students to stick to their phone while working in class.</p>	<p>T-Ss S-Ss S-T Ss-T T-Ss</p> <p>T-Ss</p>	<p>10 mins</p>		<p>To activate the students' schemata and prepare them for the next stage which they will be engaged in creating a vocabulary quiz test to test their peers on the vocabulary they have learned in the previous session.</p>

<p><u>Creating a Vocabulary Quiz Test</u> <u>Teacher gives instruction:</u></p> <p>Use a new note in your vocabulary notebook on Evernote to create a quiz with your own 3 words from the previous session. You can create any kind of quiz and use the ideas from your discussion.</p> <p>When you are done, share your quiz note with two peers.</p> <p>Go to your work chat, open the two quizzes which have been shared with you by your peers, copy and paste them right after your own quiz on your quiz page in your own vocabulary notebook.</p> <p>You will have three minutes to answer all three quizzes.</p> <p>Teacher monitors students via the app while they are working on the app to create, share and answer the quizzes. Those whose work is done will be checked by the teacher on the app and students can see teacher's feedback at the end of their quiz page/note.</p>	<p>T-Ss</p> <p>S</p> <p>S-Ss</p> <p>S</p> <p>S</p> <p>T-Ss</p>	<p>30 mins</p>	<p>Evernote Work Chat, Evernote note, Students' vocabulary notebook on Evernote</p>	<p>To review the vocabulary that they learned in the previous session.</p>
<p><u>Learning and Practising Pronunciation</u> Teacher shares separate links to a pronunciation page on BBC Learning English website with the students and gives instruction:</p>	<p>T-Ss</p>	<p>40 mins</p>	<p>Evernote BBC Learning English Website</p>	<p>To teach students some important pronunciation tips through collaboration.</p>

<p>Go to work chat and tap on the link which I have just shared with you.</p>	<p>S</p>			
<p>Use your own headset and listen to the pronunciation tip which is taught by the speaker. You can listen as many times as you feel necessary to learn the tip and practice it.</p>	<p>S</p>			
<p>When you feel confident enough with the pronunciation tip you have listened to, write a summary of what you have learned with examples on a separate note on the app, practise it and be ready to discuss it with the class and record yourself while discussing. Share your summary with me and your peers when you are ready to talk to the class.</p>	<p>S S-Ss S-T</p>			

Lesson plan 4

Level: Upper-intermediate – advanced	Length of the lesson: 90 minutes	Lesson type: Smartphone-assisted vocabulary and pronunciation lesson Supporting skills: Writing and speaking
<p>Main aims: At the end of the lesson, the students will have ... Learned 6 new words from Coxhead (2000) AWL using their smartphone</p>		
<p>Subsidiary aims: To practise writing and speaking skills</p>		
<p>Assumed knowledge: Students' level of English language knowledge is upper-intermediate to advanced, so their English language vocabulary knowledge is at a good level. This means that they might be familiar with most of the vocabulary in Coxhead (2000) AWL, especially the ones in the very first sub lists (e.g., sub list 1-4). Following a learner-centred approach, they will be given the opportunity to look at the list and choose 2 words from the list that are new to them. The teacher will make sure individual students have different words.</p>		
<p>Anticipated problems: Students might face problems while they are all simultaneously working on the same note.</p>	<p>Solutions: Autonomy is part of communicative language teaching methodology. Let the students chat and find the best remedy to solve their problem by themselves but instruct them if they are stuck.</p>	
<p>Materials:</p>		

- Students' smartphones
- hand-outs [Coxhead (2000) AWL], teacher also shared a copy of AWL with students via Evernote just in case they have forgotten to take their printed copy with them into the class

Stages and Procedures	Interaction	Timing	Materials	Aim
<p><u>Warm up and Introduction</u></p> <p>Teacher greets and asks students how their day has been so far.</p> <p>Teacher also shares the outline of the different phases of the lesson with the students using Evernote work chat and asks the Ss to go to Evernote Work chat on Evernote and review the lesson outline:</p> <ol style="list-style-type: none"> 1. learn 6 new academic words from AWL 2. practise using the words in a group discussion 3. write a summary of their discussion 	<p>T-Ss S-Ss S-T T-Ss</p>	10 mins	Evernote Work Chat	To warm-up and inform Ss of what they should expect from the lesson, so they can measure their performance in the class.
<p><u>Schema-raising</u></p> <p>Teacher asks students to share their idea and talk about their likes and dislikes with the use of Evernote features and how it was integrated into their activities.</p> <p>Teacher also monitors students while discussing their ideas and asks questions if necessary.</p>	<p>T-Ss S-Ss S-T T-Ss</p>	10 mins		To help activate the students' schemata. Students' talking about likes and dislikes is a kind of personalising which is encouraging and engaging and allows the T to find out about the students' feelings in relation to the use of Evernote and lets the teacher consider the

				<p>students' preference while incorporating the use of the app in the future.</p> <p>T also monitors students during the activity, so she can give feedback or help students with their questions or problems if necessary. She can also help students if they're stuck.</p>
<p><u>Intentional Vocabulary Learning through Collaboration</u></p> <p>Teacher gives instruction:</p> <p>Work in groups of three people.</p> <p>Each person should pick two words from the AWL and share them with the rest of the group via Work Chat on the Evernote app.</p> <p>Decide together which kinds of information about the six new vocabulary items you want to include in your vocabulary notebook. You must find at least three types of information in total.</p> <p>Each person should find one piece of information for each individual word. e.g., if you decide as a group to include meaning, pronunciation, and example sentences for each item, one person in the group will be responsible for finding the</p>	<p>T-Ss</p> <p>S-Ss S</p> <p>S-Ss</p> <p>S</p>	45 mins	<p>Evernote Work Chat and students' vocabulary notebook on Evernote</p>	<p>Students practise building up their vocabulary notebook through collaboration with one another. This activity gives them the chance to interact.</p>

<p>meanings of the words, one for finding the pronunciation, and one for writing example sentences.</p> <p>Use Work Chat in Evernote to share your information with the rest of the group.</p> <p>Put the information together to make six pages in your vocabulary notebook – one for each new word.</p> <p>Teacher asks ICQs if necessary.</p> <p>ICQs:</p> <ol style="list-style-type: none"> 1. Are you going to work individually? 2. Are going to work on your own chosen word? 3. Are you going to find all the information related to an individual word by yourself? 	<p>S-Ss</p> <p>S</p>			
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<p><u>Group Discussion</u> Teacher gives instruction:</p> <p>Take turns as an enabler and pick a word which you have learned today and think of a discussion topic or a question which the word can be used in. Then, discuss your topic or question with the rest and ask about their idea.</p> <p>Take part in the discussion and discuss your idea using the words that you have learned today.</p>	<p>T-Ss</p> <p>S</p> <p>S-Ss</p> <p>S-Ss</p>	<p>15 mins</p>	<p>Students' vocabulary notebook on Evernote</p>	<p>Most human speaking is unplanned in nature and in this activity, students practise the new vocabulary use in an unplanned and personalised speaking activity. This gives them a chance of face-to-face interaction and increases their motivation as they exchange their ideas and discuss them freely and without being worried about making mistakes.</p>
<p><u>Recap (Writing a Summary)</u> Teacher gives instruction and ask students to review their discussion and write a summary of their discussion in the form of a paragraph in their vocabulary notebook on Evernote.</p>	<p>T-Ss</p> <p>S</p> <p>S-T</p>	<p>10 mins</p>	<p>Students' vocabulary notebook</p>	<p>To give the students more chances to practise and review and recap on what they have learned.</p>

Appendix D8: CELTA/Delta Experts' Feedback Sheet

Experts' Feedback Sheet

Please provide feedback on the attached course. The course details are given below, followed by space for your comments. You are also welcomed to annotate the attached course file with comments.

Smartphone Assisted vocabulary Course

Course details

Length of course: 4 x 90 minutes, discrete sessions (i.e., not all students attend every session), twice a week for 2 weeks

Course objectives:

- To use a communicative learner-centred approach.
- To integrate the use of the students' smartphone into the activities.
- To design collaborative activities which will be completed through both face-to face and virtual interactional communications.
- To foster learners' autonomy through giving students the opportunity to choose the daily vocabulary and the related activities that they would like to deal with.
- To familiarise students with useful vocabulary and pronunciation learning strategies.

Learning outcomes:

By the end of the course the students will be better able to:

- use smartphone features and apps to learn new vocabulary chosen from Coxhead's Academic Word list (AWL)
- use smartphone features and apps to improve their pronunciation

Target students: international students at an Australian university; age 18+; IELTS 6-7

Course element	Comment
Objectives	
Course outcomes	
Content	
Course activities	
Value of using smartphones for course activities	
Ease with which other teachers could implement this course	
Other comments	

Appendix D9: CELTA/Delta Experts' Interview Questions

1. Have you ever used smartphones for the purpose of teaching?
 - 1.1. If yes, how satisfied were you with the use of smartphones?
 - 1.2. Did you face any problems with the use of smartphones and apps inside the classroom?
If yes, how did you fix them?
2. Do you think that it is a good idea to use smartphones for language teaching and learning inside the classroom?
3. Do you think it is a good idea to use smartphones for out of class activities and homework?
4. Do you think the use of smartphones facilitates language teaching?
5. Do you think the use of smartphones facilitates language learning?
6. Do you think the use of smartphones in class is engaging and fun for students?
7. Do you think the use of smartphones helps students to complete their tasks and activities more quickly?
8. Do you think it is easy for students to learn how to use smartphones in their lessons?
9. Do you think it is easy for teachers to learn how to use smartphones in their lessons?
10. Have you ever encouraged your trainee teachers to use smartphones in their lessons?
11. Do you think the use of smartphones in the course that you reviewed can help students learn vocabulary and pronunciation?
12. Do you think that the use of smartphones in this course has increased the students' chances of interaction with each other?
13. Do you think that it would be easy for teachers and students to use the smartphones features and apps in this course for language teaching and learning?
14. Will you use any of the ideas and activities in this course in your own teaching?
15. Would you recommend the ideas and activities in this course to your trainee teachers or other teachers?