The effect of training in Mobile Assisted Language Learning on attitude, beliefs and practices of tertiary students in Pakistan

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Abstract

Pakistan has two official languages, Urdu and English, where Urdu is the contact language and English is the language of business, higher education, military, government and is considered the symbol of status in the society. Due to religious pressure and language as a power struggle among political parties, choosing a language as a medium of instruction has always been a controversial issue in Pakistan. As a result, many language policies were developed since the creation of Pakistan in 1947, favouring either of the official language. Consequently, English language teaching lacked innovation and expertise which directly affected students' performances (Ammar, Ali, Fawad & Qasim, 2015). Many researchers have pointed out the most important factors continuing to affect the performance of students such as outdated teaching techniques, stress on rote learning, crowded classrooms, poor planning while designing a syllabus and lack of motivation on the part of teachers as well as students (Awan & Shafi, 2016; Khan, 2011; Mohammad, Masum, Ali & Baksh, 2017; Yaqoob & Zubair, 2012). The incorporation of technology, especially mobile devices, might be a solution to the above problem. In other contexts, many researchers have reported that learners view mobile devices as a supportive aid which allows them to gather information, study, work, and communicate with their teachers and peers in an effective manner. Flexibility, low cost, small size, durability, convenience and interactivity are few of the advantages of mobile devices in the language learning process (Ogata & Yano, 2004; Huang, Huang, Huang, & Lin, 2012).

In the last couple of decades Pakistan has progressed dramatically in the field of technology especially in the use of mobile phones. The telephone penetration rate per 100 individuals (teledensity) has jumped from 4% in 2004 to 74.98% in 2018 with an increase in total mobile subscribers from 5 million in 2004 to 149 million in 2018 (Pakistan Telecommunication Authority, 2018a). Although, the above-mentioned scenario ensures the availability of a certain form of technology in Pakistan, it does not guarantee that students possess adequate knowledge and expertise in the use of mobile phones for language learning. Researchers have claimed that technology-enhanced environments allow learners to take a significant amount of responsibility for their own learning, but a lack of individual expertise, limited knowledge, and reduced comfort level result in major constraints in getting maximum benefits from the use of technology (Hubbard, 2004; Lai, Shum & Tian,2016; O'Bryan, 2008; Romeo & Hubbard, 2010). The present descriptive case study explores the attitudes, beliefs and practices of undergraduate students at a public university in Pakistan regarding the use of smartphones (a modern form of technology and readily available in lower- and upper-middle income economies at low cost) for enhancing English writing skills. It further investigates the effect of training in the use of ubiquitous smartphones on learner autonomy.

1. *What are the digital practices of undergraduate students both inside and beyond the classroom in Pakistan?*

2. *What are the effects of learner training in MALL on learners' attitude towards, beliefs about, and use of smartphones for autonomous language learning?*

A mixed method approach was used and both qualitative and quantitative data were collected using various tools. The research design was descriptive in nature, which divided the study into two main phases. The first stage included carrying out an online survey for digital practices which yielded a data set of 316 participants. The second stage consisted of conducting an online training course in MALL techniques in which 23 participants volunteered to participate. In the present study both Hubbard's (2004) learner training principles and Romeo and Hubbard's (2010) three-part training framework (Technical, pedagogical and strategic training) were used to inform the design of the course. This was an eight-week training course in MALL, hosted through a blog: Weeks 1, 2 & 3 were technical training, Weeks 4, 5 &7 pedagogical training and independent writing practice and Weeks 6 & 8 were used for strategic training. Participants practiced self-directed use of smartphones for writing and writing support during these weeks. Online surveys, semi-structured interviews, participants' written feedback, frequency of blogposts and number of words written in each blog post were used as data collection tools. The data analysis stage consisted of quantitative analysis using R and qualitative thematical analysis through NVivo.

The results of the study revealed that undergraduate students in Pakistan were well equipped with digital tools, having smartphones (96%) as the most accessed digital tool. However, they were not using their smartphones for learning English language rather their use was primarily for entertainment and making phone calls. The results of the study showed that the training was successful in developing positive attitudes among students towards use of smartphones for enhancing English writing skills. By the end of the course, students perceived smartphones to be a helpful digital learning tool and showed an increased use of smartphones for practicing English writing skills on their blogs. The results of the study also showed that all students reported a perceived improvement in their English writing skills after practicing English writing through their personal blogs. They became more careful about word choice and spelling, and spent more time in planning and revising their English writing tasks. Overall, 92% of students reported an improvement in English writing skills which helped them to perform better in exams and in class assignments in English. An improvement in students' confidence, motivation and engagement in English classroom activities was also reported by the English teacher.

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List of abbreviations

BZU	Bahauddin Zakariya University
CALL	Computer Assisted Language Learning
CPD	Continuing Professional Development
CS	Computer Science
ECAR	EDUCAUSE Centre for Applied Research
EFL	English as a Foreign Language
ELTR	English Language Teaching Reform
ESL	English as a Second Language
GDP	Gross Domestic Product
ICT	Information and Communication Technology
IT	Information Technology
ITU	International Telecommunication Union
MALL	Mobile Assisted Language Learning
MBB	Molecular Biology and Biotechnology
M.Phil	Master of Philosophy
MS	Management Sciences
NCE	National Committee for English
PhD	Doctor of Philosophy
PE	Pakistani English -Paklish
SEET	Student Experiences and Expectations of Technology
SS	Social Sciences
UNESCO	United Nations Educational, Scientific and Cultural Organisation
ZPD	Zone of Proximal Development

Glossary

Affective variables are negative psychological factors which effect learners' language learning process. These variables include anxiety, low motivation, low confidence, and frustration.

Affective filter hypothesis was proposed by Krashen in 1981. He described motivation, self-confidence and anxiety as affective variables and argued that high motivation and self-confidence and low level of anxiety lowers the affective filter, resulting in more successful acquisition of second language.

Affordances are the qualities or properties of an object that categorise its possible use. In this study, affordances of digital devices represent the possible learning opportunities offered by these devices to the learners.

Attitude is a settled manner of thinking or feeling about a person or a thing. It is the tendency or orientation of a person's mind and can define the way one behaves.

Autonomous language learning is a situation where learners take responsibility for their own learning and act to learn language independently.

Beliefs described as the psychologically held understanding of a phenomenon (Richardson, 1996). Second and foreign language learners' presumptions about the language learning process and the way it should be learned can affect their attitude and behaviour towards language learning.

Collaborative learning is a language learning theory which advocates the construction of knowledge in collaborative environment where learners work together to construct meaning.

Computer Assisted Language Learning (CALL) is the language learning with assistance of computers as well as mobile devices.

Digital Devices are the electronic computing devices which can receive, store, process or send digital information. These are physical units with a computer or microcontroller. Examples of digital devices include laptop and desktop computers, mobile phones, tablets, etc.

Digital practices is an umbrella term used to represent the actual application or use of digital devices for various educational and non-educational purposes.

Educational technology is defined by the Association for Educational Communications and Technology as "the study and ethical practice of facilitating learning and improving performance by creating, using and managing appropriate technological processes and resources" (Richey, Silber & Ely, 2008, pg. 1). Educational technology involves technological tools, both hardware and software, and theory and practice of educational approaches to learning. Common examples of educational technology are: learning management system, computers, tablets, mobile devices, interactive whiteboards, social networks, etc.

Effect is the change which is caused by an action.

High-income economies are defined by the World Bank as countries with a gross national income per capita of more than US$ 12,055 (World Bank, 2018). Examples of high-income economies are the USA, New Zealand, and Canada.

Interactivity is the process in which two people or things work together and communicate with each other. In this study, interactivity means the communication process between humans and digital devices.

Learner autonomy was first introduced by Holec in 1981. Learner autonomy is defined as the ability of the learner to take control and responsibility of his/her own learning.

Learner training is the training provided to learners to develop learning strategies and skills to become effective, independent learners.

Low-income economies are defined by the World Bank as countries which have exhibited lowest indicators of socioeconomic development. These countries have a gross national income per capita of US$ 955 or less (World Bank, 2018). Examples of low-income economies are Nepal, Afghanistan, Uganda, and Yemen.

Lower middle-income economies are the countries with a gross national income per capita between US$996 and US$3,895 (World Bank, 2018). These economies include Ghana, Sudan, India, Kenya, and Egypt. Pakistan is categorised by the World Bank as a lower-middle income economy.

Mobile learning is the learning assisted by mobile devices, which can be usually accessed anywhere and anytime.

Mobile Assisted Language Learning (MALL) is language learning assisted or enhanced using mobile devices. These mobile devices include mobile phones, portable music players, laptops, tablets, etc. In this study smartphones were used as mobile devices.

MALL practices is the term representing language learners' actual use of mobile devices for language learning purposes.

Medium of instruction is the language used in teaching in both educational and noneducational settings.

Mobile devices are digital devices which can be carried easily by the user. These are devices which have capacity of general computing and wireless communication. The most common examples of mobile devices are laptops, tablets, mobile phones, and e-readers, etc.

Pedagogy is the method and practice of teaching. Pedagogy is also the study of principles and approaches to teaching and learning adopted by the teachers.

Perception is the way in which something is understood and interpreted. In the present study, it is the view, idea, understanding or opinion of students about use of digital devices for language learning.

Practices are what people do habitually. In the present study, practices are what language learners do habitually or customarily for language learning purposes both in formal and informal learning context.

Smartphones are particular type of mobile phones with stronger hardware and software capabilities as compared to feature phones. Smartphones usually have touchscreen interface, Internet access and an operating system capable of running downloaded applications.

Upper middle-income economies are described by the World Bank as the countries with a gross national income per capita between US$3,896 and US$12,055 (World Bank, 2018). These economies include Armenia, Jordan, Cuba, Peru, and China. The lower- and upper-middle income economies were previously known as 'developing countries'. Much previous research was focused on and has used the term 'developing countries'. To avoid possible deficit connotations associated with this earlier terminology, 'lower- and upper-middle income economies' will be used in this study as a more current descriptor.

Publications arising from this thesis to date

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Rashid, S., Cunningham, U., & Watson, K. (2017). Task-based language teaching with smartphones: A case study. *Waikato Journal of Education, 17*(2), 33-40. (http://tandc.ac.nz/tandc/article/view/167)

Conference presentations during my PhD journey

Rashid, S., Cunningham U., & Watson, K. (2018, July). *English writing practice with smartphones: A case study.* Paper presented at Digital English World-Wide: New Methods in Data Compilation, Management, and Analysis, Chemnitz, Germany.

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Rashid, S. (2016, October). *Language of instruction and the digital divide in Pakistan.* Poster session presented at Learning and Teaching Languages Symposium, Christchurch, New Zealand.

Rashid, S. (2015, October). *Impact of training on Mobile Assisted Language Learning practices of tertiary students in Pakistan.* Poster session presented at Learning and Teaching Languages Symposium, Christchurch, New Zealand.

Chapter 1: Introduction

1.1 Introduction

Mobile devices are becoming more and more popular every day. According to a recent study, there were 6,915 million users of mobiles, 93.5% of the total global population in 2015 (MobiForge, 2014). Statista (2018) projected these estimates and reported that the number of mobile users will reach five billion by 2019. Statista (2018) further reported that a major share in this rapid growth in the mobile phone market is held by smartphones which will contribute 2.9 billion towards an estimated user count of 5 billion in 2019. With this enormous growth in the number of users, mobile companies are introducing new technologies and applications to make the use of mobiles more universal by expanding their circle of involvement in many fields of life. The field of education does not stand alone especially their effectiveness for delivering language learning materials to the learners has been proven by many studies (Belanger, 2005; Chinnery, 2006; Evans & Johri, 2008; Thornton & Houser, 2005).

These new emerging mobile technologies have also shifted second language teaching and learning towards Mobile Assisted Language Learning (MALL) (Kukulska-Hulme, 2009; Stockwell, 2010). Franklin (2011) pointed out that modern mobile devices had already then become very popular among younger generations around the world. MALL has become an advanced field of technology-enhanced language teaching, offering many features of language teaching and learning through its anywhere and everywhere feature (El-Hussein & Cronje, 2010; Hockly, 2013; Martin & Ertzberger, 2013).

Studies over the past two decades have shown that rapidly evolving mobile technology has provided language teachers and learners with significant educational benefits which include recording and playing audio clips, low cost, handiness, learner friendliness, ease of access, and interactivity (Kukulska-Hulme & Shield, 2008; Stockwell, 2010; Wishart, 2008). Kristoffersen and Ljungberg (1998) argued that MALL helped students in various ways. They could download

applications in real time scenarios, simultaneously or consecutively, and as well as this the course management system could be accessed through these devices comprising of notifications, weekly activities, feedback, assignments, courses, and grading reports, which ultimately increased their motivational level and active involvement in language learning. Chinnery (2006) reported another aspect of mobile devices as being the "Translators". Software programs such as MOBi-LEARN (a smartphone app which offers interactive language learning programs) and Talking Phrasebook (an app which translates the phrases in target language and learners can read or hear these phrases) had helped EFL students. Oral quizzes, audio assignments, recording audio journals, using different language learning websites, podcasting, access to live talking tutors were some of the potential uses of MALL reported by researchers (Belanger, 2005; Chinnery, 2006; Evans & Johri, 2008).

Since English is the first global language, its users are increasing every day with many countries adopting it as their first foreign language. It has become the language of business, higher education institutions, communications, science, information technology, entertainment and diplomacy at global level. Hence, the number of people eager to learn the English language is increasing. This situation has also given rise to an ever-growing demand for English language learning techniques/tools which can yield maximum output. The incorporation of technology especially mobile devices is the modern solution to the above problem. Many researchers (e.g. Farley et al., 2015) have reported that learners look at this technological tool (the mobile device) as a supportive aid which allows them to gather information, study, work, and communicate with their teachers and peers in an effective manner. Particularly, the use of mobile devices can be very helpful for independent language learning in lower- and upper-middle income economies where mobile technology is much cheaper and affordable than other educational technologies.

However, the use of technology has been shown to have both positive and negative effects on language learning (Burbules & Callister, 2000). It heavily depended upon how it was used, by whom and for which purpose. Burbules and Callister (2000) further claimed that the appropriate manner of technology use involved technology being transformative and a student-centred tool which should be used with appropriate pedagogy.

Researchers have regarded learner autonomy as an important variable in language learning. Autonomous learners not only accept responsibility for their own learning, they work with teachers and peers to set learning goals, plan and execute learning activities, and review and evaluate their learning (Holec, 1981; Little, 1991). Nguyen (2012) presented that fostering learner autonomy can enhance focused and purposeful learning and minimise the barriers between learning and living which can extend to learners social and professional life. Hence, developing learner autonomy in language learners in the use of technology is very important to promote appropriate use of technology in learning English language.

However, many researchers have pointed out that in order to gain maximum benefits from CALL resources, students need extensive preparation, continuous guidance and follow-up support, especially in self-study contexts (Darasawang & Reinders, 2010; Nielson, 2011; Reinders, 2006). Reinders (2006) also pointed out that autonomous learning in CALL environments need specific skills which can be taught through direct and indirect methods (Reinders & Hubbard, 2013). This thesis attempts to explore the effect of training in MALL on undergraduate students' attitude towards, beliefs about, and use of smartphones for autonomous language learning.

1.2 Statement of the problem

Pakistan has two official languages, Urdu and English, where Urdu is the contact/national language and English is the language of military and official documents, a key to success and a status symbol in the society. This issue was

turned into a political struggle among different political parties to claim favour from masses in the support of each language, resulting in the emergence of many language policies over the years. This situation also gave rise to three different types of schools; English medium schools where the medium of instruction was English; Urdu medium schools with Urdu as a medium of instruction and religious schools (Madrassahs) with Urdu as a medium of instruction. The most recent language policy launched in 2009 made it compulsory to teach Urdu, English and one regional language up to year five, when mathematics and sciences could be taught either in English or Urdu. Afterwards, the medium of instruction had to be English. Ammar, Ali, Fawad, and Qasim (2015) claimed that the policy was developed without proper planning and without considering the opinions of teachers, curriculum designers and school leaders. Moreover, the policy was not implemented completely in both rural and urban schools. Hence, teachers and students both are still using Urdu language in English language classrooms (Asif, Bashir, & Zafar, 2018; Manan, Dumanig, & David, 2017). Ammar et al. (2015) concluded that this struggle of power among political parties and lack of proper planning while developing a language policy resulted in poor conditions of learning and teaching English language in Pakistan. Furthermore, when students from the three above-mentioned types of schools enter the tertiary level of education where the medium of instruction is English, they all are put together in the same classes. In these classes, it becomes very challenging for teachers to cope with the pressure of completing the syllabus and cater to the individual needs of these students coming from different educational backgrounds with different proficiency levels in English.

Many researchers have pointed towards this issue and have argued that English language teaching in Pakistan lacked innovation and expertise which directly affected the students' performances (Abbas & Arif, 2012; Hasan, 2010; Shamim, 2008; Rashid, 2017). While investigating the causes behind the poor performance of students, Abbas and Asif (2012), Hasan (2010), and Manan, Dumanig, and David (2017) found that the outdated teaching techniques, stress on rote learning,

crowded classrooms, poor planning while designing a syllabus and lack of motivation on the part of teachers as well as students were the most important factors (Rashid, 2017).

The incorporation of technology, especially mobile devices in learning English language outside the classroom, might be a solution to the above problem. Researchers have claimed that modern technologies offer more meaningful and authentic language use to language learners in the target language (Richards, 2015; Tolosa, Ordóñez, & Guevara, 2017) than are available in the classroom, consequently, practicing English language outside the classroom improves students' in-class performance (Robb & Kano, 2013). Many researchers have reported that learners view mobile devices as a supportive aid which allows them to gather information, study, work, and communicate with their teachers and peers in an effective manner (Farley et al., 2015; Sharples, Taylor, & Vavoula, 2007). Flexibility, low cost, small size, durability, convenience and interactivity are few of the advantages of mobile devices in the language learning process (Huang et al., 2012; Ogata & Yano, 2004).

In the last couple of decades Pakistan has progressed dramatically in the field of technology especially in the use of mobile phones. The telephone penetration rate per 100 individuals (teledensity) has jumped from 4% in 2004 to 73.68% in 2018 with an increase in total mobile subscribers from 5 million in 2004 to 149 million in 2018 (Pakistan Telecommunication Authority, 2018a). Haque and Popalzai (2013) conducted a survey in Pakistan in 2013 and found that 25-35 year-old respondents (about 64% of total respondents) were the most frequent users of the Internet, and mobile devices were the second most frequently used tools to access the Internet. The majority of the respondents (64%) reported that they always remained connected through different digital devices. However, the use of mobile technology in the educational context is very limited in Pakistan. Abbas and Asif (2012) argued that Pakistani teachers do not use technology in their classes as they fall behind in the field of instructional technology and are still using the

conventional methods for language teaching. They have also pointed out several reasons behind it including lack of resources, lack of computing skills, focus on examinations and restrictions by institutional management in the use of technology. Furthermore, students are also not aware of the potential of technology to learn English language.

1.3 Purpose of the study

Considering the above-mentioned scenario, the present study aims to investigate the use of digital devices, including mobile phones, by undergraduate students at Bahauddin Zakariya University (BZU), Multan, Pakistan. These students come from three different types of schools and have low-beginner to high-advanced levels of proficiency in the English language. This study also aims at investigating the demographic factors which directly affect the use of mobile devices for English language learning. It is assumed that the MALL practices of these students are based on their individual expertise in using mobile devices for general purposes, which may not be sufficient to gain the maximum benefit from their MALL practices. Hence, it is suggested that MALL training may have an effect on students' beliefs and attitude towards the use of mobile devices in language learning and on the frequency of their MALL practices.

1.4 Research questions

The following research questions were used to focus this investigation of the digital and MALL practices of undergraduate students studying four different majors at BZU, and the effect of training on their beliefs and frequency of MALL practices for autonomous language learning:

1. *What are the digital practices of undergraduate students both inside and beyond the classroom in Pakistan?*
2. *What are the effects of learner training in MALL on learners' attitude towards, beliefs about, and use of smartphones for autonomous language learning?*

The first research question explored the digital practices of students both for educational and non-educational purposes. It also gathered information on whether and how students were using their smartphones for learning English and on students' previous digital and MALL practices, as well as demographic factors (gender, medium of education during high school and major subject in their undergraduate studies). This provided a clear picture of what was already being practiced and how to gain maximum outcomes from the ever-growing mobile industry in Pakistan by employing MALL practices.

The second question is of utmost importance as it attempted to fill a gap in MALL research. Much previous empirical research on MALL practices reported that no or very little MALL training was provided before conducting the research. Jarvis (2014) argued that even expert users of mobile phones were not expected to have full competence of how to use mobile phones for language learning. Hence the MALL practices among even those expert users of mobile phones are very limited. The second research question not only explored the effect of training on MALL practices of undergraduate students outside the classroom but also documented how students perceived the use of smartphones and their overall attitude towards using their smartphones for practicing English writing skills.

1.5 Theoretical influence and conceptual framework

As stated earlier, this study focused on exploring the effect of learner training in MALL on attitudes towards, beliefs about and use of smartphones for autonomous language learning. The study used a combined training model based on Hubbard's (2004) principles of learner training and Romeo and Hubbard's (2010) three-part framework, underpinned as explained below by the work of Vygotsky (1978) as the primary theoretical framework. This is complemented by learner autonomy theory (Little, 2004), Krashen's affective filter hypothesis (Krashen, 1981), constructivist learning theory (Novak, 1998) and self-determination theory (Deci & Ryan, 1985).

Hubbard (2013) defined learner training "as a process aimed at the construction of a knowledge and skill base that enables language learners to use technology more efficiently and effectively in support of language learning objectives than they would in the absence of such training" (p. 164). Learner autonomy, self-directed learning and learner strategy training are inter-related concepts in learner training (Hubbard, 2013), especially, in technology-enhanced activities which are carried out outside the classrooms, and are usually without the direct supervision of the teacher. Hubbard (2013) reported that learner training can play a positive role in language learning in technology enhanced environments.

The learner training in the present study was influenced by zone of proximal development (ZPD) rooted in Vygotsky's social constructivism. ZPD is described as "the distance between the actual developmental 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" (Vygotsky, 1978, p. 86). The active construction of knowledge is promoted by the teacher who acts as a facilitator and provides authentic and challenging tasks to the student. Dobberfuhl-Quinlan (2018) argued that ZPD "is the area just outside of a students' comfortable ability" (p. 3). Hence, the tasks must be developed by keeping in mind the level of student. Furthermore, the tasks must be challenging enough to raise the curiosity of the learner, neither too difficult nor too easy. The learner training in the present study was based on a combined model of Hubbard's (2004) learner training principles and Romeo and Hubbard's (2010) three-part framework for learner training (see Section 5.2 for detailed discussion). Specifically:

> **Technical training**: Romeo and Hubbard (2010) claimed that technical training is important for learners to use technology effectively for language learning. Learners' lack of technical knowledge and skills related to digital devices can lead to frustration and waste time due to technical issues related to these devices. This can have a negative effect on learners' motivation and

willingness to use technology for language learning. (see Section 5.2 for detailed discussion)

Pedagogical training: Pedagogical training is aimed at making learners aware of their own learning process so that they can make informed decisions about why they should use technology and how to use them to gain maximum benefits for learning English language. In the present study, Hubbard's (2004) five principles of learner training (see Section 5.2 for detailed discussion) were used to provide pedagogical training to the students. These principles are listed below:

- Experience CALL yourself
- Give learners teacher training
- Use a cyclic approach
- Use of collaborative debriefings
- Teach general exploitation strategies

Strategic training: The use of effective strategies is very important for successful language learning. The strategic training in Romeo and Hubbard's (2010) framework was influenced by O'Malley and Chamot's (1990) classification of learner strategies: cognitive strategies; meta-cognitive strategies and socio-effective strategies. A detailed description of Romeo and Hubbard's concept of strategic training in given in Section 5.2.

The tasks for this training were constructed keeping in mind the ZPD of the participants of the study. Scaffolding (another important aspect of Vygotsky's social constructivism), which is the support and help provided to the learners to reach higher cognitive level, was joined together with the awareness of the participants' ZPD to provide adequate assistance to stimulate understanding and progress in learning. Keengwe, Onchwari, and Agamba (2014) pointed out that students "are expected to be active learners as well as to take responsibility of their own learning experiences" (p. 889). Hence, scaffolding is later removed to help the

learners achieve independence in their learning (Dobberfuhl-Quinlan, 2018). In the present study, the training was developed on a continuum which moved from more scaffolding to little or no scaffolding to make students more independent in their learning.

The present study was influenced by learner autonomy theory presented by Little (2004). Little (2004) proposed three principles of developing learner autonomy in language learners: 1) learner empowerment; 2) learner reflection; and 3) appropriate target language use. The use of blogs on smartphones outside the classrooms in this study offered students' control of their own learning. The tasks were designed in such a way that learners could choose how much they wanted to learn and decide their level of engagement with the tasks. The tasks also offered students opportunities to reflect on their own learning and use target language for writing on their blogs.

The decision to use mobile phones (smartphones) for this study was influenced by Krashen's affective filter hypothesis which describes motivation, self-confidence and anxiety as affective variables (Krashen, 1981). High motivation and self-confidence and low level of anxiety lowers the affective filter, resulting in more successful acquisition of second language. Due to learner friendliness, ease of access, interactivity and other advantages of using mobile phones for language learning (Kukulska-Hulme & Shield, 2008; Stockwell, 2010; Wishart, 2008), the use of mobile phones can increase learners' motivation and active involvement in the learning process (Kristefferson and Ljungberg, 1998). The economical and pedagogical benefits attached with the use of mobile phones in English language learning and teaching can serve to lower the affective filter, which can promote autonomous use of smartphones for practicing English language skills.

The use of blogs for practicing English writing was influenced by constructivist learning theory which emphasises a student-centred learning approach, allowing students to develop deeper understanding and construct their own knowledge individually and collectively (Novak, 1998). Powell and Kalina (2009) argued that

there are two aspects of constructivist learning: cognitive and social. Seel (2011) further elaborated that cognitive constructivism, based on Piaget's work (1972), puts learning into the paradigm of individual knowledge construction (Liu & Mathews, 2005) whereas social constructivism based on Vygotsky's work promotes learning as a social process (Swan, 2005). The use of blogs for practicing English writing skills promotes both social and cognitive aspects of constructivist learning theory. Many researchers have claimed that learners construct knowledge individually and negotiate meanings socially by becoming the part of blog community (Bakar, Latif, & Ya'acob, 2010; Ducate 1 & Lomicka, 2008; Hourigan & Murray, 2010; Raith, 2009; Yakut & Aydin, 2017).

Lastly, the study was influenced by self-determination theory (SDT) (Deci & Ryan, 1985). Dincer and Yesilyurt (2017) pointed out three factors which influence motivation in learners: autonomy, competence and relatedness. These factors are directly related to motivation and positive learning outcome (Deci & Ryan, 2002). Learners' motivation moves on a continuum ranging from non-determined to self-determined. The two major types of motivations identified by SDT are extrinsic motivation and intrinsic motivation. In the case of autonomous use of technology for language learning, the intrinsic motivation is also influenced by willingness to deal with the uncertainties and complexities of technology use (Kop & Fournier, 2011) and a willingness to engage in informal language learning activities (Wong & Looi, 2012). Furthermore, Lai (2013) pointed out that perceived usefulness and educational compatibility of technology with language learning needs and preferences also influenced learners' motivation. The use of smartphones to practice English writing skills on blogs provides learners with intrinsic motivation through novelty, challenging tasks and opportunity to explore and learn. Figure 1.1 presents the conceptual framework of the thesis through depicting the focus of the thesis and theoretical influences.

Phase 1: RQ1

- Existing digital and MALL practices, and future preferences

Theoretical influence of the study

Zone of Proximal Development (Vygotsky, 1978)

Affective Filter Hypothesis (Krashen, 1981)
- Motivation
- Self-confidence
- Low anxiety

Learner Autonomy Theory (Little, 2004)

Constructivist Learning Theory (Novak, 1998)
- Individual learning
- Social learning

Self-determination theory (Deci & Ryan, 1985)

Phase 2: RQ2

- Development of learner training course
- Methodological decisions related to choosing smartphones as digital tools for learner training
- Use of blogs for practicing English writing
- Interpreting qualitative data to explore effect of training on students' attitude towards, beliefs about and use of smartphone for practicing English writing

Figure 1.1 Conceptual framework of the study

1.6 Research design and methodology overview

Overall, the present study employed a descriptive research design with a mixed method approach. To investigate the research questions presented above, both quantitative as well as qualitative data collection and analysis methods were adopted. The research context for the study was a public university in Pakistan, Bahauddin Zakariya University, Multan (BZU).

The study was carried out in two phases. Phase 1 explored the first research question: *What are the digital practices of undergraduate students both inside and beyond*

the classroom in Pakistan? During Phase 1, quantitative data was collected through an online digital practices survey. The participants were studying at four different departments in different semesters of their undergraduate studies ranging from one to eight. In Phase 1, 316 undergraduate students participated. The aim of Phase 1 was to explore the use of digital devices already being used by undergraduate students and their future preferences in the use of technology for learning. Phase 1 also served as a base line for Phase 2 as no research has been conducted to document which kind of technologies undergraduate students use and prefer in Pakistan. The digital practices survey collected demographic information as well as data on students' use of digital tools for both educational and non-educational purposes, in general and for learning English language in particular.

Phase 2 explored the second research question of the study: *What are the effects of learner training in MALL on learners' attitude towards, beliefs about, and use of smartphones for autonomous language learning?* The participants of Phase 2 were students studying in the first semester of their undergraduate degrees. An intact class of 23 students at Institute of Biotechnology and Molecular Biology at BZU participated in the study with the support of their English teacher. The students were provided with learner training on an online platform through a course blog. The training course was eight weeks long in which students were trained in the use of smartphones for publishing blog posts on their individual blogs. Training in how to set up a blog and how to publish blog posts was also provided. Video tutorials were used for training the students. Data was collected through the use of multiple tools: a background information survey administered at the beginning of the training course; the number of blog posts published by each student and the number of words used in each blogpost; pre- and post-interviews with the students; written feedback provided by the students; a follow-up survey at the end of the training course; and an interview with the English teacher.

1.7 Significance of the study

Khan, Al-Shihi, Al-Khanjari, and Sarrab (2015) argued that lower- and upper-middle income economies such as countries in the Middle-East are far behind educationally advanced and high-income economies in the use of mobile devices in education. Khan et al. (2015) further pointed out that the adoption of mobile devices in education is dependent upon country context and individual users' limitations, hence high-income economies' mobile learning model cannot be straight-forwardly adopted in lower/upper middle-income economies' contexts. Esichaikul, Lamnoi and Bechter (2011) also advocated for an adaptive e-learning system where learners' knowledge and behaviour level are integral to the adaptation of technology. Since this study was carried out in a lower-middle income economy (Pakistan), the results can be beneficial for MALL material designers, developers and educational policy makers in guiding how maximum benefits can be attained by providing training to the students.

The majority of Asian countries have one or more languages other than English as their official language but are adopting English-medium education at all levels of education. A study of how the medium of education affects tertiary students' use of digital technologies can support educational policy makers in making policies regarding the medium of education in their respective countries. The results can also help English language teachers in lower- and upper-middle income economies where teachers have limited resources but both teachers and students have access to mobile phones. The results of this study can guide teachers and policymakers on how incorporating technology in language teaching at low expense and with the latest methodologies through the use of smartphones can improve English language learning and teaching. The results yielded by this study can also guide non-native speakers of English in the lower- and upper-middle income economies in using their smartphones for learning and improving their English language proficiency.

1.8 Organisation of the thesis

This thesis does not follow a conventional layout. The study was carried out in two phases, each phase having different methodology and participants from the other. To keep the research easier to understand for the reader, each phase was dealt as independent chapter with its own respective literature review, methodology and findings. A background of the research context i.e Pakistan is provided in Chapter 2. The pilot study and an overview of the main study methodology is presented in Chapter 3. Phase 1 of the study is reported in detail in Chapter 4. Phase 2 is reported in Chapter 5. The discussion of the findings of both the phases is presented in Chapter 6. A more detailed overview of the thesis chapters is presented below:

Chapter 2 explains the background of the study (the Pakistani context) so that the research methodology and findings can be interpreted accordingly. It describes various aspects related to the Pakistani variety of English, the Pakistani education system, language policy, the dilemma of language of instruction and the current situation of learning and teaching English in Pakistan. It further highlights the local and foreign projects carried out for improving English language teaching in Pakistan, especially the integration of computers in language learning and teaching, and its failure to produce the desired results. At the end of the chapter, an overview of MALL and the evident potential of the mobile sector as an alternative solution to the integration of technology in teaching and learning English language in Pakistan is presented.

Chapter 3 presents a pilot study and an overview of the methodology used in this research. It starts with a presentation of the research questions and a discussion of some key concepts. Later, the description of the preliminary research design which was tested through pilot study is described. Details of the pilot study are provided in the chapter along with the findings of the pilot study which lead to some important changes in the research tools and research design of the main study. The research context is also described here in detail. Since the study was carried out in

two phases, the methodology of each phase is described in detail in the relevant chapters. However, an overview of the main study research design, the data collections tool used in both the phases of the main study and the relevant data analysis methods are described in this chapter.

Chapter 4 describes the study carried out during Phase 1 and reports the findings for the first research question of the study: *What are the digital practices of undergraduate students both inside and beyond the classroom in Pakistan?* The chapter is divided into five sections. The first section describes the previous literature on the use of technology among students for various purposes, especially studies carried out in Pakistani context and establishes why is it important to document students' digital practices before moving ahead to Phase 2. The second section describes how the data collection tool for Phase 1 was developed. The third and fourth sections describe the methodology and participants respectively. The last section reports the findings which are further subdivided into two sections: use of technology for educational and non-educational purposes and use of smartphones for learning English language.

 Chapter 5 reports the findings of the study's second research question: *What are the effects of learner training in MALL on learners' attitude, beliefs and use of smartphones for autonomous language learning?* The chapter starts with a description of previous studies conducted in the field of using blogs for language learning and learner training, and of learner autonomy and then describes the theoretical frame of learner training. In the next section, the methodology, participants, learner training and data collection tools are described. The last section reports on the results of the study in relation to the second research question.

Chapter 6 discusses the thesis results together and draws several conclusions. The chapter summarises the key results and findings reported in Chapter 4 and 5 followed by a discussion of them in the light of previous literature. The next section discusses the limitations of the study and recommendations for future research. At the end of the chapter the implications of the study are discussed.

Chapter 2: Background and literature review

Chapter overview

This chapter explains the background of the study (the Pakistani context) to provide appropriate context for the following discussion of the research methodology and findings. The first section of the chapter (2.1) describes various aspects of the Pakistani variety of English, the Pakistani education system, language policy, the dilemma of language of instruction and the current situation of learning and teaching English language in Pakistan. The second section (2.2) highlights the local and foreign projects carried out for improving English language teaching in Pakistan, especially the integration of computers in language learning and teaching, and its failure to produce the desired results. The third section (2.3) of the chapter presents the overview of MALL and the evident potential of the mobile sector as an alternative solution to the integration of technology in teaching and learning the English language in Pakistan.

2.1 The Pakistani context

Pakistan is a developing country situated on the western edge of South Asia. It has approximately 184 million people of which 38% live in urban areas and 62% live in rural areas. The Ministry of Education and Training and Standards in Higher Education (2014) declared that the gender ratio in Pakistan was 105.6 males to 100 females and the country had very low educational indicators with 42% of the population (age 10+) being illiterate.

In order to fully understand the background of the research problem, it is important to understand the education system in Pakistan. The Ministry of Education and Training and Standards in Higher Education (2014) recognises three types of schools in Pakistan:

1. Public schools come under the public sector formal school system, which is the largest service provider in Pakistan. These types of schools get a high number of enrollments from the students who live in rural or semi-urban localities and those from low-income families. The majority of these schools are Urdu-medium schools, with a lower number of English-medium schools.

2. Private schools are preferred by upper-middle class families; they offer two types of curriculum for the students; the formal national curriculum and the Cambridge International Examinations. These schools are further divided into two types on the basis of the medium of education: Urdu-medium and English-medium private schools. In contrast to the public schools, private schools have qualified and trained teachers, high quality classroom facilities and imported educational materials.

3. The third type of school is Madrassahs (religious schools). These schools provide free education, boarding and lodging to the children of needy and poor families from rural and remote areas of the country. The curriculum of these schools includes Urdu and English languages as subjects, and mathematics and general sciences along with the religious subjects. The medium of education in these schools is Urdu.

EP-Nuffic (2015) provides an overview of primary and secondary education in Pakistan. According to EP-Nuffic (2015) formal primary education starts at the age of five and lasts until year/grade 5. Year/grade 6 to 8 constitutes middle school which leads into secondary education. Students receive the Secondary School Certificate after the successful completion of two years of education, and the Higher Secondary School Certificate after successful completion of two more years of secondary education. This certificate also indicates successful completion of twelve years of education.

These students with twelve years of education come from three diverse types of schools, as mentioned earlier, having studied diverse types of curriculum in

different school systems. However, when these students enter their next stage of education i.e. bachelor's degree, they do not find any separate colleges or universities which can provide them education aligned with their previous schooling. On the contrary, all students with twelve years of education who enter university are put together in the same colleges and universities.

In Pakistan, four types of bachelor programs are offered: bachelor (pass), bachelor (honours), professional bachelor and postgraduate bachelor. The bachelor (pass) consists of two years of education and is considered an introductory university platform, whereas the bachelor (honours) program consists of three years of education. The professional bachelor program consists of four or five years of education depending upon the major subject of the study. The postgraduate bachelor program is offered after completion of a bachelor (pass) program and is a further three years of education. Higher education leads towards masters and PhD degrees after completion of a bachelor's degree. Figure 2.1 presents a graphical representation of the education system in Pakistan.

Doctor of Philosophy
Duration of study (2–5 years)

Master of Philosophy
Duration of study 2 years

Master's Degree
Duration of study (1-2 years)

Postgraduate Bachelor's Degree
Duration of study (2–5 years)

Postgraduate Certificate/Diploma
Duration of study (1–2 years)

Bachelor Honours and Professional Degree
Duration of study (3-5 years)
Bachelor Pass Degree
Duration of study (2 Years)

Certificate/Diploma
Duration of study (0.5–3 years)

Higher Secondary School
Year 11 – 12

Secondary School
Year 9 - 10

Elementary/Middle School
Year 6 – 8

Primary School
Year 1 - 5

Pre-Primary School
Year 0

Figure 2.1 Education system in Pakistan (Adapted from Imran, 2013)

2.1.1 Pakistani English

According to Shamim (2008), Pakistan has six major regional languages besides Urdu and English, which are the official languages. Urdu is the mother tongue of more than 8% of the population and is the national language as well as the medium of communication at low-level government administration. English is the most prestigious language of the society. It is considered the language of educated Pakistanis and serves as a gateway to success, higher education, and white-collar jobs (Hasan, 2010). According to Manan and David (2014), the languages that are more powerful in a nation become the main languages of all the vital areas of the country, which may include media, administration, education and law. Consequently, these languages not only grow in status and usage, but also become status symbols of power. In the case of Pakistan, English is the officially mandated powerful language and is used in all the important sectors of power. Besides, proficiency in English language is not only considered a gateway to individual success but also necessary for the nation's progress (Shamim, 2007).

McArthur (1998) referred to the variety of English spoken in Pakistan as Pakistani English, Paklish, or PE. Pakistani English was first recognised as a separate variety of English in the 1970s and 80s (Hashmi, 1987). A report on English language quantitative indicators published by the British Council in 2010 indicated that 49% of the Pakistani population was able to speak the Pakistani variety of English to at least an intermediate level.

Mansoor (2002) identified four major sources which characterised the Pakistani variety of English: 1) word borrowings from Urdu and regional languages as well as some other national languages from neighbouring countries; 2) word-formations using prefixes and suffixes; 3) loan translations; and 4) the vocabulary which is no longer used in British Standard English (BSE). Mansoor (2002) claimed that BSE enjoyed the status of the pedagogical norm and many people writing in English in Pakistan use BSE. Rahman (1990) identified PE to be very similar to Indian English.

Talaat (2002) carried out a study on the form and functions of English in the Pakistani context and classified the Pakistani variety of English into four sub-varieties. According to Talaat (2002), the first variety, *Anglicized PE*, differed marginally from BSE on phonological grounds, whereas the second variety, *Acrolect PE*, differed slightly from BSE on phonological, syntactic and lexico-semantic grounds. Both these varieties of PE are spoken by only a few Pakistanis and have high intelligibility for foreigners. Rahman (1990) pointed out that *Acrolect PE* is spoken by those who have studied in English-medium schools and also had exposure to English language after completing their education. The third and fourth varieties, *Mesolect* and *Basilect PE*, differed more from BSE. Basilect PE (used by speakers with little formal education) had least intelligibility for foreigners and its users were reported to be very inconsistent in its use, making Mesolect PE the most used variety of Pakistani English within the country. Mansoor (2002) claimed that *Mesolect PE* is mainly used by the middle class in Pakistan.

2.1.2 Language policy in Pakistan

English was first introduced in the British Education Policies for the Indian Subcontinent in 1832 (Abbas & Asif, 2012). Lord Thomas Macauley clearly stated in his *Minutes on Indian Education* (1835), that the English language must be introduced in the education system of the Indian Subcontinent with the sole purpose of creating a class "with Indian blood and colour but British in taste, morals, opinions and intellect" (as cited in Chakravorty, 2014, p. 41). This class was entitled to help the British rulers in governing the Indian common people and to work as interpreters for their monarchs (Khurshid, 2009). According to Ramanathan (2005), English-medium and vernacular-medium schools (where a regional language is the medium of instruction in schools; e.g. Sindhi is the medium of instruction in many schools in Sindh province of Pakistan) originated during British rule to serve the elite class along with other political benefits. This policy was adopted by Pakistani governments from the very start of Independence in 1947, consequently English was declared the second official language of Pakistan.

Gupta (1972) argued that choosing one or more official languages relies upon both socioeconomic and political considerations. In the case of Pakistan, as observed by Ammar, Ali, Fawad, and Qasim (2015), religious pressure was another aspect which played a key role in the declaration of Urdu as the first official language and English as the second official language. In 1973, the new constitution favoured Urdu over English. According to Article 251 of the Constitution of 1973 (which is the presently active constitution in Pakistan), it was decided to develop and facilitate the Urdu language in the coming years in such a way that it could replace English both at official and national level. In 1989, the scenario changed again, and the newly elected prime minister of Pakistan announced that English would be taught from year 1, rather than from year 4 in schools. Since this policy was launched without any prior planning and without consulting educational planners and school leaders, it created gaps in the language performance and the expectations in the schools. This situation prevailed until 2009 when a new education policy was announced.

The Ministry of Federal Education and Professional Training (2015) revised the National Education Policy in 2009 and made it compulsory to teach English, Urdu and one regional language as subjects. It was an option to teach mathematics and sciences either in English or in Urdu in the first five school years but afterwards the medium of instruction had to be English. At tertiary level, English language courses are a required part of undergraduate programmes, mostly offered during the first year of study. Some postgraduate programmes also offer courses in English.

Ammar et al. (2015) pointed out that the current educational policy made it clear that the English language is not only part of the curriculum in Pakistan but is also a medium of instruction. However, little attention had been paid to teaching methodologies and language learning, which left much language teaching to teachers with no formal training in teaching methodologies or using language labs (Ammar et al., 2015; UNESCO, 2015c). Hence, students' communicative

competence remains very low. There are also no clear statements in the policy about textbooks. The current practice is to utilise foreign textbooks that are not adapted for Pakistani culture (Mahmood, Asghar, & Hussain, 2012). Mansoor (2002) argued that lack of cultural and religious aspects in English textbooks creates confusions in learners' mind about their ethnic and religious identities. He further pointed out that maximum inclusion of culturally relevant (Pakistani) content in textbooks could have better impact on students' proficiency in functional English, keeping in mind that in English studies at tertiary level English literature is more in focus than the English language. The policy also faced many problems in its implementation, such as teachers' inability to use English as a medium of education, especially in rural areas (where 65% to 70% of the population lives), teachers' lack of proficiency in English and subject knowledge, students' attitudes, etc.

2.1.3 English language teaching in Pakistan

As a result of there being two official languages in Pakistan, the medium of instruction controversy has been the biggest challenge for educational policy makers. It has always been seen as a power struggle between different political groups (Rahman, 1997). Different language movements emerged on the political stage pushing English aside since 1947 with the creation of Pakistan, yet the English language continued to be the major mode of official communication (Mansoor, 2004). The social and material benefits attached to the English language have increased its demand in Pakistan among students, parents and middle-class professionals (Khattak, Usman, Khan, Abbasi, & Ahmad, 2011; Rahman, 2001; Shamim, 2008). To cope with this higher demand a large number of English language institutes have emerged besides public and private schools. As English-medium education is associated with a well-resourced and high-quality education institution (Rahman, 2002), a large increase in the development of new English-medium schools with a range of fees catering to low to medium income families has also been observed. These schools offer English-medium education with a low

standard of education (Manan, David, & Dumanig, 2015)). Shamim (2008) asserts that even at public institutions, Urdu medium of instruction has low status when compared to English medium.

In a study analysing the textbooks being used in public and private English-medium schools in Pakistan, Yaqoob, and Zubair (2012) claimed that there was a difference of content in the textbooks of both types of schools. The textbooks in use at public schools were written by Pakistani writers and convey Pakistani culture, whereas western culture was focused in the textbooks written by foreign writers used in private schools. Hence, textbooks widened the gap between social classes in Pakistan, where those who had studied western culture through their textbooks were considered closer to the West as compared to their counterparts who studied Pakistani culture through their textbooks (Dildar, Hassan, Ali, & Juni, 2015).

Yaqoob and Zubair (2012) further pointed out that students in elite English-medium got full exposure to English language both at school as well as at home. Even in their leisure time, their activities were fully dominated by the English language. Hence, they were highly proficient English speakers. Most of these students went abroad for higher education and the remaining attended universities in Pakistan. Students from middle class English medium schools were good in writing, better in reading and listening but less proficient in speaking. The lower-class English medium schools and public schools produce students with beginning to low-intermediate proficiency level in English. Yaqoob and Zubair (2012) concluded that when students from different types of schools enter the tertiary level studies in Pakistani universities where the medium of education is English, they create a diverse classroom environment where students have beginning to high level English proficiency.

Ammar et al. (2015) added that these different types of schools, which cater to different curricula by opting for diverse medium of instructions, have given rise to differences in ethnic and religious identities and ideologies, which in turn leads to both aversive and accepting feelings towards English language in students.

Ammar et al. (2015) further pointed out that this state of mixed attitude is also one of the major explanations for low performance by Pakistani students. Ammar et al. (2015) regarded English language learning as more a "tense and troublesome activity than a pleasant exercise" for students in Pakistan. (p. 113)

Along with the troublesome situation of text books in Pakistani classroom, teaching methods are also a neglected area. Teachers, especially in rural areas, are solely relying on the grammar translation method (Awan & Shafi, 2016) accompanied with English spelling drills and rote learning of precise definitions of words (Khan, 2011), which has generated unsatisfied students and low performance in English language. Similar results were recorded by Mohammad, Masum, Ali, and Baksh (2017) who conducted a study to analyse English language teaching practices at a public secondary school in Pakistan. The researchers used classroom observations, interviews and checklists to collect the data. The researchers found no difference in the teaching practices carried out by English teachers and those of other subjects such as General Sciences and Pakistan Studies. Furthermore, a teacher-centred approach was used by the teachers, which hindered any opportunity for language practice by students in the classrooms.

At tertiary level, the English language courses are managed by the Department of English of the respective university (Shamim, 2011). For this purpose, the Department of English usually hires visiting lecturers and keeps its permanent faculty for teaching of English literature and/or linguistics courses to its own students. The visiting lecturers teach an English language syllabus within various departments, except the Department of English. The undergraduate English language courses are usually 48 hours in duration, offered during first year of study.

 Shamim (2011) reported that the English language programmes at professional universities and postgraduate level are managed by the respective departments or the faculty of social sciences. There is generally no prescribed syllabus for these programmes and teachers usually design their own English courses with emphasis

on content knowledge assessment instead of language skills (Shamim, 2011). Shamim further pointed out that these courses are offered in crowded classrooms and taught with very little use of technology, focusing on examination outcomes instead of developing academic literacy.

Sahito, Siddiqui, Khawaja, Shaheen, Saeed, and Laghari (2017) conducted a study at undergraduate level in Pakistan to investigate students' views about teaching of English. Five teachers and forty undergraduate students participated in the study. Qualitative data in the form of interviews was collected. The results revealed that about 90% of the students were not satisfied with the language learning facilities provided during the class and particularly mentioned the unavailability of language laboratories, computers, multimedia and audio-visual aids.

Despite deteriorating conditions of English language learning and teaching in Pakistan, people are very enthusiastic about learning English (Hasan, 2010). Thinking it a symbol of prestige, they spend a huge amount of their income and time on this area. However, despite these efforts, there are number of problems in the way of teaching and learning English language (Hasan, 2010). The poor performance of students has always persisted throughout the years. A study conducted by Abbas in 1998 found that the pass percentages of students in English subject in secondary and higher secondary exams were between 18 and 20%. The situation has improved slightly yet has not reached a satisfactory level: 47% of the students who appeared in intermediate examination in 2014 scored passing marks (The Board of Intermediate and Secondary Education Bahawalpur, 2015). Many researchers have pointed out factors involved in the poor performance of students of English, such as overcrowded classrooms (Khan & Iqbal, 2012), teachers' workload, poor infrastructure (Ahmad, Khan, & Munir, 2013), unqualified English teachers (Hasan & Ahmed, 2015) and lack of language teaching facilities (Mohammad et al., 2017). However, the most vital factor in the poor performance of students is often incompetent teachers with a lack of formal training for language teaching (Hasan, 2010; Sarwar, Ahmad, & Hyder, 2017). Relying only on

the outdated grammar-translation method made students good at grammar and vocabulary, but they lacked proficiency in all other aspects of the language, especially speaking. Hasan (2010) and Shamim (2008) argued that in order to make the language learning process a productive experience, teachers should be trained in modern technologies and effective methodologies for using these technologies in classrooms.

2.2 Computer-assisted language learning (CALL) in Pakistan

Among these modern technologies, the most transformational and highly used are computers. CALL facilitates language learning, not only with flexibility in learning pace, time and place, but also with virtual environments offering synchronous and asynchronous feedback (Wang & Liao, 2017) and first-hand experience of second language and culture (Dickinson, Brew, & Meurers, 2013). E-learning systems such as Moodle, WebCT (Carvalho, Areal, & Silva, 2011; Raman & Don, 2013), online quizzes (Carvalho, Areal, & Silva, 2011) and use of Wikis, forums and chatrooms (Wang & Liao, 2017) are some of the benefits offered by CALL to both teachers and learners. While reviewing 350 studies in language learning and teaching, which involved any kind of technology ranging from classroom-based technologies, individual study tools, mobile devices and network based social computing, Golonka, Bowles, Frank, Richardson, and Freynik (2014) found strong support for the use of computers in teaching pronunciation, enhancing language production and improving language complexity in learners.

These benefits of CALL are not limited to the high-income economies. The lower- and upper-middle income economies, even the low-income economies are well aware of its benefits and are making huge investments in educational ICT (Kozma & Vota, 2014). A recent report published by the International Telecommunication Union (2015) stated that the use of internet in the lower- and upper-middle income economies is increasing at a growth rate of 8.7% per annum, whereas in the high-income economies it is 3.3%. By looking at the benefits of the integration of technology in education and considering the extensive research in the field of ICT

in education, it can be assumed that ICT can be a promising way to improve Pakistani students' performance in English language. However, the infrastructure and facilities related to ICT are very limited in Pakistan. The International Telecommunication Index (ITU) (2017) has placed Pakistan in 148th place in a global ICT index of 176 economies. The report also showed that 2.5 billion people are living in the 42 least connected economies and Pakistan is one of them. It is estimated that 80% of the population in Pakistan is still offline. Pakistan was ranked 141 on the ICT Development Index in 2012 by International Telecommunication Union (2013), meaning it has dropped down to 148 in 2017.

Despite the poor ICT facilities in the country, the Higher Education Commission of Pakistan took the initiative in 2003 to incorporate technology in English language learning and teaching, and constituted the National Committee on English (NCE) in March 2003. NCE comprised of national and international English language teaching experts and aimed to address the concerns regarding the declining standards of English in Higher Education. NCE launched a project *English Language Teaching Reforms (ELTR)* to improve English language teaching and learning conditions in Pakistan (Higher Education Commission Pakistan, 2015a). The following six subcommittees under ELTR were established in 2003 to achieve the above stated goals:

1. Faculty Development Programs
2. Curriculum and Material Development
3. Computer Assisted Language Learning (CALL)
4. Research and Publication
5. Testing and Evaluation
6. Reorganisation of Departments/Centres of English Language

These subcommittees offered several programs during Phase I (2004 – 2009) and aimed to provide professional development and research training to the faculty of higher education sector, provide training in CALL and help in setting up of self-

access centres in public universities. The project also facilitated the visits of international experts in the field of English language teaching.

In Phase I (2004 – 2009), ELTR provided 208 domestic scholarships for masters and postgraduate diplomas, and 943 long and short term professional courses and fellowships in English language teaching. Four self-access centres were established in four different public universities. On the other hand, Phase II (2010 – 13) could not achieve the desired results. Only 34 out of 150 long-term indigenous scholarships and 660 short-term CPD courses/fellowships were offered with a target of 1240. No research funding for ELT scholars could be arranged and only 4 conferences/seminars were arranged when the target was 10 (Higher Education Commission Pakistan, 2015b).

Along with efforts carried out by the Higher Education Commission of Pakistan, there were individual researchers who conducted research in the field of CALL in the Pakistani educational context, such as Mahmood, Waheed, Ikram, Anjum, and Majeed (2013), who carried out a study to investigate the role of CALL in increasing the motivational level of graduate students in Pakistan. It was an experimental study where the control group was taught through traditional methods whereas the experimental group was taught using CALL tools. The results of the study showed that the experimental group performed better in reading and writing tests and had a higher motivation level as compared to the control group. In another study, Tabassum and Parveen (2013) explored the perceptions of tertiary level teachers about the efficacy of CALL in the EFL context of Pakistan. There were 30 male and female English teachers at different colleges in Faisalabad, Pakistan who participated in the study, and completed the survey. The study revealed that 90% of the participants had personal computers at home and they were well aware of the general use of computers. Although a majority of the teachers had never attended a CALL course, around 93.3% were interested in CALL. Tabassum and Parveen (2013) concluded that teacher training in CALL, integration of CALL activities and materials in curriculum, setting up a support

centre and increasing the budget for CALL were the main steps which must be taken in order to improve English language teaching conditions in Pakistan.

Many studies have revealed that Pakistani teachers lacked expertise in the field of instructional technology and still used conventional methods for language teaching (Abbas & Asif, 2012; Ammar et al., 2015). Several reasons have been identified as responsible for this failure, including lack of resources, lack of computing skills, focus on examinations, restrictions by institutional management on the use of technology and breakdown of electricity supply.

By looking at the current situation of ICT in Pakistan, the possible solution to integrate technology in English language learning practices of undergraduate students outside the classroom through the use of computers does not seem workable. On the other hand, another form of ICT, mobile phones especially smartphones (mobile phones with internet connectivity), have progressed massively in terms of number of people having access to mobile phones in the last decade in the lower- and upper-middle income economies (Pramanik, 2017), including Pakistan, and have shown remarkable advantages in the field of education in many high-income and lower- and upper-middle income economies (Khan et al., 2015).

2.3 Mobile assisted language learning (MALL)

In the past decade, mobile technology has made its mark in the education sector. Kukulska-Hulme and Shield (2008) defined mobile learning as a "learning mediated via handheld devices and potentially available anytime, anywhere. Such learning may be formal or informal" (p. 273). Ally (2009) further added that mobile devices not only provide access to study materials, but they also facilitate communication with fellow students, teachers and the institution. Today, features such as emails, access to internet, multimedia services and applications which were previously accessed on stationary or laptop computers are now readily available through these personalised mobile devices. Mueller, Wood, De Pasquale,

and Archer (2011) claim that mobile technologies possess all the components which constitute 21st century learning skills. They offer creativity, collaboration, co-construction of knowledge and an enquiry approach to learning which ultimately develop self-regulated learning skills driven by intrinsic motivation to help efficient learning.

Studies have shown that mobile devices in language learning have for the past decade provided teachers and learners with significant educational benefits which include recording and playing audios, low costs, handiness, learner friendliness, ease of access, and interactivity (Kukulska-Hulme & Shield, 2008; Stockwell, 2010). Mobile Assisted Language Learning (MALL) is a comparatively young field. Its history goes back to the late 20th century when the advent of handheld computers changed the level of flexible access to language learning materials (Burston, 2013). The devices used for MALL include: pocket electronic dictionaries, personal digital assistants (PDAs), mobile phones, smartphones, personal media players, laptop computers, tablets and tablets PCs (Burston, 2013; Kukulska-Hulme, 2005; Kukulska-Hulme & Viberg, 2018). The first published research in MALL (Callan, 1994) focused on exploring the effect of PDAs on English writing skills. The research reported a positive effect of using PDAs on essay-writing skills through spell-check and grammar-check features and flexibility of time and space. It is interesting to note that the effect of using PDAs with telephone connectivity (what Burston [2013] called smartphones in his annotated bibliography) in teaching and learning language was explored in 2002 by Cabrero. Since then, smartphones have gained interest from many researchers in the field of MALL as described below.

Jarvis (2014) argued that CALL was associated with the controlled classroom context, whereas MALL was more concerned with learners' conscious practice of language skills, which is highly influenced by learner's motivation level. Many researchers have pointed out that MALL helps in motivating the students, hence increasing their engagement time with the target language both inside and outside the classroom (Huang & Sun, 2010; Jones, Issroff, Scanlon, Clough, McAndrew, &

Blake, 2006; Kukulska-Hulme, 2009). Read and Kukulska-Hulme (2015) argued that portability and flexibility are one of the main factors for such a motivational effect. Some other affordances of mobile devices in language learning have been identified by researchers, such as: personalisation, active participation, cultural authenticity (Kukulska-Hulme & Viberg, 2018), long-term language practice (Wong, Chai, Zhang, & King, 2015), application of new knowledge to real situations (Hwang, Shih, Ma, Shadiev, & Chen, 2016) and timely feedback (Wong & Hsu, 2016).

Jarvis (2014) maintained that in most non-native English-speaking contexts, learners do not get exposure to English outside the classroom but through digital devices where they use English language as their second language. These digital devices, especially mobile devices, offer opportunities for social interaction and collaboration through wireless Internet (Bradley, 2015), which is inherent to the language learning process in a sociocultural perspective of language learning. Building on this concept, Bradley (2015) conducted a study to explore how undergraduate students at a Swedish university engaged in online communities through their mobile phones to practice English communication skills. Bradley found that students employed a mix of learning strategies learned at school and social networking strategies. The majority of the students participated in ongoing discussions on social networking groups such as Facebook, Twitter or learning communities such as TED-Talks and Khan Academy. Some earlier works (Ally, 2004; Roschelle, 2003) have also pointed towards social and instructional affordances of mobile technologies in language learning situations.

Previous research has shown that mobile technologies, especially touch screen technological devices help language teachers not only in developing language learning activities such as vocabulary learning activities (Stockwell, 2010) and grammar exercises (Li & Hegelheimer, 2013), but also support language teachers in reconceptualising and redesigning classroom environments and language tasks for both adult and young learners (Pellerin, 2014).

Samsiah and Azidah (2013) pointed out that MALL promotes blended, interactive, experiential, problem-based and task-based learning approaches to language learning (Lin, 2014), which allow learners to create their own learning environments where they can self-assess and regulate their learning (Pellerin, 2014). Krish, Hussin, Manap, & Amir (2012) pointed out that many language learning theories (some of which are no longer part of contemporary thinking on language learning) support MALL activities. These include: feedback and reinforcement facilitated through various mobile applications; mobile portability favours the importance of context in situated learning theory; sharing of resources and information among teachers and students satisfies a collaborative learning approach. The social constructivism theory which explains learning as co-construction of knowledge through sharing and reflecting on learners' background knowledge has been favoured by many researchers in MALL context (Dawood, 2013; Kukulska-Hulme & Viberg, 2018; Sharples, Taylor, & Vavoula, 2005).

To conclude, although a young field, MALL has established its potential for language learning and teaching through a number of features, such as mobility, interactivity, accessibility, and flexibility (Samsiah & Azidah, 2013; Sharples, Tayler & Vovoula, 2005; Zhang, 2003). However, while analysing MALL studies carried out during last 20 years, Burston (2015) raised his concern about lack of well-designed research studies. Kukulska-Hulme (2016) also pointed out that majority of the MALL studies were carried out in formal learning settings and the affordances of MALL in informal settings was an overlooked area. Furthermore, many researchers have pointed out the significance and need for learner training in technology enhanced language learning (Hubbard, 2004; Jarvis, 2014; Lai, Shum, & Tian, 2016; Prensky, 2001; Romeo & Hubbard, 2010; Shetzer & Warschauer, 2000; Stockwell & Hubbard, 2013; Winke & Geortler, 2008), especially in using mobile devices (Stockwell, 2014), but not much evidence of learner training is reported in MALL studies carried out previously. The present study aims to tap into both of these less-explored areas in MALL; MALL in informal settings outside the classroom, and the effect of learner training in MALL. Since context plays a key

role in language learning, the next section (Section 2.3.1) explains the status and potential of MALL in Pakistan.

2.3.1 MALL in Pakistan

The integration of mobile technology in education has had a vital role in improving the quality of education which has been directly related to economic development and improvement in the living standards of the country (Winthrop & Smith, 2012). Pramanik (2017) reported that the use of mobile technology in urban areas of lower- and upper-middle income economies is increasing day by day due to reductions in the total cost of ownership and increased reliability of available power sources; access to mobile phones in low and middle-income countries rose from 4% in 2000 to 94% in 2015. Although this upsurge involved almost all sectors of life ranging from business, medicine, agriculture and even at household level, the use of mobile technology in education was reported as very slight. Winthrop and Smith (2012) had also claimed earlier that the shortage of trained, skilled workers for the maintenance of IT systems was the main hurdle in the integration of technology in education.

To explore the evidence of improved educational outcomes through mobile phones in lower- and upper-middle income economies, Bellarman (2014) studied the role of mobile phones in India in relation to speaking and listening skills in English language. He argued that speaking and listening skills were highly valued in every field of life in India, but such skills were being taught in the least developed way. On the other hand, learner's proficiency was evaluated through written tests resulting in more emphasis on writing proficiency as compared to other skills. Bellarman (2014) claimed that use of mobile phones in classrooms could help improve speaking and listening skills of students. Further, he claimed that teachers could get the maximum benefits out of mobile learning through employing effective teaching and learning strategies as it is student centred and highly motivating for learners.

Pakistan is also one of the lower middle-income economies in Asia, where 90% of the population is covered by a mobile phone network. The mobile phone industry is one of the fastest growing industries in Pakistan. Its users are multiplying every day and it includes almost all types of customers ranging from domestic to professional users. Pakistan is ranked 10th on the list of top 10 countries with the largest number of mobile subscribers. Winthrop and Smith (2012) argued that although Pakistan was lagging behind high-income economies in the integrating technology in all sectors of life due to economic and security issues, it has also made incredible improvement in the sector of mobile phones. Within the time period of 10 years from 2000 to 2010, there has been 2,632% growth in the mobile industry in Pakistan. The recent annual report issued by Pakistan Telecommunication Authority (2017) claimed that Pakistan's progress in the field of mobile technology has not stopped here rather its potential for growth is astounding.

The latest statistics issued by Pakistan Telecommunication Authority (2018a) show an enormous increase in the usage of telecommunication facilities. Total mobile subscribers recorded in 2003-04 were 5,022,908 whereas in 2018 the total number reached 149,101,917 with an annual cellular teledensity of 73.68%. Such a large increase was not observed in either wireless local loop (broadband) subscribers or fixed local line subscribers. The following chart depicts statistics issued by Pakistan Telecommunication Authority (2018a) about the annual increase in mobile subscribers over the last fourteen years (2004 – 2018)
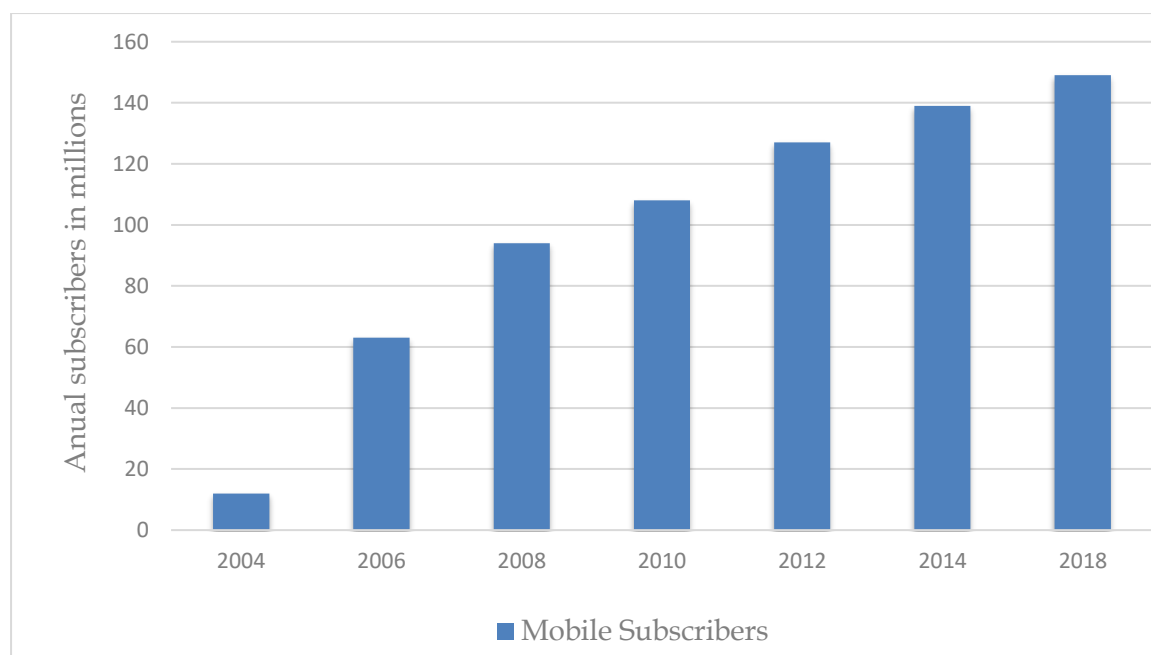
Figure 2.2 Number of mobile subscribers in Pakistan (in millions)

Telephone density or teledensity is defined as the number of telephone connections for every hundred individuals living in an area. It is calculated by dividing the number of connection by total population and then multiplying by 100. Teledensity exhibits a strong correlation with per capita GDP of an area. The Pakistan Telecommunication Authority (2018b) has issued separate teledensities for fixed local line, wireless local loop and mobile subscribers. In 2005-06 the total teledensity for all these subscribers was 26.26%. This reached 74.96% in 2018, in which 73.68% was contributed by annual cellular subscribers.

Recent developments in the mobile phone sector, such as the introduction of Third Generation (3G) and Fourth Generation (4G) services in Pakistan have opened up new horizons in all fields of life, including education. The 3G and 4G are a set of standards for wireless communications and mobile devices that include higher broadband speed and new mobile communication services. The 3G technology provides services in the field of multimedia content, multimedia messages, internet access, instant messaging, location-based services and rich voice, allowing MALL to make use of these services in ESL classrooms. In Pakistan, total 3G/4G subscribers recorded in July 2014 were 1,896,796 which increased to 53,243,557 with in a time frame of 4 years (Pakistan Telecommunication Authority, 2018a).

Looking at the prospective benefits of the immense growth in the cellular industry in Pakistan, the United Nations Educational, Scientific and Cultural Organisation (UNESCO, 2015a) initiated various projects in the education sector. In 2009, UNESCO launched a Mobile-based Literacy Programme in the Punjab Province of Pakistan to help retain literacy and numeracy skills of newly literate women (15-30 years of age) in the rural areas.

A text-messaging software was used to send text messages containing multiple choice questions related to the topics about their daily lives. After four months of training, an improvement in the literacy skills as well as high motivation to use mobile phones for learning literacy skills was documented through pre- and post-evaluation of the participants (UNESCO, 2015a).

After the successful completion of first two phases of the above-mentioned program, UNESCO integrated some other forms of technology in the third phase along with the mobile phones (UNESCO, 2015b). In the first couple of months traditional literacy training was provided to the participants, whereas in the last couple of months, participants were provided with mobile phones. Pre- and post-training evaluations along with weekly and monthly tests were used to monitor the participants' literacy skills. An increase in participants' knowledge and motivation was recorded at the end of the third phase.

A joint venture by UNESCO and Nokia to improve the teaching skills of primary teachers in Pakistan was launched in 2015. This programme uses mobile phones to deliver instructional information and materials to 150 in-service primary teachers from 75 different schools in Pakistan, who did not have access to formal training and professional development courses. These teachers are provided with the mobile phones which can be connected with projectors to use teaching and learning materials in the classroom as well as for personal use to plan classroom activities (UNESCO, 2015c).

In another study, Ahmed and Qazi (2011) studied the overall mobile phone usage habits of Pakistani tertiary students. The focus of the study was the buying activities of students such as preferences for brands, purchasing features, network providers and usage patterns of 400 university students. The researchers found that a majority of the university students started using mobile phones at the age of 10 – 18 and considered mobile phones a necessity of life (Siddiqui, Jabeen & Mumtaz, 2014). They spent 0 – 2 hours each day in utilising internet facility through mobile phones and 50% of their calls were made to stay connected with their families. This study covers the service preferences and mobile phone preferences with general usage patterns of university students but does not spotlight students' usage of mobile phones for academic purposes.

Ally, Balaji, Abdelbaki and Cheng (2017) carried out a study to explore the effectiveness of mobile technology in delivering the learning content and students' and teachers' attitudes towards using mobile technology. This study was carried out during four weeks at a school in Pakistan, involving 74 students studying in grades 8, 9 and 10. Learning materials related to 10 lessons were delivered to the students using tablets. Data collection included pre- and post-questionnaires, pre- and post-tests, group discussions with the parents of the students and interviews with three teachers. The results of the study revealed that teachers and parents were of the view that the use of tablets had a positive impact on students' attitude towards learning. These findings were supported by post-test which revealed higher results as compared to pre-test, indicating an improved performance of students.

In another study, Iqbal, Khan and Malik (2017) investigated the potential of mobile learning among university students in Pakistan by exploring students' ownership and pattern of usage of their mobile phones. The data was collected from 320 undergraduate students. The results of the study revealed that 69% of the students owned a smartphone suitable for mobile learning and 60% of the students had positive attitudes towards mobile learning. However, they were not using

learning-related features of their smartphones such as voice/lecture recording, note taking, accessing learning management systems or MS Office.

A similar study was carried out by Butt and Qaisar (2017) to explore the readiness of teachers and students for mobile learning at a public university in Pakistan. A survey was administered of 38 university teachers and 288 students. The results revealed that the smartphone was more popular among female teachers than male teachers. Gender differences were found in the ownership of mobile phones among male and female students, with a larger number of male students possessing mobile phones than female students. However, there were no differences found in the readiness for mobile learning among students with different study majors or gender. On the other hand, female teachers were more reluctant to use mobile phones in classroom teaching than male teachers.

As stated earlier, most research in the use of mobile devices in education in Pakistan has been based on ownership of devices and general usage patterns of those devices. On the other hand, no or little research has been done with special emphasis on English language teaching and learning through mobile phones. Looking at the huge growth of the mobile industry and the access of students to mobile phones, Mobile Assisted Language Learning can be a potential solution to enhance English language learning and teaching. Among different types of mobile phones, smartphones are getting more popularity in Pakistan. Baloch (2015) claimed that there will be 40 million smartphone users by the end of 2016. Statista (2018) reported that 34% of the total mobile subscribers in Pakistan were using smartphones and smartphones' share of connections will reach 51% in 2020. Hence, the present study has focused only on smartphones and has aimed to document the use of smartphones for both educational and non-educational purposes by undergraduate students at a public university, Bahauddin Zakariya University Multan, in Pakistan. Previous research points out that students' use of mobile phones is largely for non-educational purposes and they lack skills in using their smartphones for academic purposes. Looking at this scenario, the present

study further aims to investigate if training undergraduate students in using their smartphones for learning English language will lead to an impact on their attitudes, beliefs and practices. Both of these aims are divided into two phases which are explained in detail in the coming chapters.

Chapter summary

This chapter has explained the context of the study. The chapter has highlighted the status of English language in Pakistan and the value it carries for progress in every walk of life in Pakistan. It has been argued in the chapter that even though English has been the second official language of Pakistan for over 70 years, students' performance in English is not satisfactory. The main reasons for this situation are: unclear agenda of the Pakistani government on the language of instruction since the creation of Pakistan, the implementation of language policies without proper planning, untrained teachers and poor facilities available in English classrooms. Furthermore, these circumstances have also created a conflict of identity and mixed feelings towards learning English language, which adversely affect students' motivation and willingness to actively participate in classroom activities for learning English language.

In these circumstances, looking at the previous research in language learning and teaching, the use of technology especially computers seems to be a promising solution to help motivate and encourage students to learn English language outside the classroom. However, the facts and figures reported in the chapter related to ICT facilities in Pakistan rule out computers as a good option for integrating technology. The enormous growth in mobile technology in Pakistan, on the other hand, offers an alternative to computers. This chapter has further established the applicability of smart phones in educational context by providing an overview of previous research in the use of mobile phones in language learning and teaching. To conclude, the chapter sets the background of the study, so that the reader of the thesis may see the methodology, results and findings, and implications while keeping the background of the study in mind. It will also help

the reader to understand certain decisions and choices made by the researcher while carrying out the study.

Chapter 3: Pilot study and an overview of the methodology

Chapter overview

This chapter presents the pilot study and an overview of the methodology used in this research. It is divided into seven sections. The first section (3.1) describes the research questions and the relevant concepts. The next section (3.2) starts with the description of the preliminary research design which was tested through a pilot study. The pilot study is fully discussed in Section 3.3. The findings of the pilot study, which lead to some important changes in the research tools and research design of the main study, are rationalised before describing the overview of the methodology for the main study. In Section 3.4, the research context is described in detail. The next sections (3.5 and 3.6) describe an overview of the main study research design and the data collection tools used in both the phases of the main study. At the end of the chapter, the research questions and the relevant data collection tools with data analysis methods used to address them are described (Section 3.7).

3.1 Research questions and related concepts

The main aim of the study was to explore the effect of training on MALL practices of undergraduate students in Pakistan in the autonomous use of smartphones for practicing English writing skills. It also attempted to fill a gap in the previous empirical research on MALL practices, which reported that no or very little MALL training was provided before conducting the research. The present research not only explored the effect of training on MALL practices but also focused on the influence of training on attitudes and beliefs of students about the use of smartphones for learning English language.

As reported in Chapter 2, the research studies conducted in Pakistan focused on how mobile devices are being used by students in general, with no or very little focus on usage patterns of mobile devices for English language learning and

teaching outside the classroom. Hence, there is no evidence as to whether students in Pakistan are using mobile devices outside the classroom for learning English language or not. As Cowen (2009) pointed out, if users do not accept and use technology willingly, it results in the wastage of resources. Hence, it was important to ascertain students' interest in using their mobile devices for English language learning, which is still undocumented in Pakistani context. Based on this scenario, it was considered necessary to gather information on whether and how students were using their mobile phones along with other digital devices for learning English language. It was also necessary to explore students' willingness to undertake training in the use smartphones for English language learning. It was also deemed pertinent to determine whether the digital practices of students varied on the basis of gender, medium of instruction in their previous studies and their study major in undergraduate studies. It was hypothesised that the information collected on students' previous digital and MALL practices would provide a clear picture of what was already being practiced and how to gain maximum outcomes from the ever-growing mobile industry in Pakistan by employing MALL practices.   Hence, the following research questions were formulated to focus this investigation of the digital and mobile practices of undergraduate students and the effect of training on their beliefs and frequency of MALL practices;

1) *What are the digital practices of undergraduate students both inside and beyond the classroom in Pakistan?*
2) *What are the effects of learner training in MALL on learners' attitude towards, beliefs about, and use of smartphones for autonomous language learning?*

3.2 Preliminary research design

Johannigmeier & Richardson (2008) described educational research as a complex and subtle field. To capture this complexity, both qualitative and quantitative research approaches are considered very important (Hammersley, 2007; Phillips, 2009; Ponce & Pagán-Maldonado, 2015). Keeping in view the purpose of the study,

the research questions, and the complexity of the research design, both qualitative and quantitative data collection and data analysis methods were employed hence, resulting into a mixed-method research. Creswell and Plano Clark (2011) pointed out that researchers' use of qualitative or quantitative approaches is dependent upon the circumstances in the research, sometimes they find it better to use one of the approaches and in some situations, they use both the approaches together to gain reliable results and reduce the biasedness in subjective research methods. Hurmerinta-Peltomaki and Nummela (2006) pointed out that a mixed methods research methodology provides a deeper and broader understanding of a phenomenon. O'Cathain, Murphy, and Nicholl (2010) described the integration of both qualitative and quantitative methodologies as a value of a mixed methods approach, as it helps readers to build confidence in the results and the conclusion and helps researchers to decipher innovative ideas for future research. Similarly, McKim (2017) suggested that the value of mixed methods was "a methodology's ability to make sense of the world, help readers better understand the study, increase confidence in findings, improve accuracy and completeness, and inform and contribute to overall validity" (p. 203).

Gay, Mills, and Airasian (2009) pointed out that mixed method designs can especially be useful in testing qualitative findings by comparing with quantitative results. In the present study, qualitative data was obtained from semi-structured interviews and written feedback by the students on a learner training course. On the other hand, quantitative data was obtained through the use of online surveys and from quantitative aspects of the training course such as the number of student blog posts and the number of words written in each post. The results generated a comprehensive picture of existing digital and MALL practices as well as any effect of training on the self-directed MALL practices of undergraduate students in a Pakistani ESL context.

The study also falls in the process-product paradigm where process is characterised by learner training and product is defined as change in students'

attitude, beliefs and practices in MALL. A MALL activity (the use of smartphones for English writing practice) was assigned as work for students to do outside the class time. For this study, only one English language skill (writing) was focused. The study involved one independent variable, the use of smartphones, and three dependent variables; a) beliefs, b) attitude, and c) MALL practices. The treatment was learner training in MALL, which was carried out online through a course blog.

Mertens (2015) described one group pre-test post-test research designs as simple quasi-experiments in which one dependent variable is measured through comparing outcome of pre- and post-test. Mertens (2015) represented the design as OXO, where O denotes pre- and post-tests and X symbolises intervention or treatment. This kind of research is especially useful in technology-enhanced language learning environments where it is very hard to attain both experimental and control groups that are similar in every aspect. Furthermore, many researchers have argued that pure experimental research, having both experimental and control group may create misleading results for many reasons: a) factors in both the groups may vary, b) the study may not be accurately replicable, and c) there may be a lack of clarity in definition and description of relevant variables (Chapelle, 2003; Levy, 2001; Pederson, 1987; Schunk, 2008). In the present study, it was particularly difficult to have a control group as the study was conducted outside the classroom in an online environment. As participants were studying in their first semester and belonged to the same class, the effect of English language teaching, medium of education, and exposure to more digital tools at tertiary level as compared to high school were minimised. Considering all the above-mentioned factors, the present study employed a mixed method approach.

The preliminary research design was descriptive in nature, which divided the study into two main phases. The first phase included recruiting the participants and carrying out the online digital practices survey. The second phase consisted of conducting an online training course in MALL techniques with the participants who would have mentioned their willingness to participate in the learner training

course in the digital practices survey, followed by post-surveys and post-interviews. This preliminary research design was tested through pilot study which is explained in the following section.

3.3 Pilot study

The pilot study was conducted in January 2016. The main aims of the pilot study were to a) pilot the questionnaire and the interviews, b) pilot the training course, c) determine if appropriate data were being collected, and 4) improve the proposed research design for the main study. Details about the participants, procedures and outcomes of the pilot study are given below.

3.3.1 Participants

To conduct the pilot study, the head of English department at Bahauddin Zakariya University Multan, Pakistan (BZU) was contacted by email and was informed about the study. The information sheet and the consent form were sent to her attached with the email. On her approval and agreement to participate in the study, the information sheets for the participants were sent by email. The participants who volunteered to participate in the pilot study were asked to participate in an online survey. After the survey, they were asked to participate in an online interview which was conducted and recorded via Skype.The participants in the pilot study were similar to the prospective participants of the study in age, educational context and level of education in which they were studying. There were 11 participants (nine females and two males, 21-22 years old) who volunteered to participate in the pilot study. The participants were studying in their seventh and eighth semesters and were studying towards their undergraduate degrees in English at Bahauddin Zakariya University, Multan, Pakistan. Urdu and Saraiki were the most common first languages among the participants. Six participants had previously studied at a private school where the medium of education was English, and five participants studied at public schools

with Urdu as the medium of education. The majority of the participants (nine participants) reported that they had been studying English for more than 12 years

3.3.2 Data collection and analysis

Two types of data collection tools were used for the pilot study: 1) online surveys, and 2) the interviews. These are explained below:

3.3.2.1 Digital practices survey: The focus of the survey was to gather information about students' digital practices both in and outside the classroom.   The participants of the pre-survey were asked to indicate how often they used digital devices/tools for educational and non-educational purposes, especially for learning English language using a four-point scale. The scale used throughout the survey was: *never or rarely, a few times a month, a few times a week, or one or more times a day.*

The survey consisted of three main parts: 1) demographic information, 2) the use of technology for educational and non-educational purposes, and 3) the use of smartphones for enhancing English language proficiency. The first section of the online survey had ten items, the second section had five items and the third section had seven items. These sections are elaborated as below:

1. *Demographic information*: The results of the survey showed that the section on demographic information was well formulated and easy to understand for the respondents. This section consisted of ten items.

2. *The use of technology for educational and non-educational purposes*: This section consisted of 5 items and focused on participants' digital and MALL practices for various purposes. It also asked about the locations from where they accessed these technologies for their studies.

3. *The use of smartphones for enhancing English language proficiency*: This section asked about participants' use of their smartphones for enhancing English reading, writing, speaking and listening skills. It contained seven items.

3.3.2.2 Pre-interviews: In addition to the online pre-survey, pre-interviews were conducted with the participants. The pre-interviews were semi-structured and were built around the following four themes: 1) previous experiences of learning English language, 2) students' experience of using blogs, 3) use of smartphones in learning English language, and 4) training in MALL.

The main aim of the interviews was to pilot the interview questions to check whether they were able to capture the unexplored areas in the survey and to tap into the attitudes and beliefs of the undergraduate students at the Department of English, BZU, Pakistan about the use of smartphones in learning English language and training in MALL. These interviews were carried out through Skype in the Urdu language and were translated to English by the researcher.

3.3.2.3 Learner training in MALL: An online course for learner training in MALL was developed on www.blogger.com. An introduction to the course and the course information containing details related to the course, learning outcomes, pre-requisites, instructor and weekly tasks were provided through the first blog post. The activities for the Week 1 were developed and made available for the participants of the pilot study.

The pilot study participants were asked to follow the instructions provided in a video tutorial to create their personal blogs. The next step was to download the blogger app on their smartphones by watching and following the video tutorials provided on the main study blog. The aim of these activities was to measure the intelligibility of the training materials and the exercises and see if they were challenging enough for the students to keep them interested in the training.

3.3.2.3 Post-survey: The post-survey was constructed around three themes; a) the use of smartphones for practicing English writing skills, b) the effectiveness of training in MALL, and c) the use of blogs for practicing English language.

3.3.2.4 Post-interviews: Post-interviews were not conducted in the pilot study. The main purpose of the post interviews was to explore participants' beliefs and experiences of using smartphones for language learning. It was decided to build the post-interview questions around the themes which will emerge during the various activities and trends of approaching these activities during the learner training. These themes and trends were expected to be apparent through the audience statistics of the blog in the main study, peer feedback and written feedback on learner training.

3.3.3 Debriefing with the participants and changes in research tools

To make the research tools more reliable, the researcher carried out debriefings with the participants of the pilot study. Some important points were discussed which brought about the following changes in the data collection tools.

1) **Digital practices survey:** The points discussed and proposed changes in the digital practices survey are discussed below. For ease of understanding, changes in each section of the survey are discussed separately.

    a) **Demographic information:** In the pilot study, information about gender, age, mother tongue, current department of study and the semester of study were sought in separate questions which added extra length to the survey. To make the survey more compact and reduce the length, these items were combined under one question. The results generated from the two questions, asking about medium of education and status of school at high school certificate level, were a bit complicated. To state the questions overtly and generate clear results both questions were combined and rephrased in a more explicit way.
    To find out the self-efficacy of the participants in English, the pilot study survey asked the participants to state their English language proficiency in reading, writing, listening and speaking skills on a three point-scale. The results of the survey and the debriefings with the participants

showed that these point-scales were not sufficient to get a clear estimate of participants' English language proficiency. Hence, a five point-scale was proposed in the modified survey for the main study. Along with it two more items asking about their language preference while using Facebook, Skype, Instant Messages and text messages were added.

b) **Use of digital technologies for educational and non-educational purposes:** This section asked for information about the current use of technology and did not consider the future preferences of the participants related to the use of technology especially for studies. Hence, a section on participants' preferences for using technology for study related purposes was added. It also tapped into participants' willingness to get some training in using these technology-enhanced activities for educational purposes.

c) **Use of smartphones for enhancing English language proficiency:** As stated earlier, this section gathered information about participants' current use of smartphones for enhancing their English proficiency levels in reading, writing, listening, speaking skills and vocabulary. On the other hand, it did not ask about their future preferences. Hence one item asking about future preferences of the participants was added after each question.

2) **Pre-interview:** As stated above the pre-interviews aimed to get more information about participants' previous experiences in learning English language, the use of blogs and the attitude towards the use of technology especially smartphones in learning English. The pilot pre-interviews showed that there was a lack of information about training and the use of smartphones at tertiary level in teaching and learning English language. Hence a related question was added in the pre-interview questions.

3.3.4 Changes in the research design

 Following changes in the research design for the main study were proposed based on the findings of the pilot study.

1. In the light of the debriefings of the participants, undergraduate students from four major departments at BZU were included in the digital practices survey so that a comprehensive picture of the digital and MALL practices of the undergraduate students could be explored.

2. Debriefings with the pilot study participants showed an inclination towards the use of WhatsApp and Viber for the interviews. Participants were reluctant to use Skype hence; Android app *Call Recorder Full App* was recommended to be used to record the interviews through WhatsApp for the main study.

3. A motivational incentive in the shape of Certificate of Participation by College of Education, Health & Human Development, University of Canterbury was included for all the participants of the learner training course. To get maximum participation five lottery tickets worth 20 NZD each for the participants completing all the activities were also included. Both the motivational incentives were included in the individual emails of the participants of the learner training course. These incentives were also included in the introductory page of pre-survey along with the invitation to participate in the training course in the pre-survey.

4. In the preliminary research design, it was intended to carry out the digital practices survey and the learner training course with the same participants, but the security situation in Pakistan at the time made this impossible. Invitations to participate in the learner training course were included in the digital practices survey, and initially 160 students volunteered to participate in the learner training in MALL. However, a series of unplanned close-downs of the campus due to unforeseeable security issues, and summer vacations extended for security reasons to

2.5 months from June 2016 till mid of August 2016 led to a gap of five months between conducting the digital practices survey and the learner training course being created. Due to this unexpected gap in the study and final year students moving on to their next academic or professional destination, only seven students, out of the 160 who indicated their interest in the learner training course, responded to the emails regarding the start of the learner training course. Hence, it was decided to recruit more students for the learner training course. For ease of understanding, the part of the study in which the digital practices survey was conducted was termed Phase 1 and the part which included learner training was termed Phase 2. A generous response to the digital practices survey (316 students) had already been collected. An attempt to keep the participants of both the phases the same by not using the initial data for the digital practices survey would have resulted in wastage of resources, time and valuable data. Furthermore, a smaller number of students participated in Phase 2. The results of the digital practices survey if it was administered with these students would not have been possible to generalise to the same extent to represent the digital practices of all undergraduate students at the university. Hence, it was deemed to be important to use the already collected data for the digital practices survey, and carry out the study in two phases with different participants.

5. 316 students completed the Phase 1 digital practices survey. The sample was deemed large enough to generalise the results for the whole undergraduate population of at BZU. Since the students were studying full time at the university, it was decided not to use the digital practices survey for learner training students to avoid overloading them. Instead, a background information survey in the beginning and a follow-up survey concentrated more on the learner training course was used at the end of the learner training course.

6. Pre- and post-interviews were conducted with the Phase 2 students who volunteered to participate in the interviews.

3.4 Research context

Stockwell (2016) pointed out two principal areas to be considered while implementing mobile technology in language learning: context and the design of the tools. Here, a brief socio-economic, cultural and geographical overview of the context where the target sample lives and interacts will be helpful in providing deeper understanding of the tools that were utilised and the data collected. The present study was conducted in Bahauddin Zarakriya University (BZU) which is in the city of Multan, Pakistan. Multan is one of the oldest living cities in the world (City District Government, Multan, 2018). The city is located near the centre of the country, in Punjab province. Multan has approximately 5 million in population (Pakistan Bureau of Statistics, 2018). The major language of the city is Saraiki which is the mother tongue of 52% of the population. Urdu is spoken and understood by the community, but the English language is restricted to the elite class. The city has very hot weather in summer with a highest recorded temperature of 54C, but goes down to -1C in winter. Dust storms are very common in the area although the average rainfall is 186mm.

Multan's economy is heavily based on agriculture; farming and livestock husbandry are among the main occupations of the people of Multan. As the city is located in the central region of the country, it has become a commercial and industrial centre as well. Multan, known as the city of saints, is also well known for its handicrafts and cottage industry (City District Government, Multan, 2018).

The Higher Education Commission of Pakistan recognises four educational institutes in Multan as universities or degree awarding institutes; BZU is the oldest among them. BZU was established in 1975 with eight departments. Presently, it offers a wide range of programs ranging from 4-year undergraduate degrees to PhD studies through 30 different departments/colleges/institutes. In 2014, BZU

offered certificate or degree programs to 24,029 students through 532 faculty members (Bahauddin Zakariya University Multan, 2014). The selection of BZU for the present study was based on convenience sampling. As mentioned earlier, the study was being carried out online from New Zealand and the participants were studying and residing in Pakistan. It was considered important to select a university where the researcher had sufficient contacts and an understanding of the nature of the programmes and students.

BZU offers undergraduate degree programs (4 years of study) in 52 different majors. These bachelor programs are offered through morning and evening classes to the students who have completed their first 12 years of education. The admission criteria depend upon the major and department however, the requirement for the number of years of previous study is same for all majors.

The Department of English at BZU offers a bachelors and two master's degree programmes in English, and English language and literature. The Master of Arts in English is focused on English literature, whereas the Master of Arts in English Language and Literature carries more weight of ELT as a second or foreign language with some components of English literature. The department also offers Master of Philosophy (M.Phil) and Doctor of Philosophy (PhD) programmes in English Literature and Linguistics. Some short English-language courses focused on speaking skills are also offered by the department. The aim of these short courses is to enhance the communicative competence of the students.

As reported by Shamim (2011), it is a widespread practice in Pakistani universities for the faculty in English departments to focus on programmes being offered by their own department. The English language courses offered within other departments and programmes are usually taught by visiting faculty. These visiting faculty members are usually hired on a short-term part-time contract basis. The minimum qualifications required are usually masters in English. Sometimes, M.Phil and PhD students at the respective departments of English are also hired as visiting lecturers. There is no prescribed syllabus available for these courses.

The teachers usually design their own course materials on the basis of course outlines developed by the teacher who taught it previously. In the case of the present study, the students were studying 'Freshman English' in their first semester of undergraduate studies at the Institute of Molecular Biology and Biotechnology. The focus of the course was teaching English grammar, English writing, and presentation skills. The teacher was a visiting faculty member and an M.Phil student at the Department of English, BZU. This course was taught for sixteen weeks during the first semester and the students were assessed through written mid-term and final-term examinations which constituted 80% of the grade. The remaining 20% of the final grade was based on participation in the classroom activities during the semester.

3.5 Overview of the main study research design and justifications for methodological decisions

Since the study is constructed in such a way that each research question was carried out in a separate phase, with its individual methodology and separate participants, Phase 1 and Phase 2 are described individually in Chapters 4 and 5 respectively. It was considered important to describe each phase's methodology in the respective chapters for the ease of understanding for readers. However, an overview of the complete methodology and decision-making process is described here.

The main study was conducted in two phases. Initially, in Phase 1, the email addresses of head of the departments at BZU were obtained through BZU website and emails containing information sheets and invitations to participate were sent. After respective head of the departments' approval, information sheets containing links to the survey were distributed among the undergraduate students. The information sheets clearly stated that their completion of the digital practices survey would be considered their consent to participate in the study. The distribution of these information sheets was discussed with the heads of the departments and they were offered to choose either of the ways of distribution:

hardcopies or soft copies via emails. The target population of the digital practices survey comprised of undergraduate students at BZU and the survey was completed by 316 students. A comprehensive description of the methodology for Phase 1 is given in Chapter 4.

During Phase 2 of the study, an intact class of 23 students participated to explore the effect of learner training on autonomous use of MALL technology. Although the participants of Phase 2 belonged to one intact class, there was no connection between the learner training course and students' English course at the university. Furthermore, the teacher of their English class was also not involved in the development of the training course. The decision of not involving the teacher in the study was based on the following reasons:

- Having the students from one intact class was a recruitment strategy. The exposure to digital devices due to study major at the university and difference in English proficiency level due to years of university study could have affected students' performance in the training course. To keep the effect of these external factors at minimum level, first year students from one intact class were recruited.

- Agrawal (2016) argued in his blog, "blogging is all about being social" as it involves reading other people's comments and queries and responding to them. In the present study, the students belonged to one class and knew each other. They read each other's blog posts and created a social community which is integral part of constructivists' learning theory. Since these students were beginning level users of blogs, creating a social community and getting feedback in a short time span of the study would have been very difficult if the students did not know each.

- In countries like Pakistan, where teaching and learning is still teacher-centred, and teachers are considered a symbol of authority in students' lives, knowing that their teacher was involved in the

study being carried outside the classroom would have demotivated the students. Furthermore, the context of the study was out of the classroom. Hence, a connection with the English course and involvement of English teacher would have made it a part of their English course at the university. This would have taken away the elements of freedom of choice, self-motivation, and could have induced the fear of their teacher being biased towards students.

Since the participants of Phase 2 had not completed the digital practices survey which had a section on demographic information about the participant, a background information survey was administered online. After getting complete responses for the background information survey, students were invited to participate in pre-course interviews. These interviews were focused on students' knowledge and experiences in using blogs on their smartphones for enhancing English language skills. These interviews were carried out through the WhatsApp application.

Afterwards, the students were invited to participate in an eight-week learner training course. Only one English language skill was focused on in the present study. García (2018) pointed out that English writing is focused on by the tertiary students in Pakistan as they are concerned about their course assignments and achieving good grades. Among the four key language skills, writing is considered the most difficult for Asian students to master (Sa'diyah, 2017) as it requires them to work simultaneously on thinking critically to generate ideas as well as constructing sentences and paragraphs, while maintaining overall coherence and cohesiveness (Namasivayam, Singh, Mostafa, Janoory, & Abdullah, 2017). Writing poses significant challenges to students' cognitive systems (Kellogg, 2008), and encourages them to develop their ideas into semantically and linguistically correct content. Practicing English writing skills also helps students enhance their language learning strategies (Oxford, 1994; 2002), their reading skills through applying their understanding of the writing process to better understand an

author's construction of text, and their speaking skills by strengthening their vocabulary and language use (Rogers, 1972).

Choosing only one skill for the learner training course was also influenced by Vygotsky's concept of ZPD which asserts that the potential development of the student lies just outside their comfortable ability. Training students in using smartphones for all four English language skills could have overburdened them, eventually resulting in demotivation and discouraging them in the use of technology for English language learning. The participants of Phase 2 were studying an English language course for their undergraduate studies, which had English writing as a major component. An opportunity to practice English writing skills outside the classroom could have motived them to participate actively in the study. However, the focus of the study was not exploring the effect of training in MALL on English writing skills, rather it was focused on students' attitude, beliefs and MALL practices related to smartphones.

In the present study, the skills of writing in English was practiced through blogs. Many researchers have reported the benefits of using blogs in teaching and learning English writing skills (Özdemir & Aydın, 2015; Sampath & Zalipour, 2010; Vurdien, 2012; Yunus, Tuan, & Salehi, 2013; Zarei & Al-Shboul, 2013). (A comprehensive literature review on the use of blogs for English language learning and teaching is presented in Chapter 5, Section 5.1.) Blogs also offer collaborative and reflective learning opportunities, which are important constructs of learner autonomy. In the present study blogs were accessed on smartphones which allow blogging without the restraint of time and place. However, despite many affordances of blogs, accessing blogs on smartphones can have its own limitations, such as:

- Not all blog-hosting platforms have mobile apps or mobile friendly websites.
- There are some blog hosting platforms such as WordPress which do not allow editing the core website files on smartphones;

- Typing fast and making quick content-related changes in the blogposts can be difficult due to the small size of the keyboard;

- Creating blog content and researching about it at the same time on a smartphone can be more difficult as compared to using desktop or laptop;

- It could be difficult to publish longer blogposts on smartphones due to small size of the screen and the keyboard.

However, in the present study, the above-mentioned limitations of using smartphones for blogging were considered and dealt with carefully while developing the learner training course (Complete detail of how learner training course was developed is described in Section 5.3). In the present study, the learner training course was hosted online on www.blogger.com. Weeks 1, 2 and 3 were based on technical training sessions, while during Weeks 4, 5 & 7 learners were provided with pedagogical training as well as they practiced their writing skills independently on their personal blogs. Weeks 6 & 8 were for strategic training. Participants practiced learner autonomy and self-directed use of technology during these weeks. At the end of the course students were asked to complete the follow-up survey and were invited to participate in post-course interviews. The English teacher was also invited to participate in a semi-structured interview. Figure 3.1 shows a comprehensive picture of the methodology used in the main study.

Mixed method descriptive research design

Participation Information Sheets

Digital practices survey

Invitation to participate in Learner Training in MALL

Phase 1

Pre-training data collection

| Background Information Survey | Pre-interviews with the students |

Learner Training in MALL

| Technical Training | Pedagogical Training | Strategic Training |

Post-training data collection

| Post-interviews with the students | Interview with the class teacher |
| Follow-up questionnaire | Written feedback |

Phase 2

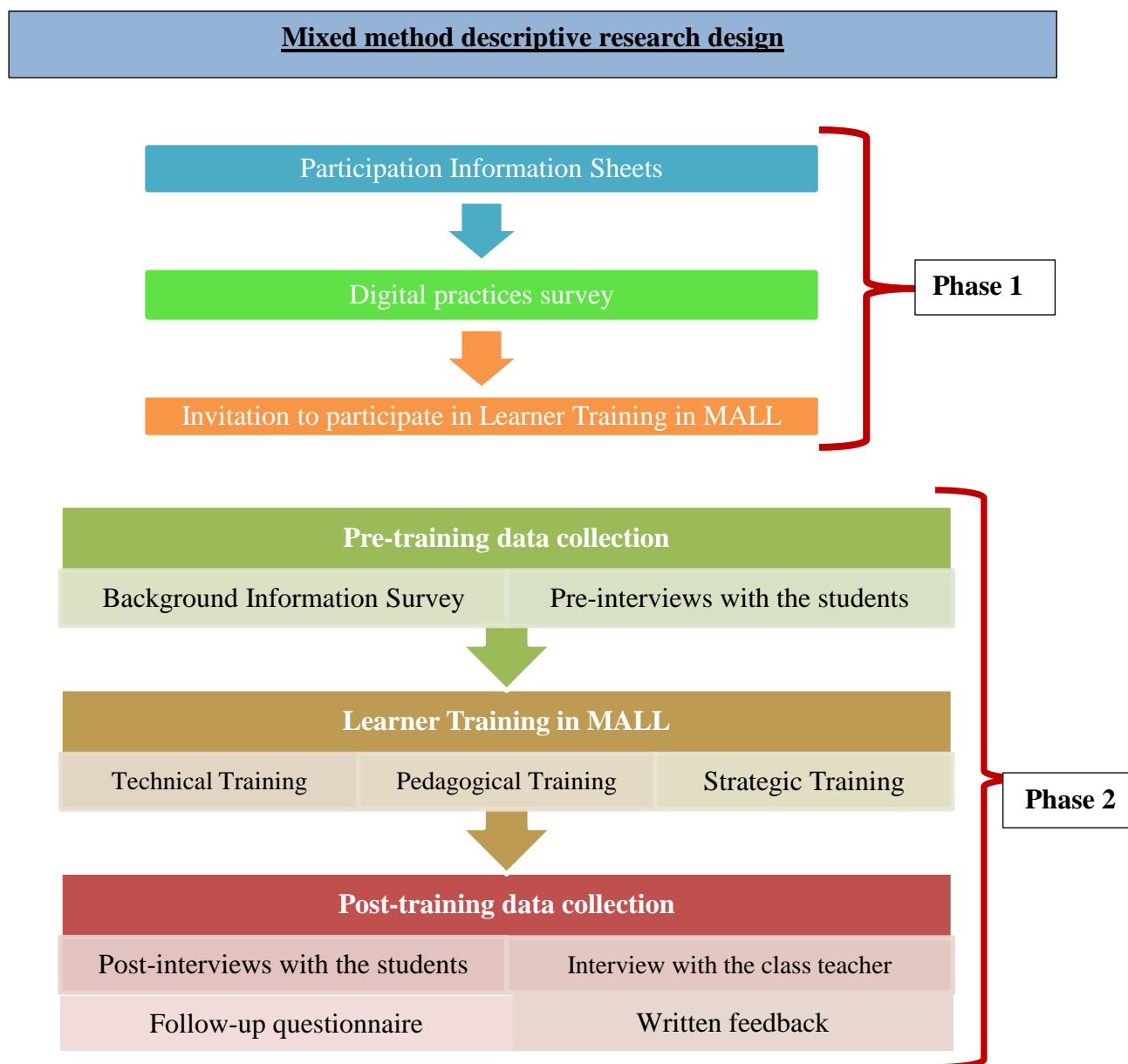Figure 3.1 Graphical map of methodology

3.6 Data collection tools

Multiple tools were used to collect the data in this mixed method descriptive study. A detailed description of each data collection tool employed in each phase of the study is given in the respective chapters. However, a brief overview of these tools is given below.

3.6.1 Digital practices survey: The digital practices survey was an online survey. Over the last decade, online surveys have become a popular method of data collection in academic research (Saleh & Bista, 2017) due to advantages such as: a higher response rate (Koundinya, Erb, Klink, Deming, & Meyers, 2016; Liu & Wronski, 2018); low cost (Saleh & Bista, 2017); ease of analysis (McPeake, Bateson, & O'Neill, 2014); time efficiency (Uhlig, Seitz, Eter, Promesberger, & Busse, 2014); and the ability to be used for larger samples as compared to paper surveys (Evans & Mathur, 2005). The present study was being carried out from New Zealand. The participants of the study were studying and living in Pakistan, therefore using online surveys could prove cost effective compared to paper-based surveys. Furthermore, this study was being carried out outside the classroom environment, which meant that in order to send paper-based surveys personal postal addresses of the students would be needed. As argued by Roberts and Allen (2015), monitoring anonymity and privacy of the participants are very important ethical considerations while conducting research. Keeping in mind the cultural values of Pakistan and children usually still living with their parents after they are 18 years old, sometimes even after getting married and having their own families, emailing surveys to the students was considered preferable to posting paper-based surveys to personal postal addresses which were likely to also be their parents' addresses. The time efficiency, high response rate and ease of analysis were also important factors in deciding to utilise online surveys for this study.

The digital practices survey (see Appendix 8) was an adapted version of the Student Experiences and Expectations of Technology (SEET) questionnaire (Gosper, Malfroy, & McKenzie, 2013) and aimed at identifying the current and preferred use of technology by students in three universities in Australia. In the adapted version of the survey the technological tools which were not very common in Pakistan were taken out, and a new section related to MALL practices of Pakistani students was added. The resulting digital practices survey also contained some items related to the demographic information about the participants.

The digital practices survey had three major sections; 1) Demographic information, 2) Use of digital technologies for educational and non-educational purposes, and 3) Use of smartphones for enhancing English language proficiency. It was a combination of multiple choice tabular questions, open and closed questions and yes/no questions. The first page of the survey contained a summary of the research study and three items related to the consent of the participants. The last page of the survey contained invitation to the pre-interview as well as the intervention. The total estimated time to complete the survey was 10-15 minutes. Major sections of the survey are explained below:

a) *Demographic Information*: This section was focused on collecting information on students' background information. There were ten items in this section and four types of information were asked; personal details, previous education at high school level, digital tools they have been using and their self-efficacy in English language.

b) *Use of technology for educational and non-educational purposes*: This section consisted of 5 items and collected responses from the participants about their use of technology for their studies (educational purposes), social life (non-educational purposes) and contacting their teachers and class fellows for academic purposes. The last part of this section asked the participants to report the locations from where they accessed these technologies for their studies.

c) *Use of smartphones for enhancing English language proficiency*: This section was aimed to collect data on how participants used their smartphones for enhancing reading, writing, listening and speaking skills. It also consisted of items related to use of smartphones for learning English vocabulary. Participants' beliefs about the use of smartphones for English language learning were also captured in the pre-survey.

3.6.2 Background information survey: The digital practices survey in Phase 1 explored the types of technologies being used by students for educational and non-

education purposes. The digital practices survey also documented students' use of smartphones for enhancing English language skills. The sample size of Phase 1 was considered large enough to generalise the results of the digital practices survey to the whole undergraduate population at BZU. The participants of the Phase 2 had not completed the digital practices survey. Hence, there was no demographic information available about them. As a result, a background information survey was conducted in the beginning of Phase 2. The purpose of the background information survey was to collect background information related to students' use of smartphones, their self-evaluation of their own English proficiency level and the number of years they had spent learning English. It also sought information about how long the students had been using smartphones, as well as for which purposes they were using them. The background information survey consisted of seven items and was administered at the beginning of the study (see Appendix 9). There were no pre-course surveys conducted during Phase 2. Hence, only demographic information was sought for Phase 2 participants. (The reason for having different participants in both the phases has been explained in Section 3.3.4.)

3.6.3 Pre-course interviews: All students were invited to participate in interviews. Eight students volunteered. The pre-course interviews were conducted individually through WhatsApp. The focus of these interviews was to get information about participants' previous experience of blogging, previous use of smartphones for English language learning, and their beliefs about the role of blogs and smartphones in improving English reading and writing skills. Participants were contacted through the contact information they provided in the background information survey. A mutually agreed time for the interviews was decided and the interviewees were briefed about the interviews individually before they were conducted. The average time to complete each interview was 5 minutes. The interview responses were coded manually.

3.6.4 Participants' written feedback: At the end of the course, all students were invited to express their opinion, experiences and expectation about the training

course. They gave their feedback in the comment section of the Activity 7. They were encouraged to indicate which activities were interesting for them and which were hard to complete. Their future preferences about keeping their personal blogs going were also sought (see Appendix 20).

3.6.5 Post-course interviews: The aim of post-course interviews was to explore students' experiences in using smartphones for blogging, their beliefs about the use of smartphones for enhancing English language skills, and their future preferences in the use of technology for English language learning (see Appendix 6). The participants for pre- and post-course interviews were same. These interviews were carried out through the WhatsApp application on smartphones and it took approximately 11 minutes to complete each interview.

3.6.6 Follow-up survey: The follow-up survey served the purpose of post-course surveys. As there was no pre-course survey conducted in Phase 2, for the sake of simplicity the term 'follow-up survey' was used instead of post-course survey. The follow-up survey was an online survey with 5-point Likert scales which explored students' beliefs about using smartphones for learning English writing. Wesely (2012) argued that much seminal research about language learners' attitudes and beliefs published in 1990s used surveys as research tools (e.g. Dörnyei, 1994; Oxford, 1994). These surveys used Likert scales to measure the key constructs. Wesely (2012) further pointed out that surveys remain preferred data collection tools in the above-mentioned research area. Moreover, maintaining confidentiality and anonymity was important in self-reported data collection tools to mitigate the danger of participants reporting their beliefs as their expectations (Mills, Pajares, & Herron, 2007). (Ethical considerations related to confidentiality and anonymity are explained in Section 3.8)

The follow-up survey was influenced by Davis's (1989) Technology Acceptance Model (TAM). TAM presents two constructs for technology acceptance and use: perceived ease of use and perceived usefulness. Perceived ease of use refers to users' beliefs related to the degree of ease and effort involved in the use of a

technology. Perceived usefulness refers to users' beliefs about potential improvement in their skills after using a particular technology. Both of these constructs have direct influence on users' behaviour. In the present study, students were using smartphones and blogs for practicing English writing skills outside the classroom. The use of both the technologies was new for the students in an educational context. Hence, students' beliefs and perception had a direct influence on their future preferences for these technologies.

The survey consisted of 31 items which measured students' attitude and beliefs towards ease of use and perceived usefulness of blogging, use of smartphones for practicing English language, and online training in MALL (see Appendix 10). Relevant items in the follow-up survey to measure these constructs are explained below:

A. **Attitude towards use of blogs for practicing English writing skills:** This construct was measured by seven items and tapped into students' beliefs, preferences and enjoyment of using blogs for practicing English writing skills. These items are as follows (The numbering in these items is the same as used in the survey, hence the numbers within each of the following groups is not always sequential):

   1. I believe that my blog helps improve my English writing skills.
   3. I enjoyed working on my blog during my free time.
   4. I prefer using blogs to write in English as compared to pen and paper.
   5. I enjoyed reading others' blogs.
   6. I enjoyed posting comments on others' blogs.
   7. I enjoyed receiving comments on my blog posts.
   18. I will continue to use my blog in future.

B. **Ease of use:** Ease of use was measured in two dimensions: ease of using smartphones for blogging, and the influence of training. There were five items altogether to measure this construct. These items are listed below:

    2. It was easy to learn how to use blogs.

    12. It was easier to use smartphones for reading blogs as compared to other digital tools.

    13. It was easier to use smartphones for writing on blogs as compared to other digital tools.

    14. It was easy to follow the instructions during the course.

    15. The training offered flexible time to complete the activities.

C. **Community building among students:** Community building among students was an important construct as the whole study was carried out outside the classroom environment. Since the students belonged to one cohort, they already knew each other. It was hypothesised that even during their independent language learning practices they would keep a community, sharing among themselves. The following three items were used to tap into this paradigm:

    10. I took help from my friend/family to proofread my posts.

    16. I shared my experience of using a smartphone for learning English language with my class fellows.

    17. I helped my class fellows if they encountered any difficulty in using smartphones for blogging.

D. **Perceived improvement in English writing skills:** The students evaluated their beliefs about the effect of using blogs on their smartphones for improvement in English writing skills by indicating the degree to which they agree or disagree with the following statements:

Writing on blogs has helped me to

    20. Develop my academic writing skills.

    21. Learn new vocabulary.

22. Improve my grammar.

23. Perform better in my English writing assignments in class.

24. Become more careful about word choice and spelling.

25. Pay more attention to sentence structure.

26. Understand how to write descriptive and argumentative essays.

28. Spend more time in planning and revising my writing tasks.

30. Perform better in exams as I was able to write better English.

E. **Perceived improvement in communication skills:** To measure effect of blogging through smartphones on overall communication skills of students, students were asked to rate their beliefs on the Likert scale from strongly agree to strongly disagree for following two items:

Writing on blogs has helped me to

19. Express my ideas and opinions in a better way.

29. Improve my communication skills.

F. **Perceived increase in motivation and confidence:** Students rated their beliefs of change in their motivation and confidence level in their English writing skills both in and outside classroom. The following items were used to measure this construct:

Writing on blogs has helped me to

27. Increase my motivation and interest in writing in English.

31. Increase my confidence and engagement in class activities.

3.6.7 Interview with the English teacher: Although the study was being carried out outside the classroom, the participants of the study were contacted and invited to participate in the study through the head of the department. Furthermore, all participants of Phase 2 belonged to one intact class and they shared their experiences with the class teacher. Hence, the English teacher was well aware of the study. Chan (2001) pointed out that Asian teachers enjoy authority and respect

and consider themselves solely responsible for students' learning. There exists hierarchal inequality between students and teachers. Yasmin and Sohail (2018) have also pointed out that due to high religious influence on Pakistani culture, teachers are considered a symbol of authority in students' lives. Students are supposed to be very obedient and have great reliance on teachers for their learning. In such a scenario, not involving the English teacher in the present research could have posed a challenge to her authority and hierarchal position. Furthermore, although the research was carried out outside the classroom, it was assumed that practicing English writing skills may have had an influence on students' attitudes towards English language, confidence, and engagement in classroom activities during their English class. Hence, keeping in mind the Pakistani culture and extending professional courtesy to the English teacher, it was decided to interview her to document her thoughts about the students' participation in the study. The qualitative data collected through the English teacher's interview was used to triangulate the findings of self-reported data related to students' attitude towards use of smartphones, change in confidence and motivation level. The English teacher was contacted and a time for a semi-structured interview was arranged. The teacher was asked to share her observations on any change in students' attitude, performance and engagement in class activities. The interview questions were also focused on exploring the teacher's beliefs regarding the benefits and drawbacks of using smartphones for improving English writing skills in Pakistani classrooms, and possible challenges that may be faced by language teachers (see Appendix 7). This interview was carried out through Skype and took approximately 25 minutes to complete. The questions were developed in such a way as to ensure the anonymity of individual students. Moreover, the interview was conducted at the end of the semester to ensure that students' grades could not be affected in any way.

3.7 Research questions and the relevant data with key constructs

Research Question 1: *What are the digital practices of undergraduate students both inside and beyond the classroom in Pakistan?*

This research question aimed at exploring the existing or previous digital and MALL practices of the undergraduate students as well as considered their future preferences. The digital practices survey (described above) was used as data collection tool for this research question. The statistical program R was used to analyse the quantitative data collected through the digital practices survey. There was no qualitative data involved in this research question.

Research Question 2: *What are the effects of learner training in MALL on learners' attitude towards, beliefs about and use of smartphones for autonomous language learning?*

Both qualitative and quantitative data were used to examine this research question. Qualitative data was collected through the pre- and post-course interviews, learners' written feedback on the course, and an interview with the English teacher. Quantitative data consisted of the number of posts published by students on their respective blogs, the number of words used for each post and the follow-up questionnaire. The qualitative data was analysed thematically using NVivo and quantitative data was processed and analysed using statistical testing software called R. Both qualitative and quantitative data were clustered around the following key constructs:

1. Perceived usefulness of instructional posts and videos;
2. Students' attitude towards blogging;
3. Students' attitude towards using smartphones for blogging and language learning;
4. Students' beliefs about improvement in their English language skills;
5. Students' beliefs about increase in their motivation and confidence level related to English language;

6. Effect of training in frequency of publishing individual blogposts;

7. Students' attitude towards online training.

3.8 Ethical considerations

Prior to conducting the research, ethical approval for the study was sought from the Educational Research Human Ethics Committee (ERHEC), University of Canterbury, New Zealand. Since, all participants of the study were above the age of sixteen, informed consent was obtained from the participants themselves (see Appendices 1, 2, 3, & 4).

The main participants of the study were undergraduate students at BZU, who were recruited through the heads of their respective departments. The heads of the departments were provided with complete information about the study such as the study itself, type of participation expected from the students and time required each week to complete the study, etc. The heads of the departments were encouraged to contact the researcher, the main supervisor of the study or ERHEC if they required further information about the study. The heads of the departments were assured that this study would be carried out outside the classroom and would not affect students' studies at the university. Furthermore, participation in the study was voluntary and the heads of departments had the right to stop the researcher from collecting the data at any time during the study.

According to Roberts and Allen (2015), informed consent is an important feature of ethical research. Furthermore, this informed consent should be given voluntarily. Stierer and Antoniou (2004) defined higher education students as adults who voluntarily enter into higher education and are aware of the research ethics, hence they are not regarded as a vulnerable population. However, if the researcher is their teacher as well, these students can be considered as a vulnerable population (Roberts & Allen, 2015). In the present study, the population cannot be considered vulnerable as the study was being conducted outside the classroom as well as the researcher had no educational relationship with the students. Prior to

conducting the study, the students were given complete information about the study, their participation, the duration of the study, and the prospective benefits attached with the study. The students were informed that their participation in the study was voluntary and the data they provided would be treated as confidential. They could withdraw from the study at any time. Furthermore, they were assured that their decision to participate or not participate in the study would not have any negative affect on their grades in class or their relationship with their teacher and department.

Mahon (2013) recommended that an information sheet must be attached to the online survey as the first page with a mandatory requirement to give informed consent prior to proceeding with the online survey. In case of the digital practices survey, an information sheet was set as the first page of the survey. After explaining the study, students were asked to indicate their understanding of what is required from them in the study and their willingness to participate in the study.

Anonymity and confidentiality are the key ethical features of online survey research (Roberts & Allen, 2015). In the present study, the digital practices survey and the follow-up survey were anonymous so that students could provide information about their digital practices and give feedback about the training course without feeling any pressure. While discussing the storage of the research data, Roberts and Allen (2015) mentioned that storage, delivery and electronic transfer of the research data must be conducted with good precautions. The interviews, in the present study, were conducted by the researcher individually and students were assured that only the researcher would have the recordings of the interviews and these would be stored securely. Furthermore, these interviews would be used only for the research purposes in the present study.

Students were also provided with the contact information of the concerned persons (ERHEC, researcher, main supervisor of the study) at the University of Canterbury, New Zealand to contact if they required further information. Since BZU did not have a learning management system and it was expected that the

students would have no/very little prior experience of online communication for study related purposes, students were also provided with the contact information of a person at BZU who was physically present to ensure their understanding and answer their questions (in case students felt reluctant or shy in asking the questions from the researcher).

Chapter summary

The main purpose of this chapter is to provide a detailed discussion of the pilot study and the changes made in the main study research design as a result of the learnings from the pilot study. An overview of the methodology used in the main study is also provided in the chapter. The main study was carried out with 23 Pakistani undergraduate students studying in first semester with molecular biology and biotechnology majors. A digital practices survey was also carried out prior to the start of learner training. This survey was carried out with 316 participants to explore current digital practices and future preferences of undergraduate students at BZU. At the end of the chapter, ethical considerations of the study are also discussed.

In the coming chapters, each phase of the study is discussed separately. Chapter 4 will present previous studies to investigate the digital and MALL practices in different contexts and a detailed discussion of digital practices survey, methodology and results obtained. Chapter 5 will also be constructed on the same pattern. It will start with previous literature on the use of smartphones and blogs and the need for learner training. Afterwards, methodology and data collection tools are presented. At the end of the Chapter 5, results related to the effect of learner training in MALL on attitude, beliefs and practices in the use of smartphones for autonomous language learning are discussed. Chapter 6 will include a discussion of results, conclusion of the study and future directions.

Chapter 4: Digital practices of undergraduate students in Pakistan

Chapter overview

This chapter describes the study carried out during Phase 1 and reports the findings for the first research question of the study: *What are the digital practices of undergraduate students both inside and beyond the classroom in Pakistan?* The chapter is divided into five sections. The first section (4.1) describes the previous literature in the field of the use of technology among students for various purposes, studies carried out in the same field in Pakistan and establishes why it is important to document students' digital practices before moving ahead to the Phase 2. The second section (4.2) elaborates the development of the digital practices survey, the research tool used in Phase 1. The third section (4.3) describes the methodology. The next section (4.4) presents the participants of Phase 1 and their demographic information. The last section (4.5) reports the findings of Phase 1. This section is further divided into two sub-sections. The first sub-section reports the results of the digital practices survey related to the use of technology for educational and non-educational purposes by undergraduate students at Bahauddin Zakaria University Multan. The second sub-section reports the use of smartphones by the above-mentioned students, especially for learning English language.

4.1 Literature review

Technology can play a key role in facilitating and improving learning, not only in classroom environments but also in self-directed learning, collaborative learning, and teaching through connecting learners otherwise separated by time and space. With the widespread availability of technology in many contexts, it is no longer a question of whether technology should be used in educational environments, or how much. Rather, the question is how to make best use of technology to enhance students' educational experiences and outcomes (Dahlstrom & Bichsel, 2014). Educators now face the challenge of enhancing students' educational engagement by applying student-preferred technologies which not only fulfil students' needs

but also meet their expectations. A first step in this regard is to identify students' pre-existing technology environments and practices, so informed decisions can be made about technologies, and associated support and infrastructure, that can help support student success (Dahlstrom & Bichsel, 2014).

Many studies have been conducted to explore students' beliefs and practices related to technology in various international contexts. Al-Hariri and Al-Hattami (2017) surveyed 231 students at University of Dammam, Saudi Arabia to investigate students' use of digital devices for educational purposes. They found that the most common digital devices used by students were laptops (50% students used laptops) followed by the smart devices (42%). Tablets and desktop computers were among the least used digital devices. Furthermore, they found a significant relationship in students' use of technology and their academic achievements. Al-Hariri and Al-Hattami (2017) drew the conclusion that combination of handheld computers and smart devices can make the electronic educational resources instantly accessible through an internet connection. However, the educational institutes must decipher pedagogically which materials should be delivered electronically and which require face-to-face learning methodology.

In another study carried out in an informal study context in Hong Kong, Deng and Tavares (2015) explored the intellectual and socio-emotional affordances of web-based technologies. The researchers determined that students perceived Moodle as an academic platform to be used for downloading and not suitable for sharing their thoughts and communicating with the peers.

Swanson and Walker (2015) argued that the non-academic use of technology by 'digital natives' or 'net generation' (Bennett & Maton, 2010; Prensky, 2010) shapes their academic use of technology and learning process. However, most of the research explores academic use of technology and does not consider the difference in academic and non-academic uses of technology among this 'net generation'. Swanson and Walker (2015) conducted a descriptive study to investigate the

patterns for the academic and non-academic use of technology among a private college's students in the USA (235 students participated in the study). The results indicated that personal computers were used by majority of the students (95%) for academic purposes whereas 97% students used cell phones for non-academic purposes. Interestingly, iPads/tablets were neither being used for academic (77% of the students reported) nor for non-academic purposes (73% of the students indicated). Social media applications were used mostly for non-academic purposes and emails were being used by 92% of the students for academic purposes. Swanson and Walker (2015) concluded that the use of technology among college students was highly contextualised and it was very hard for students to conceptualise the academic benefits of certain technologies, otherwise used for non-academic purposes. They further suggested that educators can play a vital role in broadening "students' perspectives by modelling technological usefulness for many resources and application" (p. 155).

The EDUCAUSE Centre for Applied Research (ECAR) conducted a series of studies to investigate the variety of technologies being used and the level of skills employed by undergraduate students in using these technologies. The most recent report by ECAR was published in 2016 (Brooks, 2016). They surveyed 71,641 respondents from 183 institutions in 12 countries and 37 US states, however the report was focused on 10,000 respondents at US institutions. The results indicated that smartphone and laptop ownership had increased since 2014 but tablet ownership did not show any increase or decrease. More than 50% of the respondents indicated ownership of multiple digital devices including a laptop computer, a tablet and a smartphone. A majority of respondents perceived use of technology as a means to overcome structural and institutional disadvantages and preferred blended learning design in their classrooms.

Keeping in mind the benefits digital devices, especially mobile devices offer and their popularity among students, universities in many parts of the world started investing in mobile apps and mobile-optimised versions of their websites. In a

recent study, Briz-Ponce, Pereira, Carvalho, Juanes-Méndez, and Gracia-Peñalvo (2017) carried out a self-report survey with 160 medical students studying in the first, third and fourth year of study at the University of Coimbra, Portugal. The purpose of the study was to investigate which drivers played a key role in shaping students' behaviour in using mobile devices for educational purposes. Briz-Ponce et al. (2017) reported that 96.8% of the students owned a mobile phone and 94% perceived ease of use as a major characteristic of mobile phones. However, only 24% students used mobile phones for completing an academic task. The researchers found social influence to be a major factor to direct students' attitudes and intention to use mobile phones for learning purposes.

A similar study was carried out by Al-Emran, Elsherif, and Shaalan (2016) to investigate the role of factors such as age, country of origin, academic major, ownership of smartphones, and level of study in shaping students' attitudes towards use of mobile phones in education. The study also explored faculty members' attitudes towards using mobile phones in learning and teaching contexts. The data was collected from five higher education institutes in Oman and the United Arab Emirates and 383 students and 55 instructors participated in the study. The results revealed that 99% of the students had mobile devices (smartphones/tablets) however only 16.7% were using them for educational purposes. Among the factors under study, only age, country and ownership of smartphones yielded a difference in students' attitudes towards using mobile devices for educational purposes.

The use of technology especially in language learning has also been focus of many studies. Golonka, Bowles, Frank, Richardson, and Freynik (2014) pointed out that appropriate use of technology can "increase learner interest and motivation; provide students with increased access to target language (TL) input, interaction opportunities, and feedback; and provide instructors with an efficient means for organising course content and interacting with multiple students" (p. 70-71). Many researchers have explored the affordances of various types of technologies in

language learning: Blackburn and Hakel (2006) explored the use of portfolios for developing learner autonomy and self-assessment; Burston (2001) investigated the use of grammar checker software in teaching and learning English writing skills; Laufer and Levitsky-Aviad (2006) explored students' preferences for electronic dictionaries; Taylor (2009) explored the use of electronic glosses in reading comprehension; Sykes (2005), and Shih and Yang (2008) reported improvement in students' language learning and motivation in virtual environments; Blake (2009) reported improved development in learners' oral proficiency through participating in web chat; Armstrong and Retterer (2008) reported high perception of learners related to improvement in writing skills through blogs; etc. However, the use of technology for language learning requires careful considerations about learners' needs, learning context, and the availability of respective technology. If not used carefully, the use of technologies can result in "inappropriate input, shallow interaction, and inaccurate feedback; student frustration with software and hardware; distraction from the learning task; and a general over-emphasis on delivery modality over learning objectives" (Golonka et al, 2014, p.71).

Most research in the field of what are variously termed students' beliefs, perceptions and practices in information and communications technology (ICT) is conducted in high-income economies where 94% of the young population aged 15-24 use the internet, compared to 67% in lower- and upper-middle income economies, and 30% in the low-income economies (International Telecommunication Union [ITU], 2017). Hence results from these studies cannot be generalised for lower and upper middle-income, and low-income economies' contexts where facilities and infrastructure related to ICT are more limited. Standing at 148th place in a global ICT index of 176 economies, Pakistan is still a lower-middle income economy (ITU, 2017).

Research in the field of use of technology by students for educational and non-educational purposes is a neglected area in Pakistan. Out of the few studies that have been carried out in Pakistan in this field, the majority aimed to explore the

use of social networking sites by students and teachers in educational and non-educational contexts. Javed and Bhatti (2015) explored the use of social media by students at a medical college in the Punjab Province of Pakistan. The findings of the study suggested that students preferred using YouTube and Facebook among other forms of social media. Besides, they were using the above-mentioned tools for both academic and non-academic purposes. Javed and Bhatti (2015) suggested that social media could prove a productive tool in medical classrooms for conducting discussion sessions on social issues related to medical healthcare in Pakistan.

However, Arif and Kanwal (2016) claimed that there was still insufficient research available to determine the benefits of social media in educational settings in Pakistan. They claimed that the most neglected area in Pakistan was research on the nature and impact of social media on students outside the classroom. Arif & Kanwal conducted a study to explore the patterns of adoption of social media technologies among distance education students and their impact on students' academic performance. The study sample consisted of 365 students from five different study majors studying at the Faculty of Social Sciences and Humanities, Allama Iqbal Open University, Pakistan. A survey was administered and sent through the postal service to distance education students. The results revealed that Facebook, YouTube and WhatsApp were more common social media tools, whereas Twitter and Skype were rarely used. A majority of the students (66.4%) indicated that the use of social media technologies had positive impact on their academic performance. Arif and Kanwal further found that perceived behaviour control was the strongest factor which contributed 69.5% towards the use of social media technologies by distance students. Arif and Kanwal suggested that social media technologies could be a means of fast and vibrant communication tool for learning and socialising within distance education communities. They can also help overcome the problem of the digital divide between high-income economies and lower- and upper-middle income economies.

These findings were supported by Hussain, Bhutto, Rai, Hussain, and Zaheer (2016) who investigated the effect of network-based issues on social computing practices of social media users from six major cities in Pakistan. Statistical analysis of 326 complete surveys administered online indicated that social media users preferred using Facebook and YouTube for educational, social and commercial purposes. However, unwanted advertisements, poor data speed, and the privacy, integrity and reliability of user communication were key issues raised by respondents, affecting the use of these tools.

In another study, Bashir, Mahmood, and Shafique (2016) explored the use of the Internet by 300 tertiary students studying at the University of Punjab in Pakistan. They found that 30% of the students had been using internet for five or more years and the most common place to use internet was university library. The majority of the students (47%) were using the internet 2-3 days per week. When asked about training in using the internet, 88% students mentioned self-teaching or getting help from friends.

Abu-Shanab and Al-Jamal (2015) have pointed out that digital disparities among people go beyond access, skills and experiences in using ICT. These digital inequalities have also been attributed to race, disabilities, education, age, income, gender, socio-economic factors, and living arrangements (Abu-Shanab, 2013; Geana & Greiner, 2011; Lepadatu, 2013). The effect of these factors cannot be eliminated while studying students' access to and use of technologies. If we look at research on the factor "gender", many studies have indicated that women in lower- and upper-middle income economies lag behind men in access and use of the digital devices (Abu-Shanab & Al-Jamal, 2015; Bogdan-Martin, 2016; Huang, Hood, & Yoo, 2013). Eddy (2016) claimed that the fact that 95% of the jobs now have a digital component poses a challenge in equal distribution of economic, social and educational opportunities in gender-segregated economies. Abu-Shanab and Al-Jamal (2015) described the digital gender gap as "the unequal opportunity for ICT use between men and women in social, political, economical

and cultural domains" (p. 95). Researchers have pointed out many factors which influence digital gender gaps, such as cultural biases towards women, socialisation patterns between men and women, social orientation during childhood, gender discrimination in media and at schools, and career choices (Alsaleh & Rashad, 2012; Huang, Hood, & Yoo, 2013; Lim & Meier, 2011; Sparks, 2013). Furthermore, these factors contribute to psychological barriers in the shape of lack of confidence, hesitation to participate in learning activities related to ICT, and considering ICT for men and the elite class only (Singh, 2017).

Despite efforts by governments in lower- and upper-middle income economies, the digital gender gap continues to grow (Singh, 2017). The global gender gap had increased from 11% in 2013 to 12% in 2017 (ITU, 2017). This digital gender gap is very visible in Pakistan which was ranked 143 out of 144 countries in the gender inequality index by the World Economic Forum's Global Gender Gap Report 2016 (World Economic Forum, 2016). Furthermore, in a study carried out in 2016, Eddy (2016) reported that only 9% of women owned smartphones compared to 22% of men in Pakistan. The Pew Research Center (Pew Research Centre, 2015) explored the digital gender gap in 40 lower- and upper-middle income economies and found double-digit digital gender gaps (10% or more) in many countries. In Pakistan, it was 13%. Looking at the importance of gender as a factor in determining the digital practices of individuals, the present study also aims to explore the difference (if any) in the use of technologies among male and female undergraduate students in Pakistan.

Along with the gender digital gap, the content language of technology is a major factor in shaping the preferences and experiences of students in the use of technology. Around seven thousand languages are spoken in the world, but digital content languages (primary content language of a site or application) are few (Bolluyt, 2014). Among these few languages, English is the most common language, used by 26% of worldwide internet users (Statista, 2018). Around 53.6% of websites, apps and online services use English as a content language whereas

Urdu comes among languages which are used by less than 0.1% of websites (W3Techs, 2017). Bolluyt (2014) argues that this digital divide is a problem not only for inexperienced users who want to access the Internet in a language they know, but also for the digital world that wants to access these new users, which ultimately determines the number of internet users.

In Pakistan where English is the official language of all but first language of none, only 10% of the population uses the internet (United Nations e-Government Knowledge Database, 2014), of which the majority are 20-24 years old. The undergraduate students in Pakistan come from two major streams of education: Urdu-medium schools where Urdu is the language of instruction and English-medium schools where English is the language of instruction. The majority of the Urdu-medium schools are public schools and cater for rural or semi-urban localities and low-income families. On the other hand, English-medium schools are preferred by upper-middle and elite class families. The majority of English-medium schools are private schools and have qualified and trained teachers, higher quality classroom facilities, and more imported educational materials as compared to public schools. Many researchers have described English-medium schools being well equipped with digital tools such as computers, projectors and access to digital libraries as compared to Urdu-medium schools (Dogar, Butt, Butt, & Qaisar, 2015; Khurshid, Shah, & Reid, 2016; Siddiqui & Gorard, 2017). Access and exposure to these digital facilities influence English-medium school students' skills and digital practices positively (Shabbir, Wei, Chong, Marwat, Nabi, & Ahmed, 2014). On the other hand, Urdu-medium school students' use of digital tools relies on their personal access to these tools at home (Salam, Jianqiu, Pathan, & Lei, 2017). As such, their proficiency in English language can be predicted and technology preferences and practices of both these groups can be projected. Hence, it was considered important in the current study to explore undergraduate students' use of technology based on language of instruction during their high school studies.

Since Phase 1 serves as a foundation study to capture the extent of digital practices of undergraduate students before investigating the effect of training in MALL on their beliefs and practices, it was considered important to explore students' previous experiences in using smartphones for English language learning. It has been described in Chapters 2 and 3 that although digital devices, especially mobile phones, are very common and are being extensively used by young generation in Pakistan, their use for educational purposes, particularly for learning English language is very limited. However, until now, no research claim has been made to validate these assumptions. Prior to training learners in MALL, it was considered necessary to have a clear picture of which digital devices were being accessed and used by undergraduate students at BZU. Furthermore, Phase 1 was aimed to collect data from a larger sample than Phase 2, so the results could be generalised to the whole undergraduate population of BZU.

Another reason to include a section on the use of smartphones in English language learning in this preliminary research was the belief that with the increasing use in day-to-day use, mobile technologies can help leapfrogging the digital divide in lower- and upper-middle income economies (Puspitasari & Ishii. 2016). Several studies have been carried out to investigate the effect of mobile technologies on the digital divide in high-income economies (Lee, Park, & Hwang, 2015; Mascheroni & Olafsson, 2016). Furthermore, benefits of mobile devices in teaching and learning English language have been documented by many researchers (Chen & Denoyelles, 2013; El-Hussein & Cronje, 2010; Franklin, 2011; Hockly, 2013; Kukulska-Hulme & Shield, 2008; Mueller et al., 2011; Oz, 2015). However, in lower- and upper-middle income economies, these types of studies are very scarce. In Pakistan, little research has been carried out to explore the use of smartphones in English language learning.

Building on previous research, Phase 1 of the study explores the digital practices of students for both educational and non-educational purposes in the specific context of Pakistan. It also gathers information on whether and how students are

using mobile phones for learning English. Information has been collected on students' previous digital and mobile assisted language learning (MALL) practices, as well as demographic factors (gender, medium of education during high school, and study major in their undergraduate studies) that may impact their digital and MALL practices, in order to establish what is currently being done, and to gain insights into how to maximise educational outcomes by integrating students' preferred digital devices. Hence, the Phase 1 attempts to answer the following research questions:

What are the digital practices of undergraduate students both inside and beyond the classroom in Pakistan?

The main research question for Phase 1 is supported by following sub-questions

- *How do gender, study major and medium of education influence undergraduate students' digital practices?*
- *What are undergraduate students' MALL practices for enhancing English language skills outside classrooms?*

4.2 Methodology

The aim of Phase 1 was to gather information about digital practices and preferences of undergraduate students at BZU. It has been described in Chapter 2 that although digital devices especially mobile phones are very common and are being extensively used by young generation in Pakistan, their use for educational purposes particularly for learning English language is very limited. However, until now no research claim has been made to validate these assumptions. Prior to training learners in MALL, it was considered necessary to have a clear picture of which digital devices were being accessed and used by undergraduate students at BZU. Hence, the results obtained from Phase 1 served as a foundation ground on which Phase 1I was structured.

The first step in Phase 1 was to recruit participants. Several heads of departments at BZU were contacted and briefed about the study. After explaining the nature of the study via email, consent forms (see Appendix 2) and information sheets (see Appendix 3) were dispatched to the heads of departments electronically. Upon their approval and agreeing to participate in the study, distribution of information sheets (see Appendix 4) for the participants was discussed with each head of department.

There were two proposed ways of distributing the information sheets which contained links to the digital practices survey. Agreement on the way of distributing information sheets in each department was sought with the head of the department concerned.

1. The heads/chairpersons of the departments could distribute the hard copies of the information sheets containing the link to the survey to the undergraduate students of their respective departments. The participants could type the link on their smartphone or computer internet browser and access the survey. Or,
2. The heads of the departments could distribute the information sheets by email to the participants.

The consent forms for the participants were included in the digital practices survey. The first page of the survey contained a summary of the information sheets along with three yes/no questions constructed around the informed consent of the participants. These were compulsory questions; once a student had submitted their consent, they were directed to the main sections of the survey. Since participation was voluntary, all participants were informed about their rights of withdrawing from participation or declining to answer any question at any time without any kind of penalty. The survey also contained an invitation to take part in a pre-interview and the learner training course.

4.2.1 Digital practices survey

The digital practices survey (see Appendix 8) was developed to identify:

- technologies currently being used for educational and non-educational purposes;
- technologies being used to communicate with teachers and other students;
- use of smartphones to enhance English language skills;
- future preferences of students related to the use of technologies for educational, non-educational and English language learning purposes; and
- the extent to which gender, study major and medium of education impact on students' current use and future preferences of technology.

The Student Experiences and Expectations of Technology (SEET) survey, developed by Gosper et al. (2013), was drawn on to develop the digital practices survey. The SEET survey explored students' current use and future preferences related to learning management systems and 25 other technologies for social and study purposes, to identify students' experiences and expectations of technology. It contains 127 questions arranged into five categories. The survey was administered online to undergraduate and post-graduate students studying full-time or part-time in three Australian universities, generating a data set of 10,269 participants. It presented results for the entire population and did not consider impact of demographic differences between students on their use of technologies.

Although the SEET survey shared some of the same objectives as the current study, it did not consider the effect of demographic differences between students on their use of technologies, and the differences in context, education system, and availability of technologies between Australia and Pakistan meant that the SEET survey was not fully applicable to the current study. In addition, a key objective of this study was to not only understand trends among students in using technology for educational and non-educational purposes, but also to explore whether and how students were using their smartphones for learning English language. As a result, the digital practices survey developed for the current study drew on some of the questions from the SEET survey, with some major modifications and

additions to cater for the differences noted above and during pilot study. Changes included the removal of technological tools that were included in the SEET survey but were not in common use in Pakistan, the inclusion of additional questions, including a full section related to the MALL practices of students, plus items to elicit additional demographic information that was of particular interest for this study.

The digital practices survey comprised 120 questions organised in five sections. It was a combination of multiple choice tabular questions, open and closed questions, and yes/no questions. A four-point Likert scale; *never or rarely, a few times a month, a few times a week, and one or more times a day* was used to measure how often students currently used various technologies. The use of a four-point Likert scale was chosen to avoid the middle option and to measure the frequency of the use of technology in a consistent way. Furthermore, a three-point scale; *yes, yes and I would like to have training in it, and no, I would not,* was used to document the future preferences of the students in the use of technology. The estimated time to complete the survey was approximately 20 minutes. Cronbach's Alpha (α) was calculated to measure the overall internal consistency. The alpha value of 0.95 suggested that the survey was a reliable instrument.

The first section of the survey contained information and consent information. The second section sought background information including the students' age, gender, mother tongue, study major and semester. Students were also asked about the medium of education for their studies prior to beginning university education. Information about students' self-evaluation of their English for the four major language skills (speaking, listening, reading and writing) was sought, as well as their access to technology hardware, locations where they accessed them, and the devices they used for studies. This section also contained separate questions related to their access, purpose and the duration of smartphone usage.

The third section of the survey explored participants' use of technology for educational and non-educational purposes. This section consisted of five items to collect information about the students' use of technology for studies (educational purposes), social life (non-educational purposes), and contacting their teachers and class fellows for academic purposes. Instant messages, text messages, phone calls, emails, face-to-face meetings, Skype, Facebook, and other social networks such as Twitter and Instagram were included in the category of ways to communicate with teachers and other students. For social purposes, online computer games, online photo or video sharing, Wikis, FaceTime, Adobe Connect and Google Hangouts were included in the above list. Since Gosper et al. (2013) point out that "the potential of technologies cannot always be judged in isolation from the purpose for which they are to be used" (p. 271), the technologies associated with studies were linked with learning activities in the survey. The overall reliability coefficient (Cronbach's Alpha: α) for this section was 0.92.

The fourth section of the digital practices survey covered the use of smartphones for enhancing English language proficiency. It consisted of questions arranged in seven sub-categories to collect data on how participants used their smartphones for enhancing reading, writing, listening and speaking skills. It also contained items related to the use of smartphones for learning English vocabulary. Students' future preferences and beliefs about the use of smartphones for English language learning were also sought. The overall reliability coefficient (Cronbach's Alpha: α) for this section was 0.93.

The final section of the survey included five questions related to students' willingness to participate in learner training in MALL, plus a question seeking consent to use the information they provided in the survey for academic publications. The instrument was piloted on eleven students at the Department of English, Bahauddin Zakariya University Multan (BZU), Pakistan.

4.2.2 Participants

The target population for this study was students studying towards their undergraduate degrees at BZU. The participants had previously completed 12 years of education at different schools and colleges. The total population size was 319 students. However, three participants did not complete the full survey, resulting in a final data set of 316 (135 females and 181 male). The majority of the participants reported Urdu as their mother tongue (52%), with Punjabi (30%) and Siraiki (16%) the next most common mother tongues; none had English as their mother tongue. The students' ages ranged from 17 to 34 years. The participants were studying four different majors; Computer Sciences (CS), Humanities and Social sciences (HSS), Molecular Biology and Biotechnology (MBB) and Management Sciences (MS). They were studying in a variety of semesters, ranging from Semester 1 to Semester 8, which is the final semester of the undergraduate degree at BZU. Table 4.1 provides the number of participants from each discipline.

Table 4.1 Participants from each discipline

Major	Female	Male	Total
Computer Sciences	5	19	24
Humanities & Social Sciences	38	22	60
Molecular Biology & Biotechnology	36	28	64
Management Sciences	56	112	168
Total	135	181	316

Participants were also asked about the type of school they attended for their high school studies. The schools were divided based on two factors; status of school (private, public, religious/Madrassah) and medium of education at school (English, Urdu). Table 4.2 reports the institutions where students had been studying prior to entering their current level of studies.

Table 4.2 Participants' previous education institutions

Medium	Private	Public	Total
Urdu-medium school students	72	87	159
English-medium school students	122	32	154
Madrassah students	**0**	**3**	**3**

Note: Due to the small number, the data related to Madrassah students were excluded from analysis.

When asked about number of years spent studying English, 16% of the participants reported that they had been studying English for less than five years, 35% had spent five to eleven years studying English, and 25% reported they had spent twelve or more years studying English.

A complete presentation of self-evaluation of English language proficiency by the participants is given in the Figure 4.1 below. This shows that participants indicated listening and writing skills in English as the ones in which they felt most comfortable.
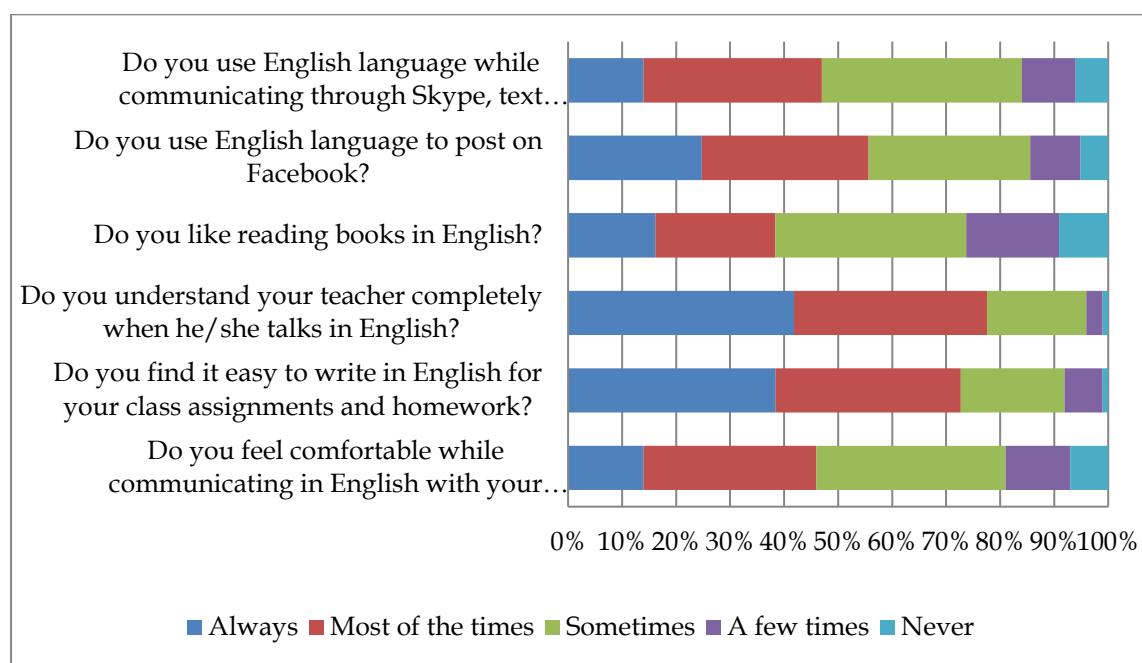
Figure 4.1 Participants' self-evaluation of English language proficiency

4.3 Results

The results of Phase 1 are arranged and reported in sequence with the research questions (see Section 4.1). First, students' use of digital tools in terms of access to digital tools and their use of technology for educational and non-educational purposes is reported. Secondly, students' use of smartphones for English language learning is described. Both of these findings are reported in relation to the independent variables of Phase 1: gender, medium of education and study major.

4.3.1 Use of digital tools

The results for self-reported use of digital tools among undergraduate students are reported in five subsections: access to digital tools; technologies to communicate with students with study related purposes; technologies to communicate with university teachers, use of technology for non-educational purposes; and use of technology for educational purposes.

4.3.1.1 Access to digital tools

Students were asked to indicate their access to digital tools. For this purpose, seven digital tools were chosen after careful consideration of the availability of digital tools to students in Pakistan and debriefing with the pilot study participants. These digital tools are described below:

1. Desktop or laptop computer at home;
2. Tablet (e.g. iPad, Samsung Galaxy or similar);
3. Own laptop at university;
4. University provided computer on campus (e.g. in labs, library);
5. Smartphone (e.g. iPhone, Android, Blackberry);
6. eBook reader (e.g. Kindle, Noodle);
7. Other devices with internet access (e.g. game consoles).

The results showed that the most common digital tool accessed by students was smartphone (96%). A very high proportion of students (83%) had access to a desktop or laptop computer at home. However, only 34% of students were bringing their own laptops to the university and 38% of students accessed university provided computers on campus. eBook readers, tablets and other devices with internet access such as game consoles were least popular digital devices. Figure 4.2 presents access to above stated digital tools by undergraduate students.
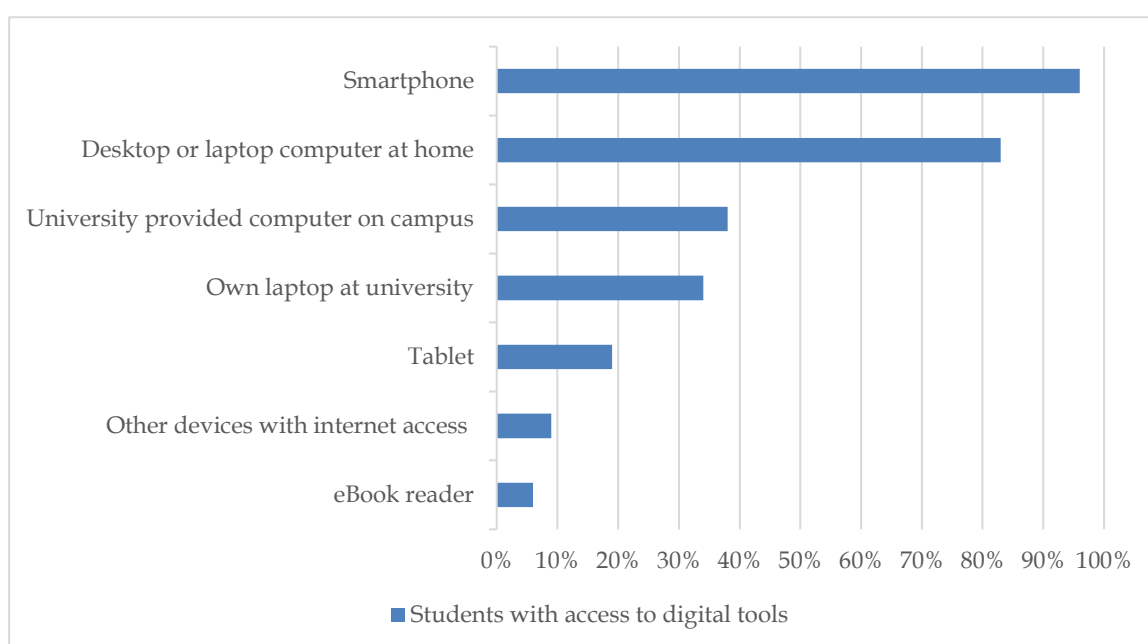
Figure 4.2 Digital tools accessed by undergraduate students

A further analysis was performed to investigate whether the medium of education had any impact on students' access to digital tools. It was interesting to note that although there was minimal difference found between Urdu-medium and English-medium students' having access to a desktop or laptop at home (83% -84% students from both the groups had access), bringing their own laptop to university was not as popular among Urdu-medium students (28%) as compared to students from English-medium schools (40%). Similarly, tablets were much more less common among Urdu-medium students (14%) when compared to English-medium students (25%).

The next set of analyses was performed to explore if the study of a particular major was related to undergraduate students' access to digital tools. Students were divided into four major groups: Students with computer sciences as study major (CS students), students with social sciences as study major (SS students), students with management sciences as study major (MS students) and students with molecular biology and biotechnology as study major (MBB students). When analysed based on these study majors, distinctive differences emerged in data. CS students showed an overall higher access to digital tools. Access to tablets (38%), own laptop at university (46%), university provided computers on campus (46%) and other devices with internet access (21%) was very distinctive among CS students as compared to students with other three study majors. The findings also revealed that female students were less likely than male students to bring their own laptop or access a university provided computer on campus as compared to male students.

A related question investigating which of the above mentioned digital tools were being used for study purposes was asked. The results revealed that a desktop or a laptop at home (78%) were most common digital tools often used for studies. A high percentage of students (50%) also used smartphones. The students' own laptop at university or a university provided computer on campus was a less popular choice among students for study related purposes (26% - 30%).

In order to identify the locations from where students were accessing these digital tools, students were asked to mention their priorities on a four-point Likert scale; *never or rarely, a few times a month, a few times a week, or one or more times a day.* The results for *a few times a week and one or more times a day* were combined to determine the recurring locations used by students to access these digital tools. As would be expected, 85% of students were accessing digital tools from home. On the other hand, 40% to 50% of students were also accessing these tools on campus and on the move.

4.3.1.2 Technologies to communicate with students for study related purposes

Gosper, Malfroy, & McKenzie (2013) pointed out that the students at three universities in Australia communicated with their teachers and fellow students differently. They (2013) argued, "communication with staff is largely dictated by staff preferences, whereas students have greater flexibility and choice in the technologies they use when communicating with each other" (p. 275). In the present study, students were asked to indicate their current use of technologies for communication with fellow students for study related purposes on a four-point Likert scale: *never or rarely, a few times a month, a few times a week, and one or more times a day.*

Results shown in Figure 4.3 indicated that text messages (72%), face-to-face meetings (59%), instant messages (49%) and Facebook (47%) were the technologies currently being used most frequently (One or more times a day) basis to connect with students. A high proportion of students (39%) were using email a few or more times during a week as compared to using emails every day (21%). Skype and other social networks such as Twitter and Instagram, etc. were among the least used technologies. A comprehensive picture of which technologies were being used by undergraduate students to communicate with other students is shown in Figure 4.3.
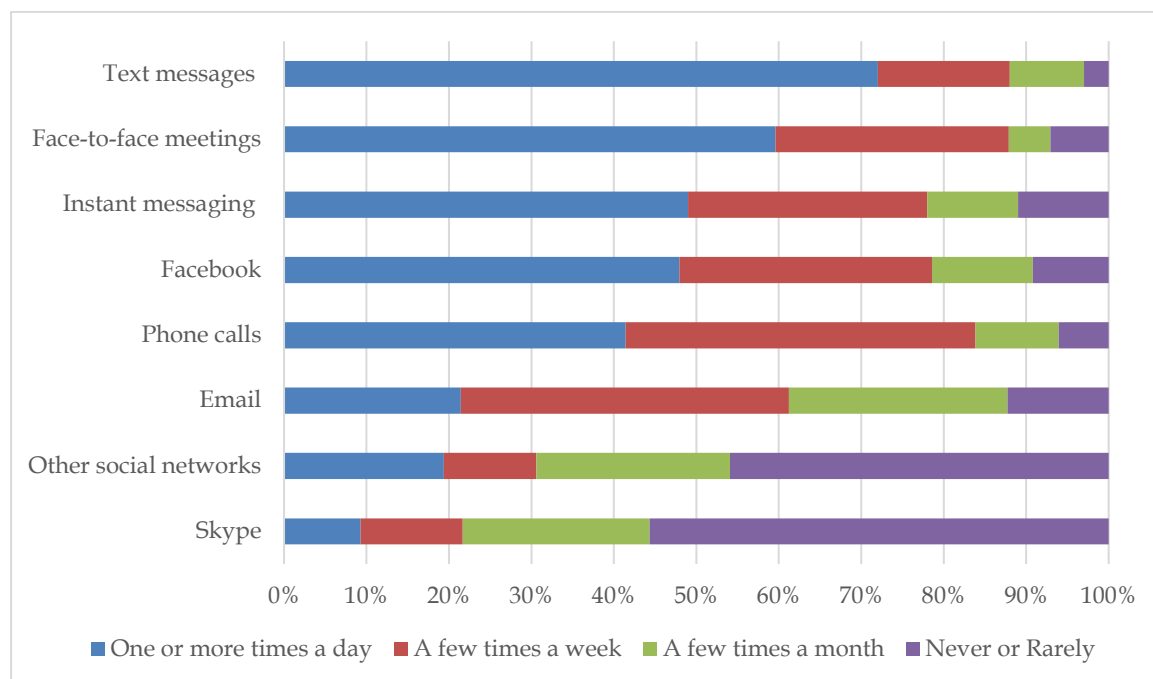
Figure 4.3 Use of technologies to communicate with students for studies

Data analysis based on study majors revealed clear differences in the use of technology. All CS students were using phone calls to communicate with other students ranging from one or more times a day to a few times a week. Usage of email to communicate was also much higher than the other three study major students with 75% of CS students using emails on daily basis as compared to 19% of MBB students, 23% of MS students and only 3% of SS students using emails daily to communicate with other students. On the other hand, there was no significant difference found in the use of technology between Urdu-medium and English-medium students. Both the groups preferred using face-to-face meetings, Facebook, instant messages and text messages every day.

Male students were much more actively involved in the use of technology to communicate with their fellow students than female students. Although there was a slight digital gender gap in the use of instant messages, text messages and face-to-face meeting, male students were using emails, phone calls, Skype, Facebook and other social networks such as Twitter, Instagram, etc. more frequently as compared to female students. These differences are presented in the following Figure 4.4.
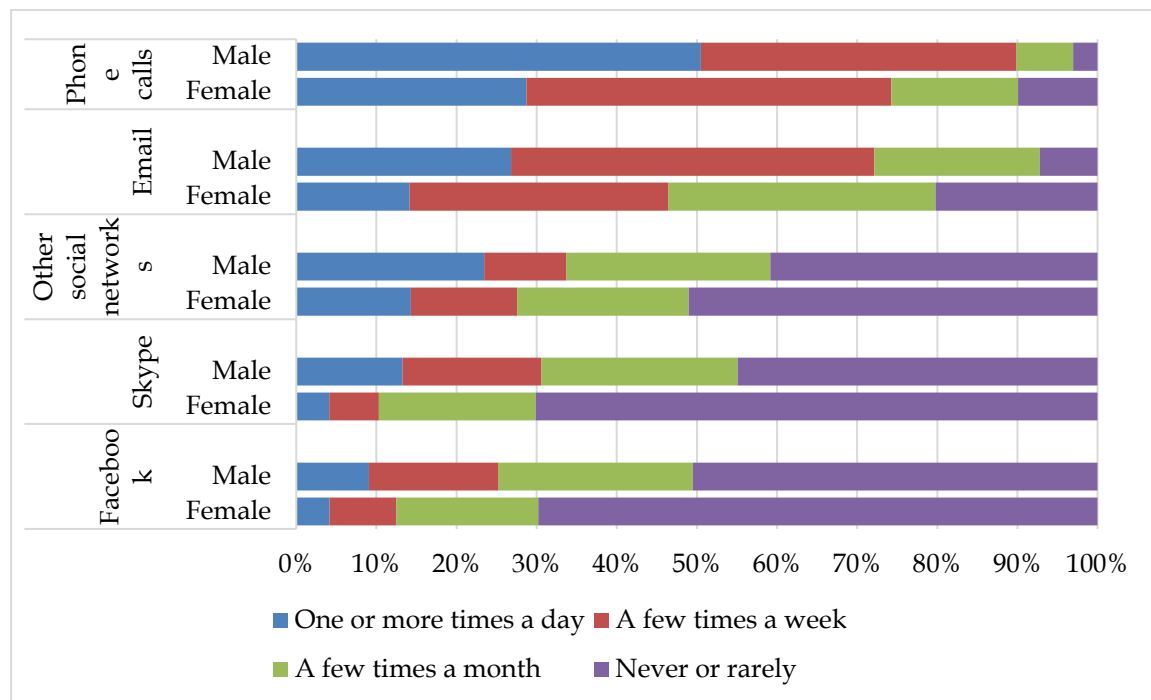
Figure 4.4 Gender difference in the use of technologies to communicate with other students for studies

4.3.1.3 Technologies to communicate with university teachers

The next question in the survey asked the students to indicate the degree to which they used different technologies for communicating with their teachers. The response range given was *never or rarely, a few times a month, a few times a week, and one or more times a day.* The results are shown in the Figure 4.5.
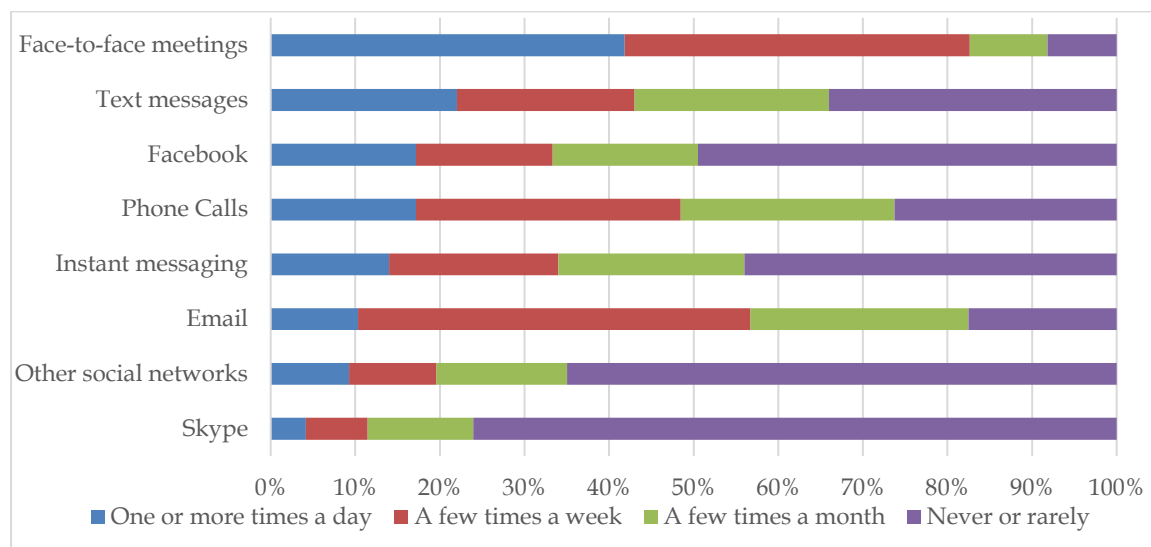

Figure 4.5 Use of technologies to communicate with university teachers

A comparison of these results with those in Figure 4.3 reveals that the students were using less technology to communicate with their teachers compared to their communication with other students for learning purposes. Further, the students were relying on face-to-face meetings rather than using any digital tools for communication with their teachers. Students' use of technology to communicate with university teachers occurred more frequently on a weekly rather than a daily basis. This was most apparent with email use, with 45% of students using email for this purpose weekly compared with 10% using them daily. Similarly, 31% of the students reported that they made phone calls to their teachers weekly. On the other hand, 17% students were contacting their teachers daily through phone calls. It was also found that Facebook was used much more frequently by male students (39% students using it daily or one or more time a week) to communicate with their teachers compared to female students (25% female students were using Facebook daily or weekly).

4.3.1.4 Use of technology for non-educational purposes

The most common technology being used daily for social purposes (i.e. the purposes which are not associated with their studies) by the students was text messages (84%). Facebook and instant messaging were also used by a majority of the students daily for non-educational purposes (71% and 61% respectively). Twitter and Skype were the least used digital technologies for this purpose. Figure 4.6 provides further detail on the use of technology among these undergraduate students for non-educational purposes.
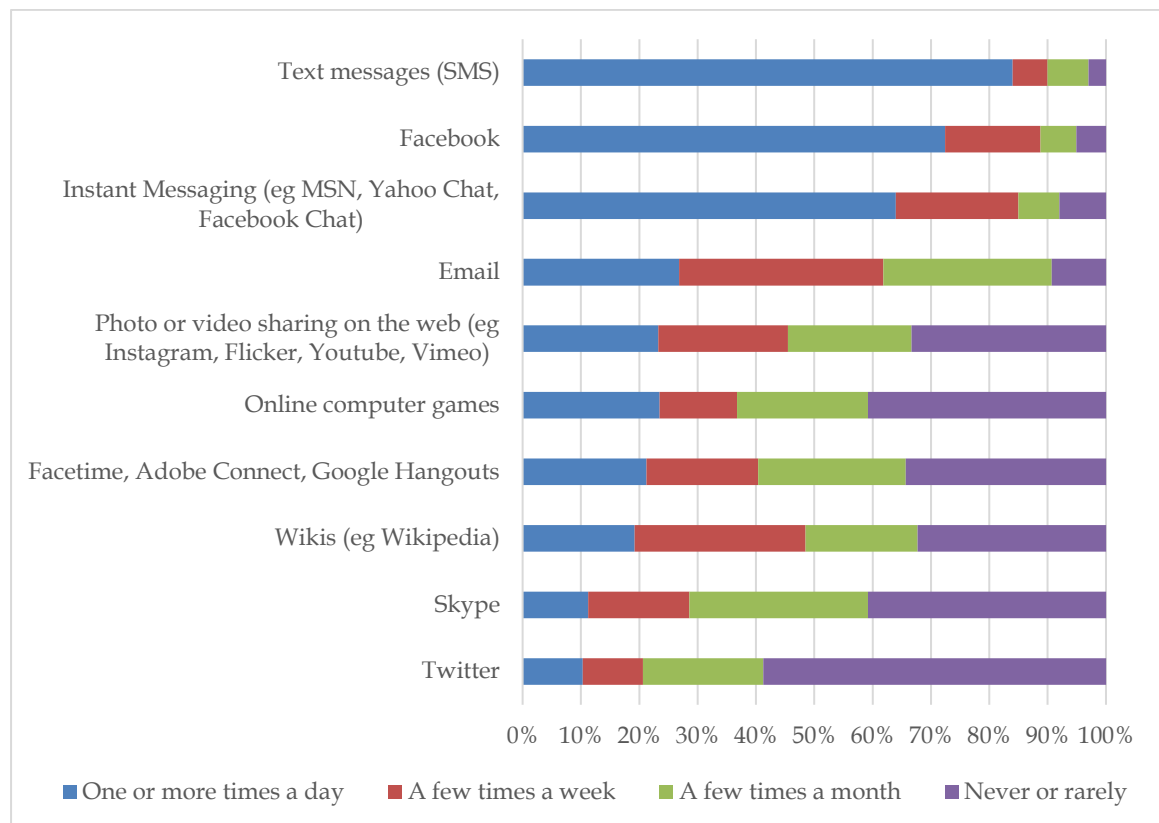
Figure 4.6 Students' current use of technology for non-educational purposes

Data analysis based on study major indicated that MBB students relied on only three technologies. They were using text messaging (87%), Facebook (69%), and instant messaging (52%) one or more times a day. On the other hand, CS students also showed inclination and relatively higher usage frequency on daily basis towards Wikis (38%), Facetime, Adobe Connect, or Google Hangouts (38%) and emails (46%) for social purposes when compared to other study major students. Along with instant messaging, text messaging and Facebook, SS students were also using online computer games (40%) and photo or video sharing on the web (33%) for being socially connected on daily basis.

Text messages, instant messages and Facebook were the most common technologies used overall by both male and female students, with Twitter and Skype among the least used technologies. Overall, the gender digital gap was not as evident in their use for social purposes.

The results for the relationship between medium of education and the use of technology for social purposes was as expected: English-medium students reported using technology more frequently than Urdu-medium students. However, a higher proportion of Urdu-medium students (30%) used online computer games on a daily basis compared to English-medium students (17%).

4.5.1.5 Use of technology for educational purposes

Eight different activities involving use of technology were presented in the survey to explore undergraduate students' use of technology for educational purposes. Students were asked to identify how often they engaged in the given learning activities for their studies. They were asked to use the response scale *never or rarely, a few times a month, a few times a week, and one or more times a day.*

Overall, the results revealed that students' engagement with the technology for educational purposes was very low. They were heavily relying on internet search engines and Wikipedia. The majority of the students (84%) were using internet search engines, 64% students were using Wikipedia and 60% students were using Facebook for group activities related to their studies on frequent basis ranging from one or more times a day to a few times a week. Figure 4.7 shows how often students used different technologies for learning purposes.
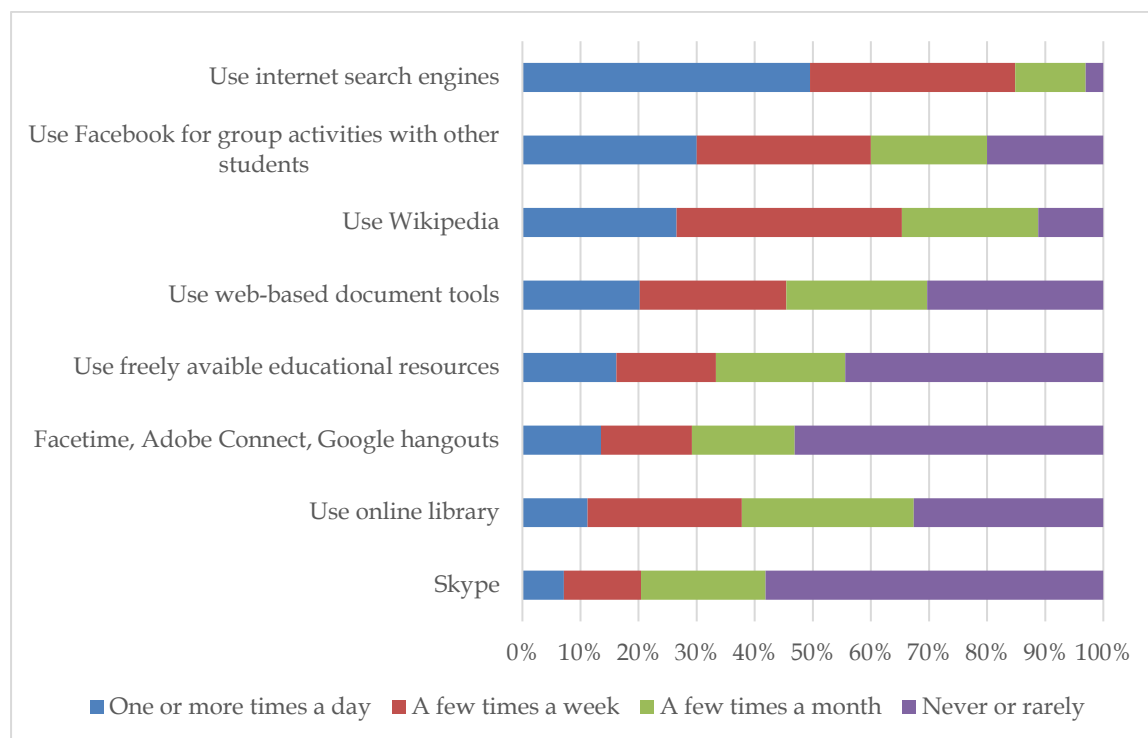
Figure 4.7 Students' current use of technology for educational purposes

Given the other results thus far, the results based on study majors were not surprising. On average, the CS students were using more technology for their studies as compared to students with other study majors. On the other hand, SS students least used technology. Interestingly, none of the CS students indicated that they have never or rarely used internet search engines. Similarly, none of the SS students indicated that he has ever used Skype once or more daily. As indicated in Figure 4.7, just like other study major students CS students were using internet search engines, Facebook for group activities and Wikipedia more frequently. More than 50% of CS students were also using freely available educational resources, such as Khan Academy, etc. and web-based document tools for learning purposes. There were no significant differences found in the use of technology for educational purposes among students with Urdu or English medium of education and male and female students.

A related question based on students' future preferences in the use of technology for educational purposes was asked in the survey. Students were asked to indicate their preferences on three-point scale: y*es, yes and I would like to have training in it,*

or no, I wouldn't. The purpose of this question was to explore whether students were satisfied with their use of technology for studies or they wanted to have more integration of technology in future. Figure 4.8 explains students' preferences for future use of technology for educational purposes.
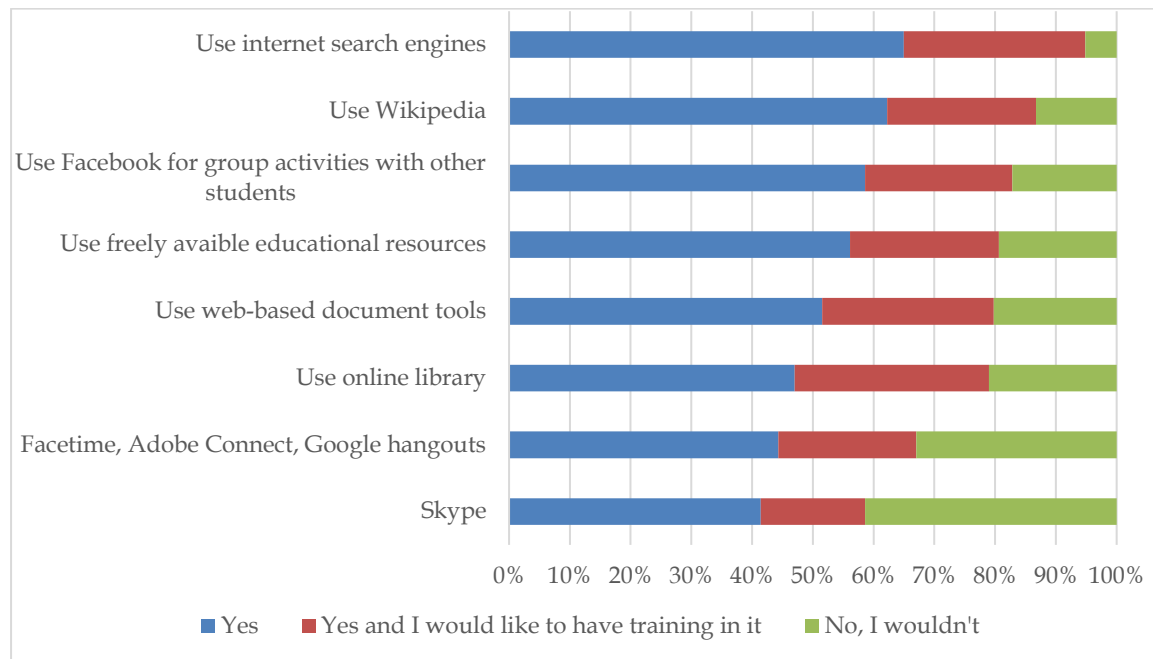

Figure 4.8 Preferences for future use of technology for educational purposes

To better understand students' current use of technology and their future preferences, students' responses for *one or more times a day* and *a few times a week* were combined in Figure 4.9 to determine the frequent use of technology. Similarly, their future preferences were calculated by adding together the responses for *Yes* and *Yes and I would like to have training in it.* In Figure 4.9 both results are presented together to encompass students current use and their future preferences in the use of technology for study related purposes.
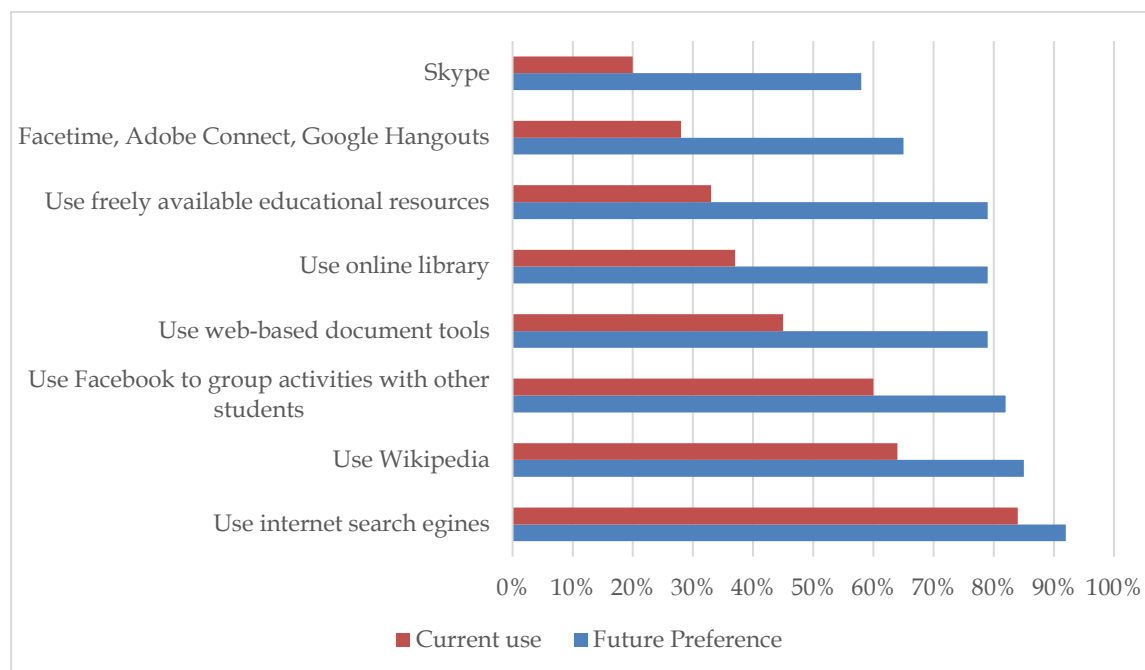
Figure 4.9 Comparison of student's current use and future preferences in the use of technology for educational purposes

While the overall future preference for Wikipedia was over 80%, only 50% of female students indicated that they would not like to use Wikipedia for their studies in future. Students' current use of technologies revealed Skype and Facetime, Adobe Connect and Google Hangouts as the least used technologies. However, both male and female students reported they were more interested in using Facetime, Adobe Connect and Google Hangouts more in the future for their studies; the majority of male and female students indicated that they would like to use these technologies or would like to have training in how to use them (70% and 65% respectively). On the other hand, 33% of the students from both English- and Urdu-medium education indicated that they did not want to use Facetime, Adobe Connect and Google hangouts in future for their studies. They also indicated their disinterest in the use of Skype for studies. Besides, more than 90% of students from both the groups (Urdu- and English-medium) were more interested in using internet search engines and Facebook for group activities.

The next set of analyses was performed to explore future preferences of the students studying in different faculties. The results indicated a high proportion of

CS students (39%) were willing to get more training in the use of technology as compared to SS students (57% students wanted to use technology but only 15% were interested in getting training in its use for their studies). An overview of students' preferences for use of technology for study related purposes is shown in the following Figure 4.10.
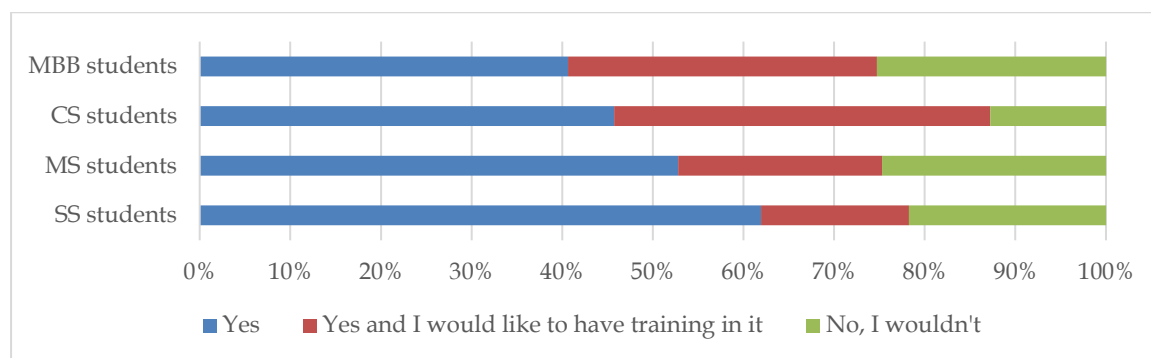

Figure 4.10 Future preferences of students with different study majors

Analysis of the data in relation to the students' majors indicated that the majority of students in each of the faculty cohorts were interested in greater use of technology for their studies in the future and/or would like to have training for this. The findings also revealed some distinctions between current use and future preferences for technology in some study majors. For example, none of the SS students used Skype every day, and just 10% reported using it a few times a week, yet 53% of this group of students reported interest in using Skype in the future. Further, of these students, it appears that almost all felt capable of using Skype for study purposes, as only 5% of the SS cohort reported they would like training in using Skype. Interest in further training was strongest overall in the CS major group, particularly for the use of internet search engines (54%) and Wikipedia (42%).

Wikipedia was not a popular educational digital tool among CS students, 37% of CS students indicated that they rarely used it ranging from a few times a month to never. When asked to indicate their future preferences, none of CS students was opposed to its use in future. They were also interested in using Internet search

engines for their studies (all of CS students indicated their willingness). However, they were not satisfied with their skill in using it productively. A high percentage of CS students (54%) wanted to have training in the use of the Internet search engines for their studies.

4.3.2 Smartphones for English language learning

This section examines the responses of undergraduate students related to the sub-research question: *What are undergraduate students' MALL practices for enhancing English language skills outside classrooms in Pakistan?* The results are further analysed in relation to the three variables of the study; gender, study major and medium of education.

As it was assumed that the smartphone was the most common digital device among the undergraduate students in Pakistan, the participants of digital practices survey were asked whether they had access to a smartphone and for how many years have they been using it. This question was particularly important as the access to a smartphone was one of the pre-requisites of the second phase of the research. Around 97% students mentioned that they had access to a smartphone. Furthermore, the majority of the students (53% of the total population of Phase 1 participants) had been using smartphones for more than two years. Students who had been using smartphones for less than a year (78 students) were almost equal to the number of students who had been using it for one to two years (71 students).
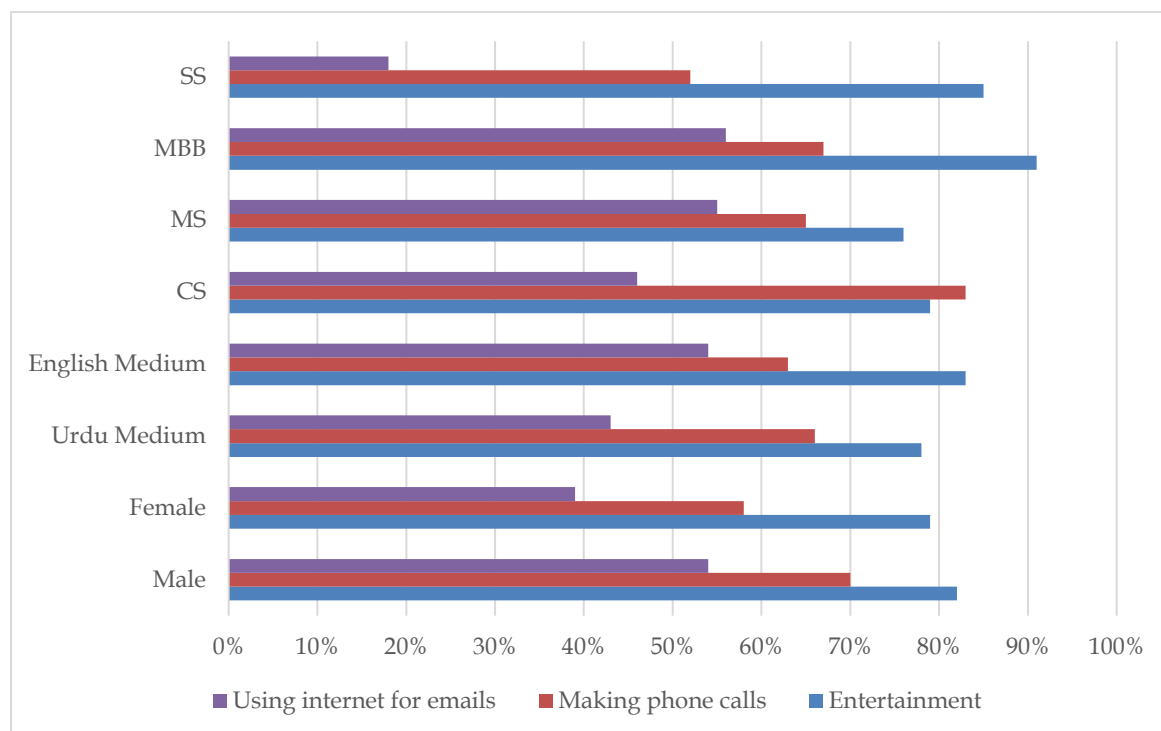
Figure 4.11 General practices of students in using smartphones

4.3.2.1 Use of smartphones to enhance reading and writing skills

To explore their current use of smartphones to enhance English reading and writing skills, students were asked to respond to a number of statements using a four–point Likert scale: *never or rarely, a few times a month, a few times a week, and one or more times a day.* As indicated in Figure 4.11, only four smartphone features were being used by over half the students on a weekly or daily basis for enhancing their reading and writing skills: 65% reported using smartphones to access English dictionaries and thesauri; 54% used their smartphones' memory to store reading materials for the ease of access at anytime, anywhere; 54% used text messaging; and 52% used Google Translate frequently on daily or weekly basis for this purpose. Just 33% of the students reported using their smartphones for reading e-books.

The use of smartphones for storing reading materials and for text messaging to practice every day English was less frequent among Urdu-medium students (49% and 46% respectively) compared to the English-medium students (60% and 61%

respectively). The CS students reported greater daily use of their smartphone for storing reading materials (52%) and taking a photo and writing about it (42%) than MBB major students (15% and 11% respectively), MS major students (27% and 21% respectively) and SS major students (22% and 21% respectively).
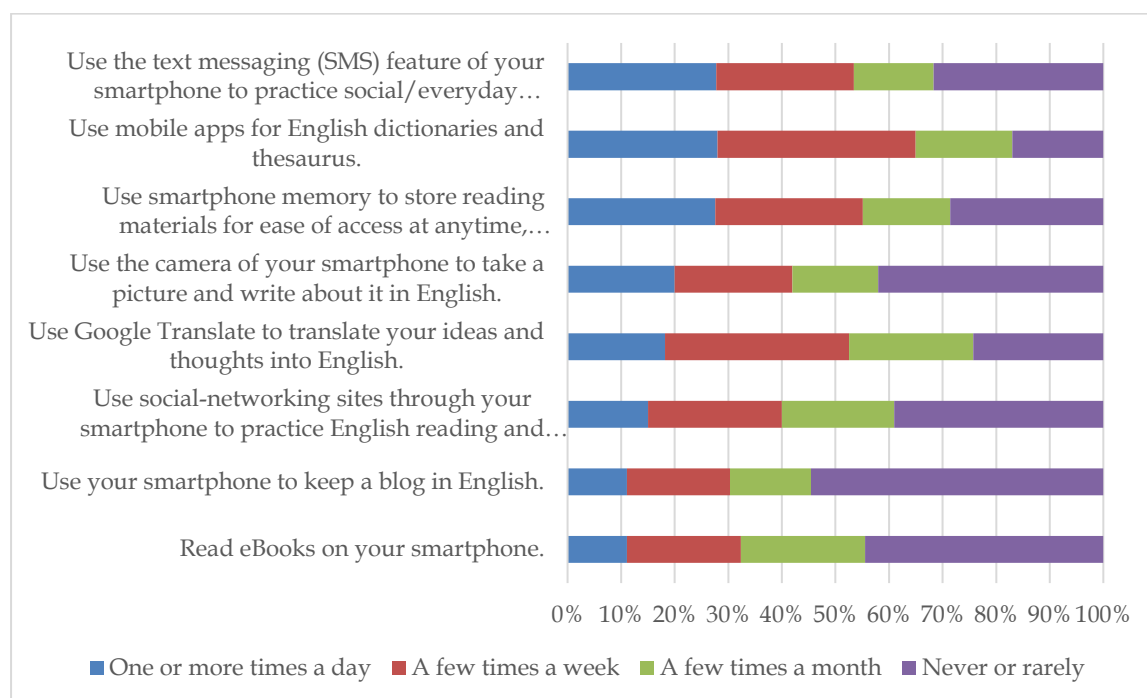

Figure 4.12 Current use of smartphone to enhance reading and writing skills

Future preferences: Results relating to the students' future preferences in the use of smartphones for enhancing their English reading and writing skills indicated that, on average, 57% reported wanting to use smartphones for this purpose in the future. As illustrated in Figure 4.13, an additional 26% of the participants indicated they would be interested in using each of the stated smartphone applications and would like to have training to do this in the future to enhance their reading and writing skills.
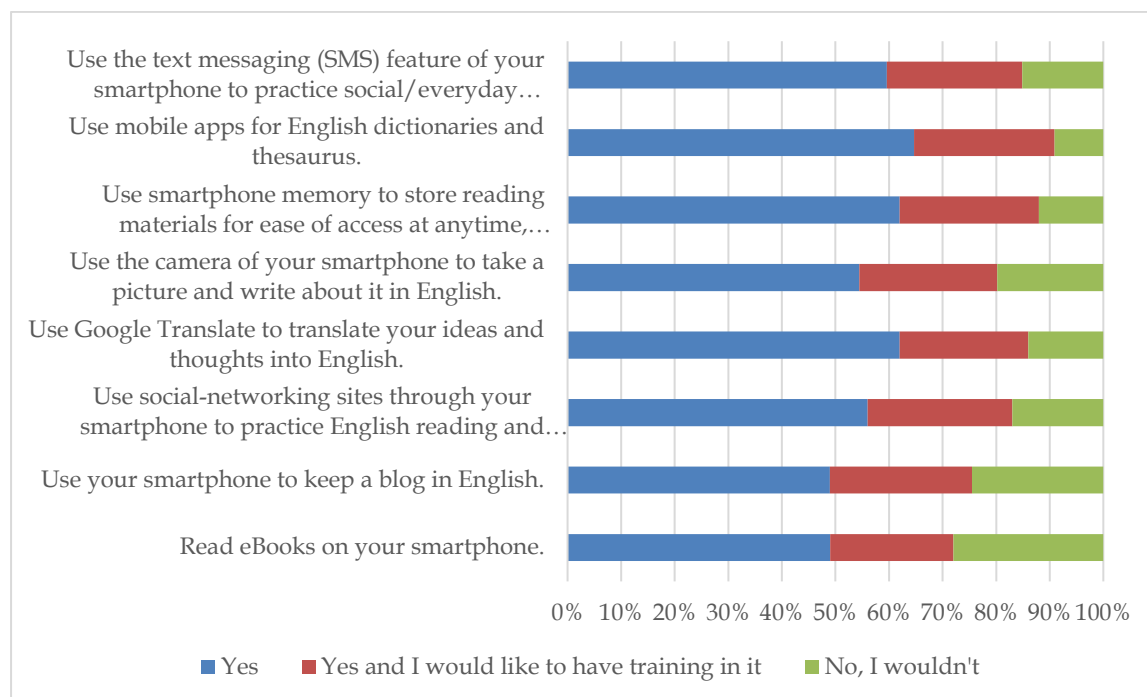
Figure 4.13 Preferences for future use of smartphone to enhance reading and writing skills

As indicated earlier, reading an eBook was not much popular among undergraduate students. A higher proportion of MBB students (34%) indicated their disinterest in engaging in such an activity, though 27% of MBB students were already reading eBooks frequently (ranging from one or more times a day to a few times a week) on their smartphones. Similarly, use of social networking sites through smartphones to practice reading and writing skills and storing reading materials in smartphone memory were not popular future preferences among CS students (46% and 50% students indicated their disinclination to use in these tools in future respectively). It was also worth noting that on average 8% CS students indicated their interest in getting training in the use of smartphones for reading and writing related activities. Further analysis showed that 75% of CS students had been using their smartphones for more than two years, which can be a reason behind their high comfort level and less inclination towards training.

4.3.2.2 Use of smartphones to enhance listening and speaking skills

The next question explored students' current practices in the use of their smartphones to enhance their listening and speaking skills. Their current use was calculated on a response range of *never or rarely, a few times a month, a few times a week, and one or more times a day.*

Results indicated a low usage of smartphones for English speaking and listening skills. Only 10% of the students were using smartphones on daily basis to practice listening and speaking skills. The voice calling feature and voice recording feature were the least used features of smartphones. Overall, female students demonstrated a slightly less frequent use of smartphones for listening and speaking skills than male students. However, there was a clear difference found in the use of the voice calling feature to practice speaking skills with a fellow student. Only 19% of female students were using it as compared to 30% of male students on a range of one or more times a day to a few times a week. Similarly, a moderate difference was found among Urdu medium students (11%) and English medium students (19%) in the daily use of smartphone memory to store English listening materials to be used for practicing English listening skills anytime, anywhere. The following Figure 4.14 shows students' use of their smartphones for English listening and speaking skills.
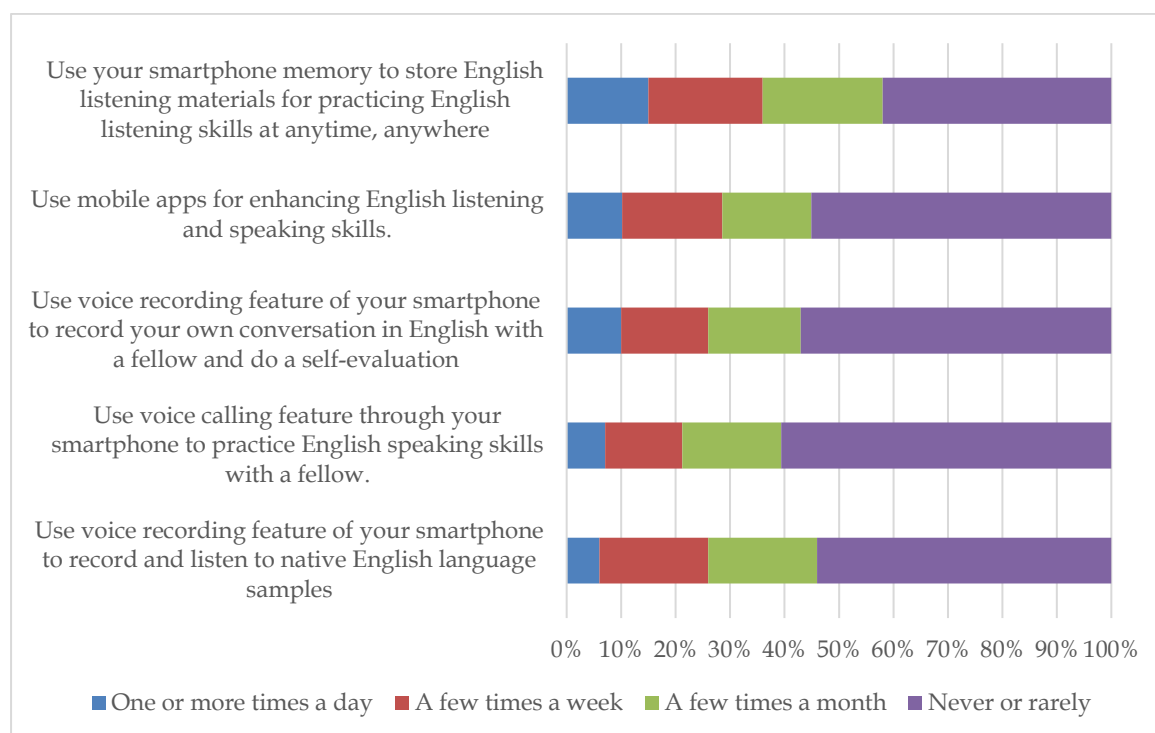
Figure 4.14 Students' self-reported use of smartphones to enhance listening and speaking skills

The next set of analyses was performed to see the effect of study major on students' current practices in the use of smartphones to learn English listening and speaking skills. This produced idiosyncratic results. As expected, the CS major students reported more frequent use of their smartphones to practice English listening and speaking skills (one or more times a day or a week) than the SS, MS and MBB study majors (48%, 15%, 30% and 23% respectively). In the following Figure 4.15, results for *one or more times a day* and *a few times a week* were combined to determine frequent use by the students.
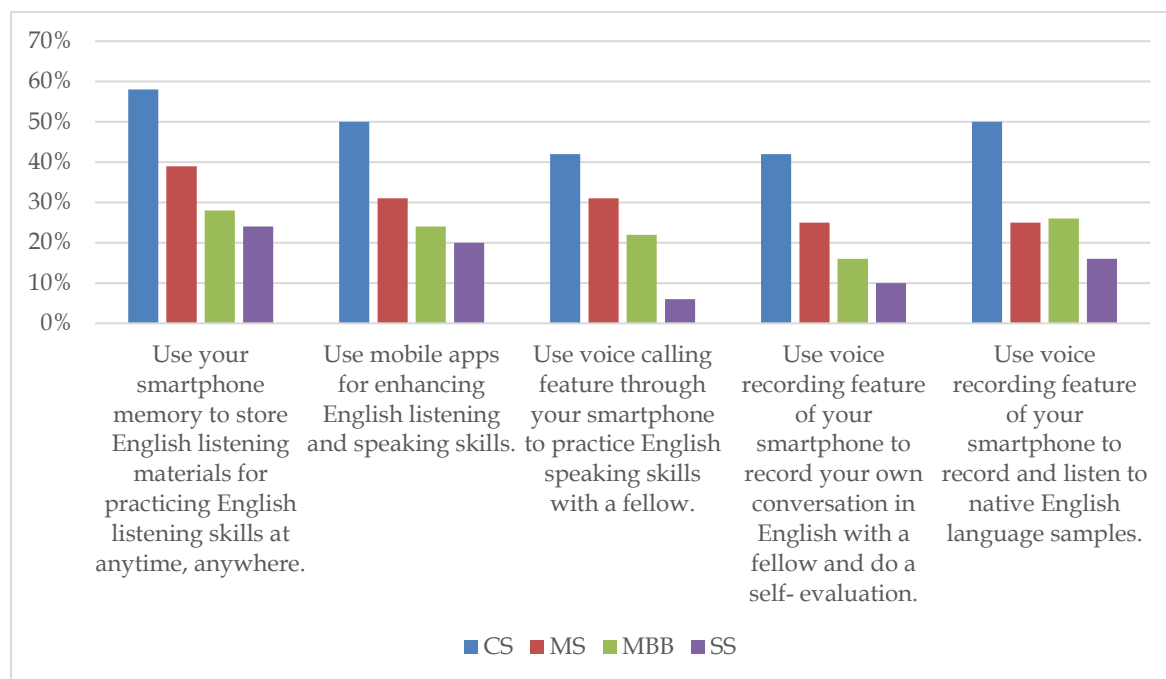
Figure 4.15 Students' frequent use of smartphones to enhance listening and speaking skills based on different study majors

Future preferences: The results for students' future preferences indicated that the majority of students did not see smartphones as a learning tool for English listening and speaking skills. On average, 51% of students reported that they did not want to use smartphones in different activities aimed at enhancing English listening and speaking skills. However, 24% reported they were not only interested in using smartphones, but they wanted to have training in using them for developing their listening and speaking skills. Figure 4.16 shows the results in relation to each of the smartphone applications for this purpose. A comparison of Figure 4.14 and Figure 4.16 provides an indication of the contrast between participants' interest in future use of smartphones to enhance reading and writing skills versus for listening and speaking skills. Overall, 83% of the students indicated their future preference for the use of smartphones for enhancing their English reading and writing skills. On the other hand, only 49% of the students wanted to use smartphones in future to improve their listening and speaking skills.

Figure 4.16 Preferences for future use of smartphones to enhance listening and speaking skills

The CS major students reported a higher level of interest in training in order to enhance listening and speaking skills compared to reading and writing (33% compared to 8% on average). Of particular interest to this group were mobile apps (such as Speakingpal, Audacity, and Listen & Speak), with 46% reporting they were interested in getting training in these to enhance their English listening and speaking skills, compared to 31% of MBB students, 26% of MS students, and just 17% of SS students.

4.3.2.3 Use of smartphones to enhance English vocabulary

The last set of questions in this part of the survey sought information about the frequency of students' current use as well as future preferences in the use of smartphones for enhancing English vocabulary. As seen in Figure 4.17, use of smartphones for learning English vocabulary was not common among the majority of the students. However, as Figure 4.18 illustrates, participants reported a high level of interest in future use of cell phones for this purpose.
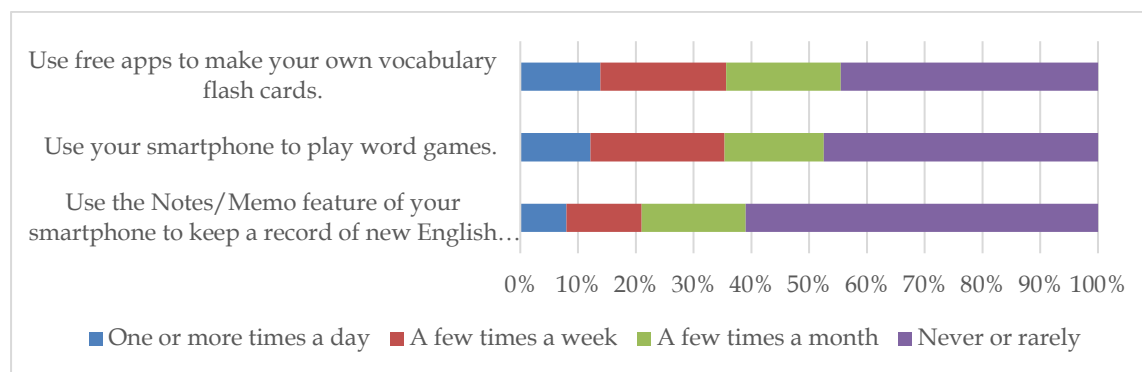
Figure 4.17 Current use of smartphones to enhance English vocabulary
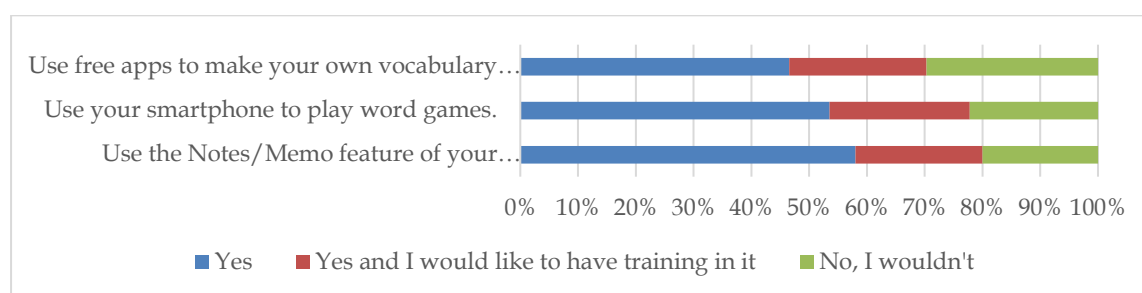

Figure 4.18 Preferences for future use of smartphones to enhance English vocabulary

A comparison between Figure 4.16 and Figure 4.18 suggests that the participants' perceived smartphones to be a better digital tool for future use to enhance English vocabulary than for listening and speaking skills. On average, 76% of students would like to use smartphones for future English vocabulary learning, compared to 49% who expressed interest in using them in future for learning English speaking and listening skills. In comparison, Figure 4.18 and Figure 4.13 suggest that future smartphone use is perceived to be of slightly more interest to the participants for improving reading and writing skills than for vocabulary learning.

The CS students were high users of smartphones for vocabulary learning (on average 30% of the CS students were using it daily) compared to the MS, MMB and SS students (12%, 7% and 7% respectively). Differences were found between Urdu-medium and English-medium students in relation to playing word games and using notes or memo features on smartphones, with 43% of English-medium

students using these at least a few times per week compared to 29% of the Urdu-medium students

Chapter summary

This chapter has reported Phase 1 of the study, which explored undergraduate students' digital practices both in and out of the classroom in Pakistan. It further looked into whether gender, medium of education during their high school studies and study major at undergraduate level had any impact on their digital practices. It also documented students' existing practices in the use of smartphones for enhancing English language skills. The results of the digital practices survey have been reported in two sections. The first section (4.5.1) has reported the access and overall use of digital tools for educational and non-educational purposes. The second section (4.5.2) reported the MALL practices of undergraduate students in Pakistan.

The results reported in the first section (4.5.1) clearly revealed that undergraduate students in Pakistan were well equipped with digital tools, having smartphones (96%) as the most accessed digital tool followed by desktop computers or laptops at home (85%). Moreover, a majority of the students preferred accessing their laptops and desktops from their homes. The results of Phase 1 also established that the majority of the students were using digital tools for non-academic purposes, with text-messaging as the most common digital activity. On the other hand, students' engagement with technology for studies was very low. However, more than 80% students were inclined towards using search engines, Wikipedia and Facebook, web-based document tools, online libraries and freely available educational resources in future. The study also found a difference in the use of digital tools among male and female students as well as a slight difference among students from Urdu-medium and English-medium schools. The CS students reported overall more use of digital tools as compared to students in the other three study majors.

The results reported in the second section (4.5.2) established that 96% of the students had access to smartphones. However, they were using their phones primarily for entertainment and making phone calls. The use of smartphones for reading and writing skills and enhancing vocabulary was slightly more than the use of smartphones for listening and speaking skills. Students were more inclined towards getting training and using smartphones for reading and writing skills as compared to listening and speaking skills in future. The results reported here will be further discussed in Chapter 6.

Chapter 5: Learner training in MALL

Chapter overview

This chapter reports the findings of the study's second research question: *What are the effects of learner training in MALL on learners' attitude towards, beliefs about, and use of smartphones for autonomous language learning?* In Section 5.1, previous studies conducted in the field of learner training and the use of blogs for language learning are discussed. This section further talks about the role of attitude, beliefs and learner autonomy in language learning. In Section 5.2, a comprehensive description of learner training in MALL and Combined Learner Training Model (CLTM) used in the present study are discussed. In the third section (5.3), the methodology is described. The methodology section consists of a detailed description of participants, learner training and data collection tools. The last section (5.4) reports on the results of the study in relation to the second research question regarding the effect of learner training on learner attitude towards the usefulness of instructional posts and videos, blogging and the use of smartphones for blogging and language learning. The results and findings section (5.4) further describes the effect of learner training on learners' beliefs about improvement in their English language skills, any increase in their motivation and confidence, and the self-directed use of blogs for language learning. The last part of this section (5.4.8) reports the English teacher's observations, experiences and opinion about the use of smartphones for language learning.

5.1 Literature review

The use of technology in language learning and teaching offers many organisational and practical affordances. Access to resources by learners in rural or underprivileged contexts to compensate for limited or unavailable teacher support, easy storage and recovery of learning and teaching materials both inside and outside the classroom, sharing and recycling of materials and cost efficiency

are some of the major organisational affordances (Reinders & White, 2010). Pedagogical advantages described by Reinders and White (2010) include: access to authentic materials through the Internet; enhanced opportunities for interactivity in the target language through computer mediated communication and tutorial software; situated learning in socio-culturally meaningful contexts; opportunities for interactive language practices; immediate and personalised feedback; observing and recording of the learning behaviour and development; and the control and empowerment over learners' own learning.

However, Reinders and White (2010) pointed out that these resources do not come without constraints, for example, learners can easily get distracted by access to enormous quantities of information, especially by the data irrelevant to language learning. Reinders and Lewis (2006) had a similar point of view; they claimed that freely available resources usually lacked necessary support structures and offered less guidance to the language learners. Hence, learners may need more practice, preparation, feedback and support to gain adequate benefits from technology (Reinders & Hubbard, 2013). Reinders and Hubbard (2013) further suggested that the knowledge and necessary skills involved in the use of these resources can be taught through direct and indirect ways. Researcher have pointed out that learners are often not successful in shaping their learning experiences in the self-study context and need extensive preparation, ongoing guidance and follow-up support to avail themselves of the complete benefits of CALL resources (Darasawang & Reinders, 2010; Nielson, 2011; Reinders, 2006).

The concept of learner training is not new in second language learning. It can be traced back to 1960s (Wenden, 1998). Leaner training in second language learning was based on the idea that characteristics of good language learners can be identified and taught to second language learners (Rees-Miller, 1998). Moreover, if language learners were aware of their own learning styles, they could change it according to the new circumstances (Cohen, 1990; Ellis & Sinclair, 1989; Rubin, 1987). Barrette (2001) is considered to be the first to recognise the need for learner

training and its potential in language learning and teaching through technology. She reviewed 14 CALL articles published in 1997 and 1998 and found little evidence of learner training. She presented the idea that even though the tertiary language students at the United States universities included in the studies were considered very skilful users of computers and other technologies (of that time), they still needed training in using technologies for effective learning. To investigate her hypothesis, Barrette (2001) conducted research by providing learners training in CALL and reported large gains in students' self-reported comfort levels. Barrette's idea of tertiary students in the US universities having limited skills in using technology for language learning was later confirmed by Winke and Geortler (2008). They surveyed 911 foreign language students at Michigan State University and found that students were either not skilful users of CALL applications or did not have access to these tools. Winke and Geortler (2008) also pointed out that learner training in CALL was essential not only because not all students were skilful users of technology but also due to the specific nature of CALL tasks. Similarly, Lai, Shum and Tian (2016) also claimed that "active engagement with technology does not necessarily guarantee sophisticated and effective use of technology for language learning" (p. 40), hence, learners must be trained in how to use technology effectively for language learning.

Prensky (2001) asserted that the effectiveness of technology is dependent upon learners' knowledge of technological tools, expertise and level of comfort while using these tools. O'Bryan (2008) rejected this idea and pointed out that making informed decision while using CALL resources was vital to gain maximum benefits from the use of technology, however, traditional CALL learner training focused on computer literacy and efficacy, which had little to do with learner autonomy. Earlier, Healey (1999), Hubbard (2004) and Shetzer and Warschauer (2000) had also presented similar point of views by emphasising teaching computer skills and language learning strategies specific to CALL to develop an attitude of autonomy and independence in the language learners. It is obvious that these studies were looking at the need for learner training in the use of

contemporary CALL technologies and do not talk about mobile technology which is the new form of technology making its mark in all fields of life including language learning and teaching. Stockwell and Hubbard (2013) also emphasised that the challenges faced by language learners in CALL environments affect them in MALL environments too. Hence, learners need guidance and training in the effective use of their mobile devices for learning a language. The present study aims to explore this previously untouched area of learner training in the use of these ubiquitous technologies for practicing English writing skills.

The present study focuses on exploring the effect of learner training in MALL in the use of blogs for enhancing English language writing skills. Many studies have reported that blogs offered many advantages while teaching English writing skills, providing feedback without time, place and pace restrictions, constructing individual knowledge and sharing information outside the classroom (Özdemir & Aydın, 2015; Sampath & Zalipour, 2010; Vurdien, 2012; Yunus, Tuan, & Salehi, 2013; Zarei & Al-Shboul, 2013).

In a seminal work on blogging for language learning, Godwin-Jones (2003) highlighted the collaborative and interactive nature of blogs, which were well suited for online personal journals and electronic portfolios to record and demonstrate students' progress over a certain period of time. Godwin-Jones further pointed out that blogs offered readership beyond classmates which encouraged ownership and responsibility among students. Many studies have subsequently explored the effect of blogging on English language learning and teaching. Some of these, especially focusing on English writing skills are described below.

Zarei and Al-Shbaul (2013) conducted a study to investigate the perceived usefulness of blogging in enhancing learners' English language skills. The study involved ten post-graduate Jordanian students who were attending an English Intensive Course at Universiti Utara Malaysia as a pre-requisite for post-graduate studies. A blog consisting of English language learning lessons and materials was

set up. The students accessed the blog to use these materials and were also able to share their opinions and knowledge with their peers. Zarei and Al-Shboul found that Jordanian EFL learners were satisfied with the learning through blogs and perceived blogs as a platform and opportunity to communicate and discuss outside the classroom. The learners reported that it helped them improve their English language skills as well as their peer feedback, as they shared their experiences, information, knowledge and thoughts with their peers. The learners also reported that the use of blogs motivated them to participate more in classroom activities.

Sampath and Zalipour (2010) conducted a study to explore the potentials of using blogs for student writing skills in an ESL classroom. Students were asked to set up their own blogs which were connected to a class blog. Students published their work based on lessons, discussions and assignments. Peer feedback was provided according to the guidelines given by the teacher. Students updated their work according to the feedback, and the final versions were graded by the teacher. Sampath and Zalipour found that blogs benefited the students' writing in many ways. Most important was the feedback. The researchers observed that blogs offered more flexibility in terms of providing feedback as there were no time, place and pace restrictions. It was also less face-threatening for the students than pen and paper feedback in the shape of red ink, crossing out of some sentences, use of question marks, etc. which may make the students embarrassed and less willing to accept the feedback. Face-to-face feedback can also be face-threatening for the students. The ease of the revision process was also noted as a benefit of using blogs for students writing. The researchers mentioned that blogs could be used as a tool for student observations as well as teacher observations. Using the blogs, teachers can observe students' progress and can provide them feedback accordingly. On the other hand, students can use them to observe their own progress and make corrections and reflections on their writings.

Vurdien (2012) conducted a study to investigate the effect of using blogs on the writing skills of students in specific tasks, peer feedback and developing collaborative skills. The study involved eleven EFL students who were at different levels of writing at a language school in Spain. The students created their own blogs where they published specific writing tasks assigned by their teacher every two weeks. Before completing these tasks, students discussed their plan of writing with their peers. A qualitative approach was adopted to analyse questionnaires, interviews, class discussions and blog entries. Vurdien concluded that blogs are an effective tool to construct individual knowledge and share information outside the classroom. He also pointed out the importance of proper guidelines for the students in order to gain maximum benefit from use of blogs. Özdemir and Aydin (2015) conducted an experimental study to explore the effect of blogs on writing achievement in the Turkish EFL context. The study involved 48 freshmen at a university ELT department, who had previously studied English as a foreign language during their high school education. The participants were divided arbitrarily into a control group and an experimental group. Both the groups were instructed in process-based writing for four weeks (with the experimental group using blogs and the control group using pen and paper). Pre- and post-tests were used to evaluate the effect of the blogs on the EFL writing achievements of the participants. Özdemir and Aydin did not find any significant difference between scores for the post-test for both the groups. The researchers proposed that the learners' lack of experience in using blogs for educational purposes and technical issues related to the use of blogs in classrooms could be the main reasons behind the lack of difference between pen and paper and blog writing environments. Özdemir and Aydin suggested that the development of teaching and learning materials, techniques for using blogs effectively by teachers and learners, and procedures for enhancing blog-oriented writing skills of learners were essential.

Comas-Quinn, Mardomingo and Valentine (2009) argued that blogging through mobile devices promotes constructivist, situated and informal learning experiences which motivate language learners to communicate and build a

community in an informal learning context. In a study conducted by Comas-Quinn et al. (2009) in the United Kingdom, study abroad students used their mobile phones to create a blog as an online resource for students to share their travel experiences and reflections. This activity provided students with an opportunity to co-construct meaning outside the classroom without direct supervision of the teacher. Comas-Quinn et al. reported that the blog also reinforced a sense of community in an informal context and freedom for the students to express themselves through relative anonymity of the blog. A similar study was conducted by Azari (2017) to explore the effectiveness of a weblog-based process approach on the English writing skills and autonomy of EFL learners. This empirical study was conducted in Iran. The 43 participants were studying an "Advanced Writing" course for their Bachelor of Arts degree in English Language and Literature. There were 24 students in the experimental group and 19 students in the control group. The study was carried out over 15 weeks (one semester) during which both the control and experimental groups received the process-oriented writing instruction. The only difference was that the control group received in-class instruction only, whereas the experimental group used blogs in addition to in-class instruction. The results of the study revealed that the use of blogs had a positive effect on the organisation and content components of writing. Azari also found a positive impact of blogging on learners' autonomy in terms of resourcefulness, creativity and perseverance. However, no significant effects on the language use, vocabulary and mechanics of learners' writing were observed, and no difference was found in the learners' level of desire to learn English.

In another study, Alsamadani (2017) explored the difference in the effectiveness of blogging when used by individual learners and in groups. The study was carried out in an EFL environment in a university in Saudi Arabia. There were 40 undergraduate students, divided into six groups and 14 individual participants based on their English language skills. Blogging was used as a tool for English writing practice for 14 weeks. Pre- and post-writing samples were used to measure the efficacy of blogs. Statistical testing revealed a significant effect on the writing

skills of group bloggers in terms of more engaging ideas, improved content, better use of language mechanics and word-choice as compared to individual bloggers. However, no difference in the writing styles was documented between individual and group bloggers.

In a recent study, Alsubaie and Madini (2018) explored the effect of blogs on students' writing skills with a focus on vocabulary usage. The study was conducted with 37 students studying in their preparatory year at a public university in Saudi Arabia. A class-blog was used to publish individual posts during a period of seven weeks. The results revealed that students showed better knowledge of vocabulary units through practicing their English language skills on the class-blog as compared to students in the control group. Alsubaie and Madini also reported an increase in the students' motivation level and an improved collaborative learning environment.

In another study, Farooq, Fatima and Javed (2015) explored the effect of using blogs on the writing skills of 20 undergraduate computer science students in Pakistan. During this six-month study, students created their own blogs and practiced writing skills through writing paragraphs, essays and stories on the topics assigned by the teacher. Pre- and post-tests were used to measure the effect of blogging on English writing skills. Farooq et al. reported a significant improvement in the structure of students' writings, skills in sequencing ideas and critical thinking.

A majority of the studies conducted in this area have been focused on the effect of the use of blogs on English language skills. Although these studies mention that often students were not very competent users of blogs, in some cases even the email addresses were created by the researchers themselves, detailed description of how the learners were trained for blogging is scarce. Furthermore, these studies focus on the effect of blogging on English language skills, but do not address the effect of training in the use of blogs for language learning. The chapter also reports on the effect found in this study of training in MALL on students' beliefs and

attitudes towards use of smartphones for language learning as well as training in MALL.

Knowledge about learners' beliefs and attitudes is seen as very important for successful language learning and teaching by many researchers (Kaymakamoğlu & Atmaca, 2016; Matsumoto, Hiromori, & Nakayama, 2013; Young, 1991. Kern (1995) pointed out that "awareness of the assumptions that learners and teachers bring to the classroom can help us and other students to become realistic in setting goals, it can shed light on our students' frustrations and difficulties, and it can allow us to provide more thoughtful guidance to our students in their efforts to learn a foreign language" (p. 82). Learner beliefs are described as "the perceptions of people towards the learning situation that they are in" (Kaymakamoğlu & Atmaca, 2016) and may be directly related to the actual performance of learners. Tanaka and Ellis (2003) pointed out that these mind sets or beliefs developed by learners can either positively or negatively affect their learning process.

Much seminal work by researchers has pointed out that language learners' previous experiences and their cultural backgrounds have strong influences on their beliefs about language learning (Horwitz, 1988; Wenden, 1987; Young, 1991), which may affect their attitudes and approaches towards language learning. Matsumoto, Hiromori, and Nakayama (2013) further added that individual differences, genetic traits, learners' personality and learning contexts are among the key factors involved in developing learners' beliefs. Many studies have been conducted to explore the relationship between learners' beliefs and successful language learning (e.g., Ellis, 2008; Hosseini & Pourmannia, 2013), and the development of learners' beliefs (e.g., Tanaka & Ellis, 2003; Yashima, 2009). However, there are no or very limited number of studies focused on exploring the effect of learner training on language learners' beliefs and attitudes towards using smartphones for language learning.

This chapter also aims to explore how training influences the use of blogs on smartphones for autonomous language learning. The concept of learner autonomy

is not new in the field of learning and teaching languages. Holec (1981) is considered pioneer in coining the term. He (1981) defined learner autonomy as learner's willingness and ability to take control of his/her own learning. He further added that this ability was not an innate competence but could be developed through systematic formal learning. Dickinson (1987) further added to the concept by relating the term to the situation in which a learner takes the responsibility for all the decisions regarding all aspects of learning. Little (1991) described learner autonomy as a psychological process which allows a learner to detach, critically reflect and make decisions about his/her own learning. Benson (2001) argued that learner autonomy was not confined to self-management of one's learning and taking responsibility rather learning situations also play important role in developing learner autonomy.

Benson and Voller (1997) pointed out that learner autonomy was not restricted to classroom situations rather it could be applied to situations where learning takes place outside the formal instruction or situations where learners study entirely on their own and determine the direction of their own learning (Benson, 2013). Benson and Voller (1997) further explained learner autonomy as a multidimensional construct of capacity that can be different for different individuals, even can take different forms in different situations for the same individuals. Some of the distinctive characteristics of autonomous learners include: disciplined; logical; self-aware; motivated; flexible; responsible; and creative (Benson, 2001; Candy, 1991).

Ushioda (2011) argued that by promoting autonomy and motivating learners to speak as themselves can encourage them to use the language in a healthy and adaptive way. Murray (2017) shared similar views. He pointed out that learners' desire to bring changes to their lives plays a key role in motivating them to practice learner autonomy. Murray (2017) further pointed out that learner autonomy "draws on learner's emotions, feelings, and imaginations in addition to their cognitive capacities" (p. 130).

Hardy-Gould (2013) claimed that autonomy refers to students' awareness of a range of learning strategies and their ability to apply these strategies in accordance with the learning situation. In this way learners could make informed decisions about what to learn and how to learn. Nguyen (2012) defined learner autonomy as "[a] learner's willingness and ability to take responsibility to plan, implement, monitor and evaluate his/her learning in tasks that are constructed in negotiation with and support from the teacher" (p. 318-19). Nguyen (2012) suggested that fostering learner autonomy can enhance focused and purposeful learning and minimise the barriers between learning and living which can extend to learners' social and professional lives. Furthermore, in case of higher education, learner autonomy can help learners to cope up with the limited contact hours with English language inside the classrooms by allowing them to effectively learn outside the classroom (Hardy-Gould, 2013).

Johnston, Koshiyama, Ries and Rush (2013) divided learner autonomy into two categories: proactive autonomy, and reactive autonomy. They explained the term proactive autonomy as being related to the West, where learners can establish a personal agenda for learning. On the other hand, in reactive autonomy the teachers initiate the direction for their students, a term related to the East. While describing eastern culture and educational constraints, Nguyen (2012) argued that Asian students were very passive and learned through recitation, which was a teacher-centred process. Nguyen (2012) further pointed out that the teachers in the East considered the syllabus more important than the students and the examination system controlled the learning through the syllabus, which did not promote learner autonomy. Yildirim (2012) also claimed in a study that Indian ESL students in the United States were not ready to practice autonomy. Sbaihi (2015) supported findings reported in Nguyen (2012) and Yildirim (2012) claimed that it was very hard to develop learner autonomy among students who had experienced teacher-centred learning and teaching during their school education, as they became used to rote learning and relying heavily on their teachers for all the knowledge and skills they need for life.

Reinders and Balcikanli (2011) pointed out that learner autonomy was more related to learner training or dedicated strategy training and the first contact of learners with autonomy originates from textbooks. Based on Reinders and Balcikanli's (2011) concept of learner autonomy, Spirovska (2015) analysed four textbooks which were being widely used in the context of a university in Makedonia. These books were reviewed in the context of Nunan's (2003) nine steps as a continuum from dependence to autonomy. Spirovska (2015) concluded on the basis of the results of the study that textbooks alone could not be relied on to develop learner autonomy. He argued that textbooks did not provide enough guidance to the learners to become researchers or language teachers and failed to follow almost every step towards learner autonomy. It was the responsibility of the curriculum designers and teachers to use the materials in the classroom in such a way that they foster learner autonomy. Similarly, Sbaihi (2015) also suggested that learners need to be fully aware of what learner autonomy is and must develop some skills or strategies for independent learning, emphasising the need for learner training. Sbaihi claims that learners cannot be expected to progress effectively towards building learner autonomy without proper guidance and support, especially when using technology. This chapter aims to explore how training influences the autonomous use of blogs for enhancing English writing skills. It also reports on the effect of training in MALL on students' beliefs and attitudes towards use of smartphones for language learning as well as training in MALL.

This chapter aims to explore the following research question: *What are the effects of learner training in MALL on learners' attitude towards, beliefs about, and use of smartphones for autonomous language learning?*

5.2 Learner training in MALL

Hubbard (2004) emphasised that although language learning and training through technology had developed immensely, there had not been (at the time) any attention given towards preparing learners to utilise these new dimensions of

language learning effectively and to their full potential. Hubbard claimed that the CALL environment had always allowed the learners to take a significant amount of responsibility for their own learning, hence, lack of technical competence on the part of learners' results in major constraints in getting maximum benefits from the use of technology. He further pointed out that tutorial videos containing detailed instructions about how to use a particular app are usually bypassed by the learners anxious to get started using the app. Hubbard (2004) argued that learners must not be allowed to use technology for language learning unprepared. He offered a learner training model for teachers to train learners how to use technology for learning languages. This model was comprised of five guiding principles which are as follows:

1) **Experience CALL yourself:** Hubbard (2004) suggested that teachers should experience a CALL tool initially themselves in learning a foreign language before using it in the classroom. He further added that this could create a sense of empathy and provide the teacher with more insights.

2) **Give learners teacher training:** Language learners must be provided with some sort of teacher training as they take some responsibilities of the teachers in a traditional teaching environment. In this regard, Hubbard (2004) focused on a framework provided by Richards and Rogers (1982) consisting of approach, design and procedure. This teacher training can start by providing the learners with some general advice about setting objectives, planning, recognising and maintaining motivation. Teachers can share insights from their own training, professional development and experiences related to the language learning with their learners. Hubbard (2004) claimed that this teacher training can enable the learners to make a connection between CALL activities and their language related goals and outcomes.

3) **Use a cyclic approach:** The third principle presented by Hubbard (2004) was adopting a cyclic approach in training learners as it offers two benefits; (1) it provides focused training and, (2) it offers revision of some key points

which learners may forget over time. O'Bryan (2008) have also reported that cyclic training offered the opportunity to provide rigorous training once the learners have reached at a certain comfort level with the CALL tool, without getting them overloaded with information.

4) **Use of collaborative debriefings:** Hubbard (2004) claims that collaborative debriefing adds a social dimension in using CALL for language teaching. It offers an opportunity for learners to share their individual experiences with CALL as well as providing target language contact and motivation. Collaborative debriefings can help the learners in maintaining a balance between an activity's objectives and language aims. By collaboratively sharing their individual experiences through synchronous chat or an electronic discussion board, learners can reflect upon their own experiences and target language objectives as well as their own understating of the objective and strategies to achieve.

5) **Teach general exploitation strategies:** Hubbard (2004) points out that general CALL strategies must be introduced to the learners at appropriate junctures during the training. This can enable the learners to use other programs through strategies learned earlier. These strategies include: showing students at the end of a CALL activity how can they use the materials for other learning purposes; and making difficult materials easier.

Hubbard's model was tested in both longitudinal and short studies. Kolaitis, Mahoney, Pomann and Hubbard (2006) tested the model in a 3-year project in a community college ESL program. They tested the model in multiple ESL courses and reported a positive and noticeable effect in both teachers' and learners' use of CALL but not necessarily in the outcomes for students' language proficiency. O'Bryan (2008) demonstrated in a study that even short training sessions (three ten-minute sessions) produced an evident effect on the use of help options in online reading materials. Cunningham, Rashid and Le (In press 2019) also documented in a study that learner training in the use of generic features of

Microsoft Word had a positive effect on students' use of vocabulary and grammatical accuracy.

Later, Romeo and Hubbard (2010) further classified learner training into three categories: technical, strategic and pedagogical training. These categories are explained below:

1) **Technical training:** Romeo and Hubbard (2010) argued that effective use of a computer tool or application is associated with the knowledge and skill to use the technological device. Since many learners lack this knowledge and skill, technical training is necessary. They further claimed that technical training enabled the learners to effectively use the options and controls of both general and CALL related computer applications for language learning.

2) **Strategic training:** Cohen (1998) defined a language learning strategy as a process employed by the learner to enhance learning of a second language. This process requires conscious employment at the learner's end. Schmidt (1994) pointed out that if the learners are not aware of their strategy then this behaviour should be referred to as a process not as a strategy. Hubbard (2004) claimed that an understanding of their own learning process creates a sense of responsibility in students and increases motivation, which is a characteristic of successful language learners. He further maintained that this makes strategic training very important as it helps learners improve their self-directed use of technology for language learning. Romeo and Hubbard (2010) based their strategic training on training in three categories of language learning strategies proposed by O'Malley and Chamot (1990). The first category is cognitive strategies, which directly manipulate the information. Examples can be rehearsing and summarising the information, organising the words, and using known linguistic information. The second category is meta-cognitive strategies, which manage, regulate or control cognitive learning process to regulate students' own learning. The third

category, socio-affective strategies, deals with social interaction. In a classroom scenario, it can be interaction with classmates, questioning for clarification, etc. Romeo and Hubbard (2010) claim that strategy training improves learners' ability to support their learning objectives through utilising multiple strategies or techniques.

3) **Pedagogical training:** Romeo and Hubbard (2010) asserted that pedagogical training builds the knowledge foundation of learners to evaluate and determine the "why" and "how" of using different strategies and techniques. O'Bryan (2008) also pointed out that training in how to make informed decisions while using CALL resources was a crucial element in getting the most out of using technology for language learning. Healey (2007), Hubbard (2004) and Shetzer and Warschauer (2000) also emphasised training as necessary to allow CALL learners to become autonomous users by providing them with pedagogical training, which ultimately develops an attitude of autonomy and independence in the language learners. In this respect, Hubbard's (2004) guiding principles for learner training can work well for teachers to design training to develop pedagogical skills in learners (see Figure 5.1).

Romeo and Hubbard (2010) asserted that these categories of learner training are interlinked and sometimes overlap but can be easily differentiated from each other; for example, opening, moving and resizing multiple windows on a computer desktop is a technical skill but using this knowledge for learning and developing language proficiency is a strategy.

The current study aimed to investigate the effect of training in MALL on students' attitudes, beliefs and use of smartphones for autonomous language learning. The theoretical basis for this effort was influenced by the learner training framework presented by Romeo and Hubbard (2010). As the students in the study were beginning level users of smartphones for learning English language, it was deemed necessary to give them pedagogical training prior to strategic training. Many

researchers (e.g. O'Bryan, 2008) have reported that Hubbard's (2004) learner training principles were successful in providing pedagogical training to language learners in technology enhanced environments. In the present study, pedagogical training was based on Hubbard's (2004) learner training principles and was moved to second place. Figure 5.1 presents Hubbard (2004) and Romeo & Hubbard's (2010) concepts of learner training, which were synthesised to create the Combined Learner Training Model (CLTM) utilised in the current study.

Technical Training
- Use of computer literacy
- Use of general applications
- Use of language specific applications
- Understanding of options and controls in CALL applications

Pedagogcal Training
- Experience CALL yourself
- Give learners teacher training
- Use a cyclic approach
- Use of collaborative debriefings
- Teach general exploitation strategies

Strategic Training
- General language learning strategies
- Strategies specific to CALL

Figure 5.1 Graphical presentation of Combined Learner Training Model (CLTM) which is based on a synthesis of Hubbard's (2004) and Romeo and Hubbard's (2010) concept of learner training

The CLTM used in this study was aligned with Wenden's (1998) guidelines of learner training in second language learning. Wenden (1998) argued that learner training in language learning is not a new concept, rather it can be traced back to early 1900s. Earlier concepts of learner training focused on strategy training and the understanding of learning process. Bruner (1966) also emphasised training in the process of learning rather than content of learning. Wenden (1998) outlined four guidelines to be considered carefully while developing and implementing learning training in language learning:

1. Explicitness of purpose;
2. Content of training;
3. Integration;
4. Evaluation.

The first guideline of learner training by Wenden (1998) advocates explicitness of purpose. The CLTM followed this guideline by providing pedagogical training to the students. There are no specific guidelines provided by Romeo and Hubbard (2010) for pedagogical training. However, Hubbard's (2004) guiding principles for learner training are very elaborative for teachers who are new in this field and want to train their students in the use of technology for language learning. Hubbard's (2004) guidelines about giving learners teacher training and using collaborative debriefings help to convey the purpose of training explicitly. The learners understand how to develop their learning objectives, the purpose of learning a specific strategy, and how they can better use it for other language learning tasks.

The second guideline for learner training by Wenden (1998) promotes careful consideration of the content of training. The training should cover general language learning skills and cognitive and metacognitive strategies, which is aligned with the CLTM's last category, strategy training. Wenden's (1998) notion of integration involves decisions related to the range and specificity of training, learner autonomy and learner characteristics. These considerations are addressed

to some extent in Hubbard's principle of the teachers experiencing CALL themselves. Once teachers have experienced the use of CALL themselves they are in a better position to decide the range and specificity of learner training. However, the existing and potential levels of learner autonomy among students, and the knowledge about learners' characteristics could not be addressed through the CLTM. In the present study, the digital practices survey helped to inform decision-making about the level of learner autonomy students had already achieved and what more was needed, while keeping students' characteristics in mind. Furthermore, the CLTM does not expound on how to evaluate the success of learning training, which is Wenden's (1998) last guideline and refers to how learner training is measured. Wenden (1998) argued that while evaluating learner training, teachers should consider learner attitude, skills acquisition, task improvement, durability and transfer of skills as key constructs.

5.3 Methodology

As mentioned in Chapter 3, this study was carried out in two phases. This chapter reports the second phase of the study, which is a mixed method study focused on exploring the effect of training in MALL on undergraduate students at BZU. The study was conducted online from New Zealand. The selection criterion of Phase 2 was that participants should be students studying in their first semester at BZU. Hence, the participants of digital practices survey were not suitable for the study as the students in their first semester had already been promoted to second semester. The Heads of the Departments of Management Sciences, Humanities and Social Sciences, Computer Sciences, and Molecular Biology and Biotechnology were contacted again to recruit students for Phase 2. Fortunately, a whole class of 23 students were willing to participate in the study. The participants and the method employed for learner training and data collection during Phase 2 are described below.

5.3.1 Participants

The participants involved in Phase 2 were 23 first-year undergraduate Molecular Biology and Biotechnology students who were studying English as a part of their syllabus, with a focus on English grammar, English writing and presentation skills. This subject was taught for sixteen weeks during the first semester. An online survey was conducted prior to the study to get background information related to the participants. As described in Section 1.3, the purpose of the study was to explore the effect of the training in MALL on the undergraduate students' attitude towards, beliefs about, and use of smartphones for autonomous language learning. Hence, the focus of the study was on MALL practices of the students. It did not look into the effect of training in MALL on students' English language skills. Hence, information about students' digital practices was sought in the digital practices survey and background information survey. Information about English language proficiency was not asked in the above-mentioned surveys. Table 5.1 presents demographic information.

Table 5. 1 Descriptive statistics of demographic variables

Measures	Number	Percentage
Gender		
Male	18	78%
Female	5	22%
First Language		
English (one of the official languages of Pakistan)	0	0%
Urdu (one of the official languages of Pakistan)	11	48%
Punjabi (regional language)	5	22%
Siraiki (regional language)	7	30%
Medium of education during previous school studies		
Urdu-medium	8	35%
English-medium	15	65%
Number of years students have studied English		
Less than five years	3	13%
Five to eleven years	3	13%
Twelve or more years	17	74%

All the participating students had access to smartphones and had already been using them for various purposes. Six students reported that they had been using smartphones for more than two years, five students had been using them for one to two years and twelve students for less than one year. A majority of the students (70%) reported that they were using their smartphones to access educational content. Entertainment and use of smartphones to access internet for emails was the second most common use among students (61% students reported), whereas making phone calls was a less common purpose of using smartphones among others (52% students reported). Students' use of smartphones for the above stated purposes was compared with the results of Phase 1 and significant differences were found. It can be argued here that these differences were due to the exposure of students in university life. The students in Phase 2 were studying in their first semester and the students in Phase 1 belonged to various semesters from first to eighth. These differences in the use of smartphones by students in Phase 1 and Phase 2 are illustrated in the following Figure 5.2.
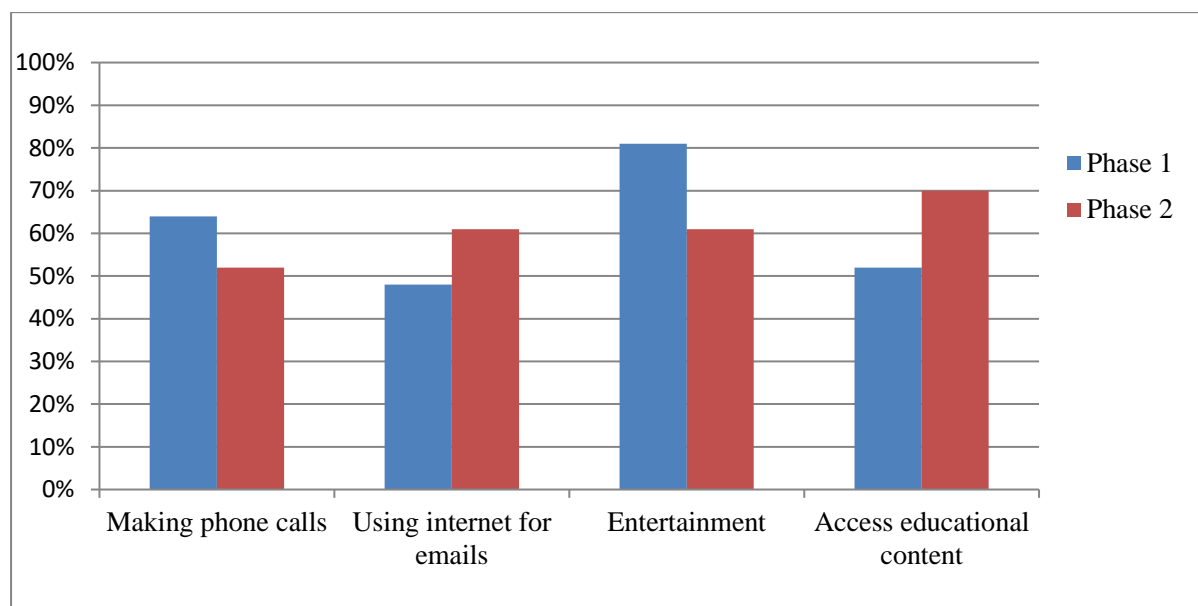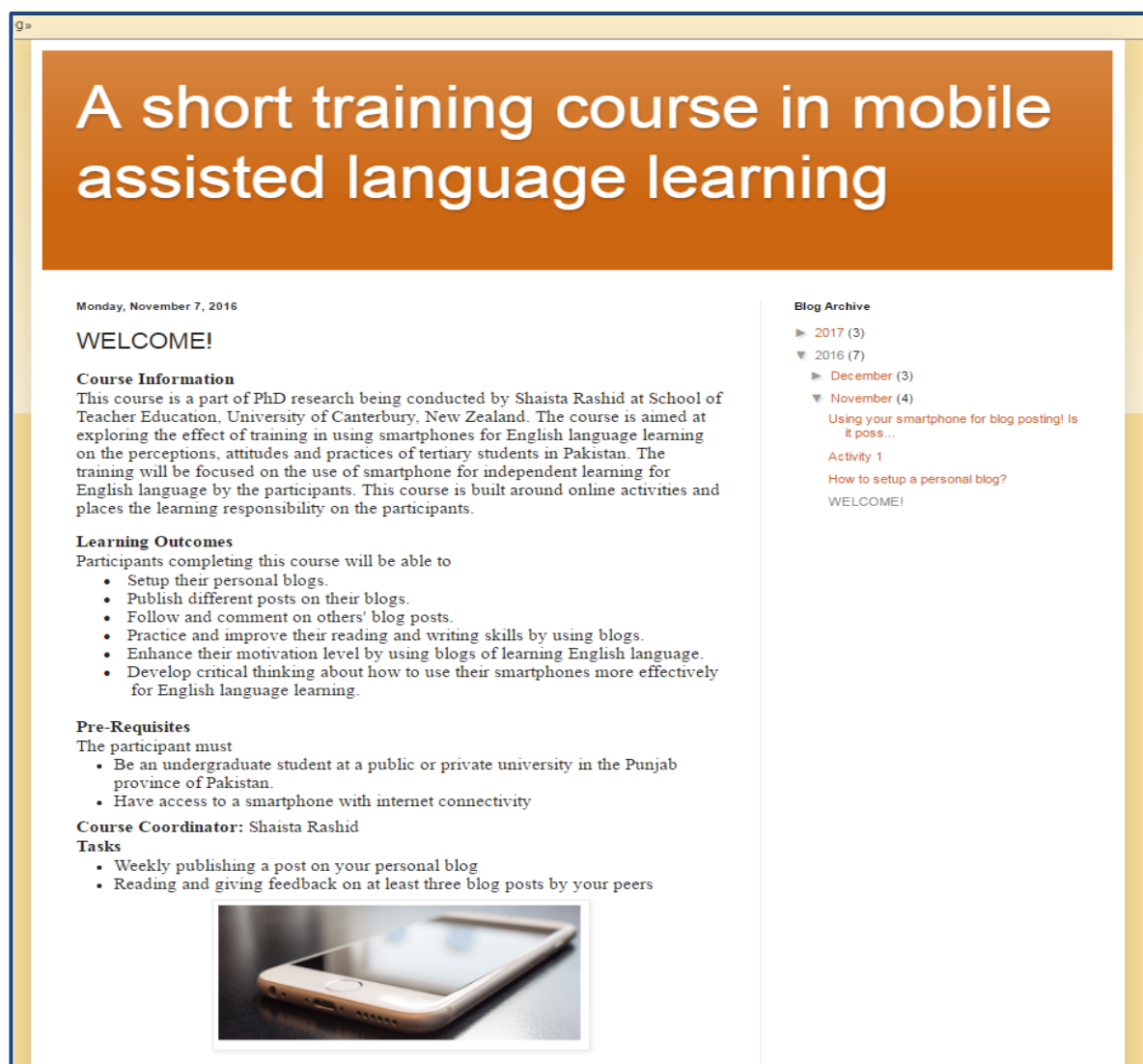
Figure 5.2 Participants' smartphone usage for various purposes

5.3.2 Method

In the present study, a blog was set up by the researcher on www.blogger.com with the title *A Short Training Course in Mobile Assisted Language Learning.* Hosting the training course through a blog was important as it offered hands-on opportunities to the students to experience reading, following and familiarising themselves with a blog. It was assumed that training students by giving them a chance to practically visualise and know the expected outcome of their product in the form of a blog would enhance their motivation and confidence level. Furthermore, the course activities were designed to move along the continuum of simple to complex to maintain the interest and curiosity of the learners after completing each activity. Blogs were introduced as writing genre by developing the activities around various types of writing styles such as essay writing, descriptive writing, narrative writing, etc. The focus was on extensive practice of English writing skills using smartphones outside the classroom. The aim of these activities was to encourage students to do extensive practice of their English language writing skills, hence students were given full control over level of difficulty of their texts. The pedagogical training of the students was based on Hubbard's (2004) training principles which focused on providing teacher training to the students, encouraging students to set their own goals. Moreover, the focus of the study was on practicing English writing skills extensively outside the classroom on their smartphones. The study did not look into the level of improvement in their English writing skills rather it focused on the frequency of use of smartphones for practicing English writing skills. Scaffolding in terms of instructions was reduced gradually towards the end of the course and students were expected to produce more words in their blogposts as well as publish more posts without assistance. Hence, learner autonomy was measured in terms of number of published blogposts and number of words used in each blogpost. Figure 5.3 displays a screenshot of the first post on the course blog.

Figure 5.3 Screen-shot of Week 0 blog post

Once students had given their consent for participation, a link to the background information survey (see Appendix 9) was sent to the participants. The next step was to carry out the pre-course interviews (see Appendix 5). A random sample of seven students participated in the interviews. Detail about pre-course interviews is given in Section 5.3.4.2.

After completion of the background information survey and the pre-course interviews, a link to the course blog was sent to the participants. Each week's activities were posted on the blog. Individual emails carrying directions, expected outcomes, and a link to the blog were sent to the students after publishing each

task on the course blog. The course schedule and each week's activities are shown in Table 5.2.

Table 5. 2 Course schedule

Week	Activity
0	**Welcome**
1	**Training Session**: How to set up a personal blog.
2	**Activity 1**: Set up your personal blog.
3	**Training Session**: Using your smartphone for blog posting! Is it possible?
4	**Activity 2**: Your first blog post.
5	**Activity 3**: Choose a picture and write a blog post on it.
6	**Activity 4**: Take a picture using your smartphone camera and write a post on it.
Midterm exam & Holidays	
7	**Activity 5**: Provide feedback to your peers on their blog posts by following given steps.
8	**Activity 6**: Make a short video using your smartphone and write a blog post on it.

Week 0: An email was sent to the students which contained the invitation to visit the blog and read the first post *Welcome* (see Figure 5.3). This post contained general information about the blog, learning outcomes, pre-requisites and the nature of tasks students should expect during each week (see Appendix 11). The main aim during Week 0 was to acquaint students with what blogs are and how they look.

Week 1: Students were asked to read the next blog post *How to set up a personal blog* (see Appendix 12). The post contained a step by step guide to setting-up a personal blog using a smartphone and a video explaining the entire process in Urdu language.

Week 2: During Week 2, students were invited to set up their personal blogs. They were asked to go back to the previous post *How to set up a personal blog?* and follow the steps given there. After setting up their personal blogs they were supposed to copy and paste the link to their personal blog in the comment section of the course blog post Activity 1 (see Appendix 14).

Week 3: Once students had set up their personal blogs, a post on training the students in using their smartphones for blog posting was published on the course blog. This post contained a step by step pictorial guide in English along with a video explaining all the steps in Urdu (see Appendix 13).

Week 4: During Week 4, the second activity was posted on the course blog (see Appendix 15). This activity was designed to let students practice essay writing in English using their smartphones. Pakistani students are introduced to essay writing in their early years of schooling. Essay writing is evaluated in class assignments and final examinations, where students are given a choice to choose a topic from a given list and write an essay. Keeping in mind Vygotsky's (1978) ZPD and Nunan's (2003) continuum of learner autonomy, the first writing activity was similar to what students had been doing in their English classrooms during their previous school studies. Fareed, Ashraf and Bilal (2016) claimed that students' writing ability can be improved by enhancing their interest, motivation and enjoyment for writing. Keeping this in mind, the topics for this activity were more focused on the students themselves. Furthermore, the topics did not require the students to search for information, rather they were encouraged to express their own ideas and opinions.

In Activity 2, students were invited to refer to the previous training posts on the course blog to refresh their learning. Following their brainstorming, they were asked to write 150 or more words on one of the five statements provided in the post. Students were expected to publish their posts on their personal blogs. These statements are given below.

1. If you could invite five people to a dinner party, who would they be? What is each guest like?

2. If you could only eat one food for the rest of your life, what would it be? Describe it and explain why you'd choose it.

3. What's one thing you could never live without and why?

4. Talk about five specific goals you want to accomplish in 2017, and explain how you are going to accomplish them.

5. If you could get one gift for everyone in your family, regardless of the cost, what would you get them and why?

Week 5: Activity 3 was published in Week 5 (see Appendix 16) and was focused on descriptive writing. Hauck (1969) described descriptive writing as a fun activity which encourages and motivates students to self-evaluate their grammatical and vocabulary knowledge by using appropriate diction, tone mood and to become aware of writing craftsmanship. Samanian and Roohani (2018) pointed out that descriptive writing allows students to use their cognitive and metacognitive strategies to present clear details and information for the readers through their texts. Descriptive writing is not a very popular style of writing in the Pakistani education system. The focus of writing in junior and high schools is on essay writing. Hence, this activity was designed to introduce the participants to another aspect of practicing writing skills through blogs. The task was challenging enough for the students to keep them interested and motivated in their learning process.

In Activity 3 students were provided with six pictures and were asked to write 150 or more words on one of the pictures of their choice (see Figure 5.4).
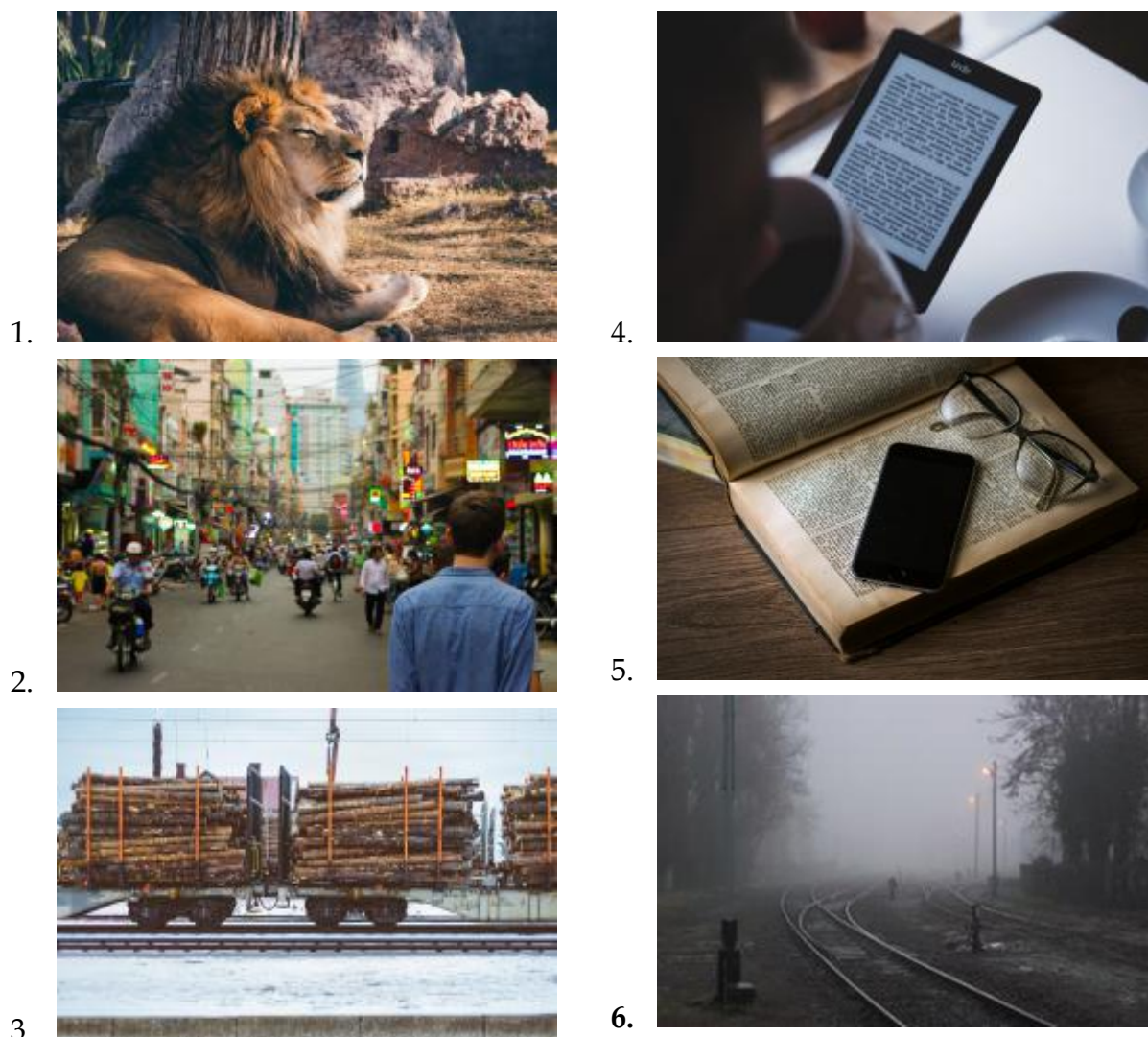
1.

2.

3.

4.

5.

6.

Figure 5.4 Pictures used for Activity 3

Week 6: In Activity 4 students were asked to take a photo using their smartphones and write 150 or more words about the picture (see Appendix 17). This activity was based on Pineteh's (2013) idea of giving students the liberty to choose their own topics for writing exercises, which Pineteh claimed encourages and motivates students. In this way, students use their physical and cognitive skills to exercise extended writing practice and gain control over their expression of linguistic and content knowledge (Kellogg & Raulerson, 2007). In this activity, students were encouraged and expected to use more words and publish more than one post.

Week 7: Activity 5 was published during this week (see Appendix 18) and was focused on peer feedback. The importance of peer feedback can be explained in the

light of Vygotsky's (1978) sociocultural theory which emphasises the importance of social interaction in the learning process. Liu, Lin, Chiu and Yuan (2001) added to this rationale by claiming that in web-based learning activities, peer interaction encourages students to construct knowledge through social sharing and interaction. Peer feedback also reduces writing apprehension and promotes confidence, critical thinking and learner autonomy (Yang, Badger & Yu, 2006). In the present study, peer feedback was also critical as the study was being conducted outside the classroom. Hence, it was possible that students would feel alone and alienated in their learning process, which could have negatively affected their confidence and motivation.

In Activity 5, students were provided with a list containing the links to their peers' blogs. Students were invited to choose any blog except their own and provide feedback on any two posts. Guiding questions for feedback were also provided in the Activity 5 post. Once the students had completed their feedback they were required to post the blog post link for which they had posted their feedback in the comment section of Activity 5.

Week 8 During the last week of the course, students were asked to use their smartphones to create a short video of one or two minutes. Once the video was complete they were expected to write 150 or more words about it (see Appendix 19). In this activity, students practiced narrative writing style and were expected to have achieved improved learner autonomy in the use of smartphones for practicing English writing skills. There was no upper limit placed on the number of words or the number of posts.

5.3.3 Learner training in MALL

The learner training described above was constructed around Hubbard (2004) and Romeo and Hubbard's (2010) framework of learner training to explore students' attitude, beliefs and practices in MALL. Hubbard (2004) emphasised that although language learning and training through technology had developed immensely,

there had not been any attention given towards preparing learners to utilise these new dimensions of language learning effectively and to their full potential. He further pointed out that the CALL environment allows the learner to take a significant amount of responsibility for their own learning, hence, any lack of technical competence on the part of learners' results in major constraints in getting maximum benefits from the use of technology.

In the present study both Hubbard's (2004) learner training principles and Romeo and Hubbard's (2010) three-part training framework were used. A graphical presentation of both models according to the specific weeks that focused on each part of training is given in Figure 5.5.

Technical Training

Smart phones Literacy
Use of general
Applications

Pedagogical Training

Experience CALL yourself
Give learners teacher
training
Use a cyclic approach
Use of collaborative
debriefings
Teach general exploitation
strategies

Strategic Training

General language learning
strategies
Strategies specific to
MALL

Learner Training in MALL

Weeks 1, 2 & 3   **Weeks 4, 5 & 7**   **Weeks 6 & 8**

Figure 5.5 The application of CLTM based on Hubbard's (2004) and Romeo and Hubbard's (2010) concept of learner training

5.3.3.1 Technical training: In the present study, the focus of technical training was MALL related applications. Technical training was provided during the first three weeks. The first step in technical training related to the use of blogs was to instruct students in using their smartphones for setting up their personal blogs on www.blogger.com. Once students had set up their personal blogs, the next technical training session was to train students in using their smartphones for publishing posts on their blogs and reading others' posts. During both sessions, pictorial guides were used to explain every step involved in technical know-how of blogging. These pictorial guides were published in English language. However, considering the different proficiency levels of students, short training videos in Urdu language were published along with the pictorial guides in English.

5.3.3.2 Pedagogical training: In the present study, Hubbard's (2004) five principles of learner training were used to provide pedagogical know-how of making informed decisions while using smartphones for improving English writing skills. These principles along with information about their implementation are now outlined.

a) **Experience CALL yourself:** Keeping this principle in mind (as explained in Section 5.2), I explored three major social media platforms before deciding to use blogs for the present study. One of these platforms is Twitter. Twitter is a micro-blogging service through which one can express his feelings, opinions and experiences. However, twitter only allows a limited number of words to be used for publishing a post. This required a higher command ofEnglish language to express oneself in the limited number of words. Hence, it was not considered fit for a group of students with varying proficiency level in English.

Another social media platform is Facebook. It offers the facility to communicate with friends, and write about one's likes, dislikes, goals, ambitions, and experiences without the constraint of number of words. It also offers the facility to receive comments on one's posts. However, the

frequent use of slang, idioms, colloquialisms and abbreviations on Facebook may confuse beginner level English language learners. Moreover, the results of Phase 1 indicated that Facebook was not a preferred choice for students to be used for learning purposes. Hence, its use for practicing English writing skills may have demotivated the students.

Instagram was also explored as an option for practicing English writing skills. It is a popular picture-based social media platform that allows online photo and video sharing. It helps to improve communication and networking skills. However, Instagram app is compatible with only iPhone and Android app and does not accommodate Windows mobile, BlackBerry or Linux. Furthermore, it allows around 300 words limit for publishing posts, which could be a hurdle and may demotivate the students who want to write more.

After choosing blogs as digital tool for practicing English writing skills I explored different platforms for blogging, such as www.blogger.com, www.wordpress.com, and www.wordpress.org. While exploring these blog hosting services I had to keep in mind the context of study, Internet and other technical facilities available to the students and financial considerations. I spent a great deal of time in exploring these platforms to identify any potential cultural, economic or technical problems students were likely to encounter while using one of these platforms. After exploring these blog hosting services extensively and practically experiencing all the steps involved in the learner training, www.blogger.com was selected for training sessions for the students. The main reasons for this decision are as follows;

    i. Blogger is a blogging service provided by Google, hence a reliable service (Evans, 2018).

    ii. Blogger provides free of cost blog hosting services which would be not an extra financial burden on students.

    iii. Blogs on Blogger are easy to use and could be managed without high technical skills.

    iv. Blogger offers basic blogging tools and fewer templates, which can be an advantage when dealing with undergraduate students as they will be less distracted by high tech tools and a plethora of templates to choose from.

After choosing the blog hosting service for the study, I used different brands of smartphones available in Pakistan to download the blogging app, setting up the blog and practicing English writing skills. The aim behind this exercise was to explore if there were technical issues related to using the blogger app on any brand of smartphone. In Pakistan, the most popular smartphone brands are Samsung, Nokia and Q-mobile. Hence these three brands were tested, and no issues were encountered.

b) **Give learners teacher training:** Prior to the training sessions students were informed about what the training was about, what the learning outcomes were, the pre-requisites of the training and what kind of tasks they should expect, along with information about the estimated time required for these tasks on weekly basis. The students were also informed about the whole research study and prospective benefits for them if they chose to participate in this study. This exercise was also important for students as they could practice determining their own objectives and goals prior to undertaking any English language learning activity. Viewing themselves as their own teachers can enable the students to look critically into their own language learning needs, skills and capabilities, so that they can address their requirements in better way.

During Week 7, when students had become more comfortable and familiarised with blogging with their smartphones, they were asked to provide peer feedback for at least two blog posts. Guidelines for how to provide peer feedback were provided. This exercise gave the learners a

chance to see their peer's blogs as teachers, in order to help them understand their own learning process and critically view their own blogposts.

c) **Use a cyclic approach**: The first two technical training sessions were offered in alternative weeks (Week 1 & 3) so that students were not overloaded with information. After the first session of learner training during the first week, students were given time to process the information and new skills they had learnt. In the following week, they were assigned their first activity based on the first session of training. After successful completion of the first activity, the next training session was organised.

In the later stages, once the basic and essential technical training was complete and it was obvious that the students could perform on their own with minimum guidance, training was provided in chunks. During each week's task, students were reminded to refer to the first two training sessions to revise and see if they were missing any crucial point in using blogs for enhancing English writing skills. During Week 6 and 7 when students were comfortable enough in using a smartphone and its different features for improving English writing skills, they were asked to explore and work independently to improve their English writing skills.

d) **Use of collaborative debriefings:** In the present study, students belonged to one intact class and met every day in their education institution. They shared their experiences of using smartphones for improving English writing skills with their peers in their free time at university. They also helped each other in performing certain activities during the training course. The students also communicated with the researcher via emails, if they encountered any problem during the course (34 emails from students specifically asking for help were received during the course).

e) **Teach general exploitation strategies**:   Students in this study were encouraged to use different features of their smartphones for practicing

their English language skills, such as the dictionary, web browser, etc. Students also generalised the strategies learnt in the training course and used them in their class activities. As mentioned earlier, the course started by setting up easy tasks for the students and then proceeded to more challenging tasks. The level of autonomy also moved from researcher dependent to researcher independent where students were asked to complete the last two activities (Activity 4 and 6) with minimum directions.

5.3.3.3 Strategic training: The strategic training was focused on how to use smartphones for improving English writing skills outside classroom. At the beginning of the training, cognitive strategies were focused by providing students with training in setting up their personal blogs and using their smartphones for blogging. As the aim of the training was to produce autonomous learners, the training was designed to enable the students to create their own independent tasks and topics for practicing English writing skills. Initially, the students were provided with the themes and topics for their tasks with thorough directions. As the course progressed the paradigm of responsibility shifted to the learners. The tasks started getting more challenging, involving the use of other features of their smartphones such as the camera, web-browser, and online dictionary/dictionary app, thereby enabling the students to practice their meta-cognitive strategies. The socio-cognitive strategies were highlighted and practiced while providing opportunities to provide peer feedback as well as encouraging students to discuss their experiences and problems when they met in university, outside the classroom.

5.3.4 Data collection tools

The present study was a mixed method study (see Section 3.2). Qualitative and quantitative data collection tools were employed (see Section 3.6). The quantitative data comprised of digital practices survey, follow-up survey, number of blogposts published by each student and number of words written in each blogpost. The

qualitative data comprised of pre- and post-interviews with the students (eight students participated in pre- and post-interviews), written feedback about students' experiences of the training course (all students posted their experiences in the comment section of the last activity), and an interview with the subject teacher. Both qualitative and qualitative data was clustered around following key constructs:

1. Perceived usefulness of instructional posts and videos;
2. Students' attitude towards blogging;
3. Students' attitude towards using smartphones for blogging and language learning;
4. Students' beliefs about improvement in their English language skills;
5. Students' beliefs about increase in their motivation and confidence level related to English language;
6. Effect of training in frequency of publishing individual blogposts;
7. Students' attitude towards online training.

The English language teacher's observations related to students' performance in classroom activities and perceived changes in their confidence and motivation level.

5.4 Results

The effectiveness of training was measured through the number of posts published on the individual blogs, students' responses regarding the usefulness of the instructional posts and videos, attitudes towards the use of blogs for practicing English writing skills, attitudes towards using smartphones for practicing English writing skills, reported increases in motivation and confidence, and beliefs about improvement in English writing skills. The English teacher's observations were also included to document if there was any change in students' participation, confidence and English writing skills.

The data collected from the pre-course interviews and background survey revealed students' exposure to blogging, the use of smartphones for learning English language and their self-evaluation of English language proficiency. The results were that 43% of the students evaluated and placed their writing and (39% of students) reading skills at low-intermediate level. Only 22% of participants thought that they had advanced level proficiency in writing skills and 17% of the participants described their reading skills as advanced level. However, both intermediate and advanced level students wanted to improve these skills and mentioned their willingness to avail of any opportunity to polish their reading and writing skills. In response to a question asking students if they used their smartphones for learning English language, only six out of 23 students mentioned the use of dictionaries on their smartphones. Two students mentioned the use of the *Hello English* app and listening to talk-shows for learning English. The remaining 15 students reported no use of smartphones for English language learning. Furthermore, all students stated that they had limited knowledge of using smartphones for practicing English writing skills. Besides, all students also mentioned that they did not know anything about blogs. They had never created a blog, or read and commented on anyone's blog. However, all students expected that using blogs could be helpful in improving English language skills.

5.4.1 Perceived usefulness of instructional posts and videos

As mentioned earlier, students reported that their proficiency in using their smartphones for creating their blogs and publishing blogposts in English was very minimal. Furthermore, the training was provided through an online platform, which was also a unique experience for all the students. In this scenario, the easy-to-follow characteristics of the training posts and videos was very important in order to keep the students engaged and motivated. Post-course interviews, written feedback and the follow-up survey were used to measure this construct. The students revealed during the post-course interviews that the instructional posts and videos were very helpful and easy to follow. One student mentioned: "*The*

instructions were very helpful. I had no experience of using the Internet for such activities [blogs]. The instructions helped me learn a lot and by following them, I easily published posts on my blog."

Students described that apart from being helpful the *instructions were fun*. One student stated that he took screenshots of the instructions and followed them to make multiple posts. This helped him in not only learning the steps but also remembering them for future reference. After publishing several posts, the process got easier for him and he could publish without looking at the instructional posts or videos. The results of the follow-up survey revealed that 88% of the students found it easy to follow the instructions. However, one student pointed out that he did not find the instruction easy to follow and took help from YouTube videos on how to use blogs. Hence, learning how to use blogs was not easy for him. Although a majority of the students (86%) reported that the training offered enough time to complete the activities, three students were neutral to this construct. They mentioned that the pressure of university studies and unreliability of the Internet made these activities very time-bound for them. Figure 5.6 shows students' responses regarding the perceived usefulness of instructional posts.
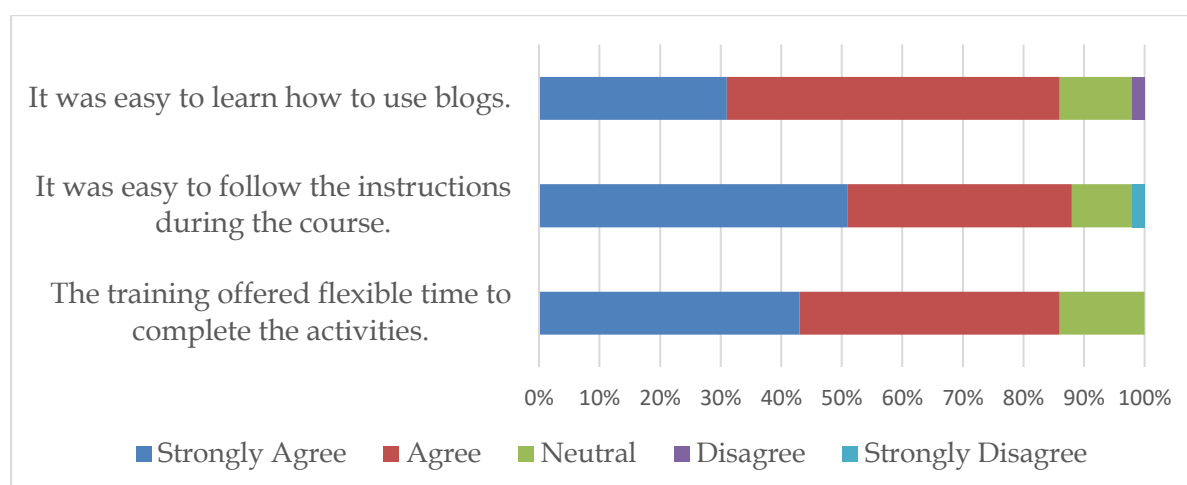
Figure 5.6 Students' attitude towards training in the use of blogs

5.4.2 Attitude towards blogging

A comparison of the results of students' pre- and post-course interviews revealed that the students reported an improved use of the blogs for practicing English writing skills. The findings of the study showed a positive attitude of the students towards using blogs for practicing English writing skills. In pre-course interviews students revealed that although they did not use their smartphones for English language learning, they thought smartphones could help in learning English language. However, they did not know how to use smartphones for language learning. While describing their experience of using blogs, students mentioned that *it was a new thing* for them and they found it an *interesting* and an *amazing experience.* Students regarded the *creativity* and the independence in writing about anything as the most outstanding feature of blogging, as one student mentioned: "*This activity gave me a free hand. We can capture family moments, improve writing skills and share moments with others as well.*"

Overall, students perceived blogging as a fun activity. Many students mentioned that in the beginning, they had difficulties in publishing their blog posts but with the passage of time, it became an interesting activity as they could share their opinions, ideas and thoughts with the world. One student reported: "*This was the first time in my life, I used the Internet for such a purpose [blogging]. It was a good activity. Such activities can help us learn how to use the Internet more productively.*"

The results of the study revealed that students chose titles for their blogs based on their passions and they wanted to make their identity known to their readers. While naming their blogs, students mentioned that they preferred using their own names as the title of the blog so that they could make their identity and personality visible to the world. One of the students mentioned that she had named her blog as *my blog* but then she wondered, "*how would [anyone] know that it is my blog. So, I added my name in it*". Another student reported: "*My blog was based on my name and I thought people should get to know me. They should know what I think and what is my*

attitude towards others." Another factor involved in naming the blogs was individual passions such as food and the love for their country or city.

> *I wanted to make everyone familiar with my city. I chose the titles*
> *for my blogposts, which reflected the beauty of Multan. Though my*
> *blog posts, I wanted to urge people to visit Multan.*

When students were asked how they selected the topics and themes for their blog posts, they mentioned that it was based on their personal interests, things they regarded important, their observations, memories and things or events which were readily available for them. Since female students usually stayed at home after their classes at university, it was much likely for them to choose the topics and theme for their blog posts available in their surroundings. As one female student mentioned: *"We usually don't go out for recreation, so I did not have much to choose from. That is why I used to pick objects from my home."* Discussing with siblings and friends was another way of choosing the theme. One student pointed out that she approached the process of writing blogposts upside down. Initially, whenever she chose a topic and wrote about it, the whole post turned out to be different from the topic. So, she decided to write the post first and then chose the topic for it and that worked well for her.

When asked about the reasons behind posting so frequently (see Section 5.3.6) on their blogs, students who had posted often identified many factors such as ease of use, a sense of competition and challenge among peers, and realisation that it was helping them to develop their writing skills. All these factors added up in boosting students' motivation to write more in English. The ease of use was reported by many students:

> *Gradually it [blogging] captured my interest because the things*
> *were getting easy.*

> *When I started writing on my blog, gradually it became a hobby. I*
> *realised that following it [blogging] was very easy and interesting.*

Another use of blogs was for personal catharsis, "*I use my blog as catharsis*"; and getting relaxed, "*even during papers I would think about my topics before going to bed and would write my post as a break and relaxation from studies*". Students also mentioned that they were happy to write about social topics and felt good about sharing their opinions on various social issues of Pakistan. As one student reported: "*I wanted to do something for my society, so I used my blog [to talk] about things that could be done*".

These findings were backed up by the quantitative results of the follow-up survey. This construct was measured by seven items and tapped into students' beliefs, preferences and enjoyment of using blogs for practicing English writing skills. It was interesting to note that a considerable proportion of students preferred receiving comments on their blogposts (59% students strongly agreed), as compared to posting their own comments on their peers' blog posts (24% students strongly agreed). This preference for receiving comments and less willingness to post comments on peers' blogs can be due to lack of confidence in English writing skills and little experience in blogging. Figure 5.7 displays students' attitude towards blogs, which is measured in terms of students' enjoyment in using blogs and preferences for practicing English writing skills and future use of blogs.
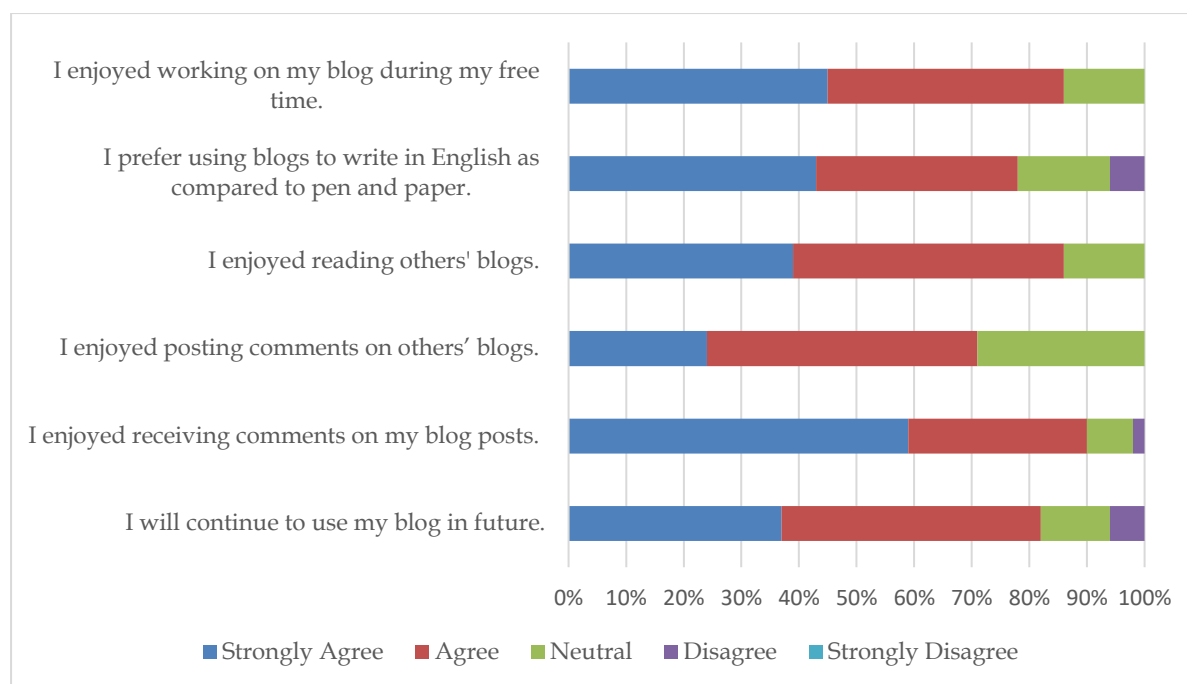
Figure 5.7 Students' attitude towards blogs

5.4.3 Attitude towards using smartphones for blogging and language learning

The results of the study revealed that students found using smartphones for blogging more convenient than using a laptop. One of the reasons reported by the students to use smartphones was that students staying in the university hostels did not have reliable Internet connectivity through university provided Internet services. Hence, they preferred using data packages through mobile services providers. Students also realised that using smartphones was more useful as it offered flexibility of time and place. One student mentioned that using smartphones was much more helpful whenever there was an issue with the Internet connectivity, as she could carry her device with her to a better-connected place such as the campus library. Similar opinions were presented by other students as well:

> I used to publish blog post on my mobile because it was easy. I could even publish when I was in my bed. Using laptop was more time consuming.

I used my mobile phone to post on my blog. It was very handy and easy.

I could use it [my smartphone] on the go without worrying about being at a comfortable place to use it and publish a blog post.

The follow-up survey also supported the above findings. Figure 5.8 displays students' attitude towards using smartphones for publishing blogposts.
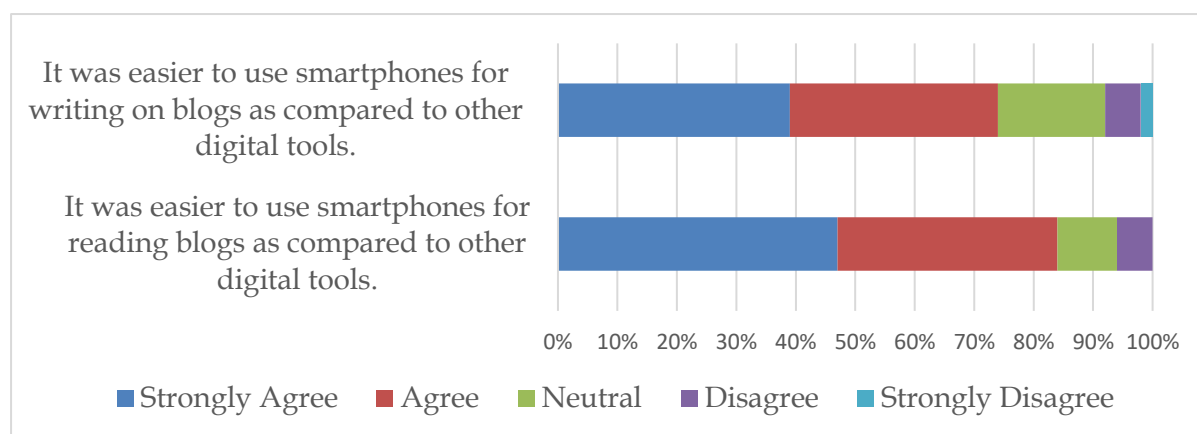
Figure 5.8 Students' attitude towards using smartphones for publishing blogposts

A majority of the students (55%) reported that the proof-reading of their blogposts was done by reading the post two or three times to make sure that there were no mistakes. However, 45% of the students claimed that they used software or a smartphone application to proof-read their work on blogs. One student also mentioned that he used to preview the entire post to see how it would look on the blog.

Students also used their smartphones to access the Internet for various purposes. While writing blogposts, Google was the most favourite tool. It was used by 50% of the students for translating words from Urdu to English and checking the spellings. Furthermore, students searched for specific information to be used in their blog posts, such as one student who mentioned: "*while writing a blog post, when*

I had to put in some authentic scientific information, I googled to check the facts and then posted it."

Along with Google, students mainly used dictionaries (66% of the students) on their smartphones to check spellings and meaning of the words. One of the students mentioned that he installed Microsoft Office on his smartphone to use its autocorrect and spell-check features. However, he was not able to use wordcount feature on his smartphone, hence he used another app to count the words of his blogposts. Another smartphone app used by one of the students was VideoShow, which he used "*to trim and cut and reduce the noise in the background of the video".*

5.4.4 Students' beliefs about the improvement in their English writing skills

The follow-up survey measured the effect of using blogs on students' perceived improvement in their English writing skills due to which their performance in exams and class assignments was also improved. The findings for this construct are presented in the following Figure 5.9.
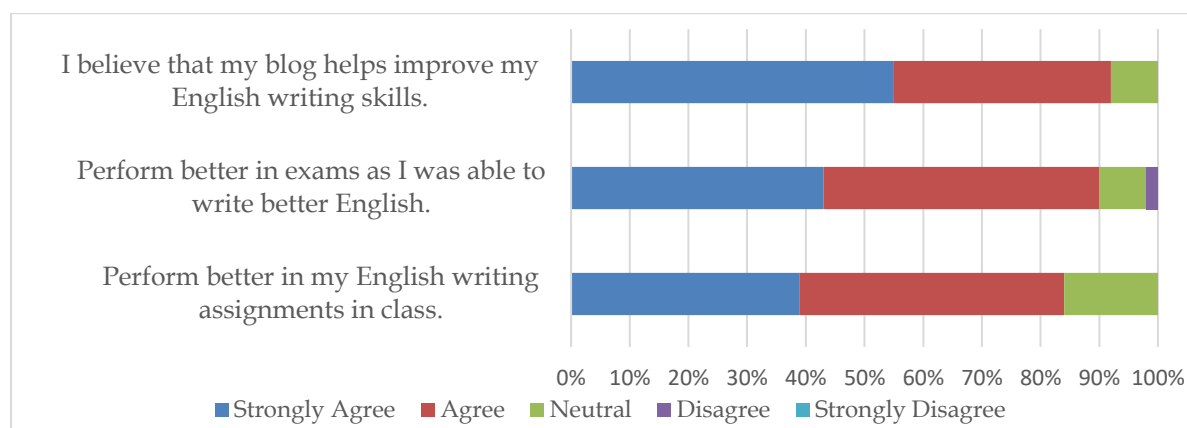
Figure 5.9 Students' beliefs about the improvement in their English writing skills

Furthermore, a majority of the students (93%) reported that as a result of practicing English language on their blogs they had become more careful about word choice and spellings. However, overall improvement in planning and revising the blog posts was low as compared to other aspects of English language. About 28% of the students strongly agreed and 45% students agreed that they

spent more time in planning and revising their writing tasks. Figure 5.10 displays students' beliefs of the effect of using blogs on their smartphones for improvement in their knowledge and practices of English writing:
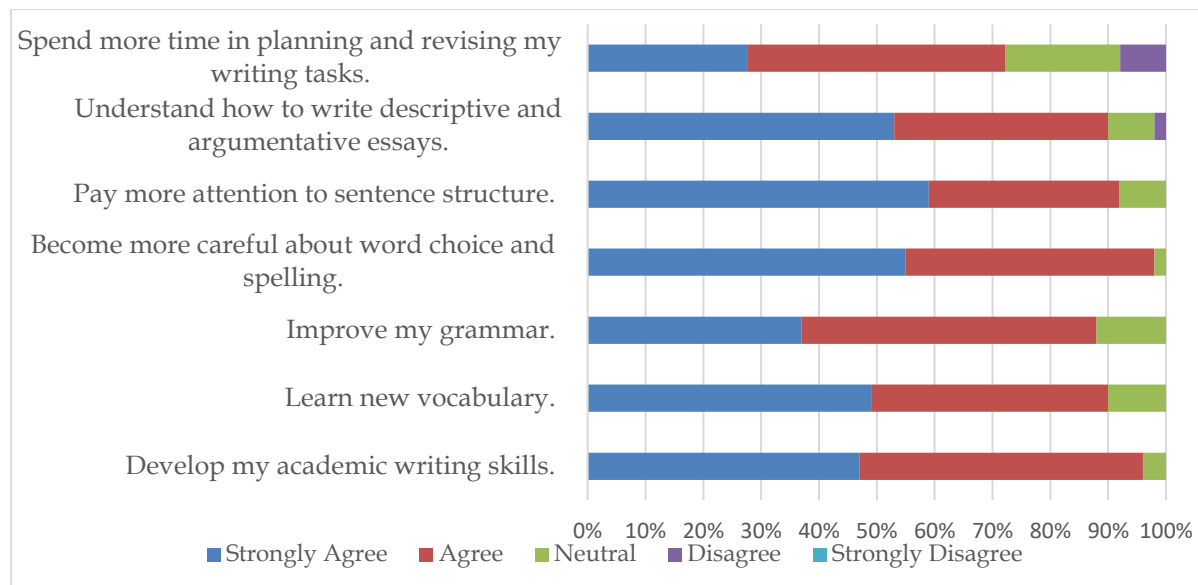
Figure 5.10 Students' beliefs about improvement in their knowledge and practices of English writing.

The realisation that students could write independently was very motivating for them. One students mention: *"It was something I could do on my own and there was appreciation for me in it. It groomed me in so many ways. I loved doing it."* Since this activity was done during the school year and students were taking regular classes under the pressure of course assignments and exams, writing blogposts on regular basis was a challenge for them. However, 78% of the students took this challenge as a competition among peers which resulted in an increased number of blog posts. One student mentioned *"When I had to do it as a competition, it was very intriguing for me. It was also fascinating for me as I was publishing posts on my own choice."* Furthermore, students realised that this exercise was helping them in developing their English writing skills, which made them more confident and motivated to publish more blogposts. Some of the comments made by students are given below:

> *I realised that I was developing proficient writing skills. I felt thrilled.*

Now after doing this course, I feel confident that I can publish blog posts. I am sure that after publishing 10-12 posts I will be perfect in writing and publishing posts.

It was a two in one thing for me; I developed creative writing and learned a lot while having fun. The knowledge about concepts of creative writing was a bonus.

Moreover, 78% of the students agreed that writing on blogs had helped them improve their overall communication skills. The majority of the students (96%) indicated that by practicing English language on their blogs they were able to express their ideas and opinions in a better way.

As stated earlier, the study was focused on exploring the effect of training on students' attitude, beliefs and practices in the autonomous use of smartphones for practicing English writing skills; no formal training for process-based writing approach was provided to the students. However, the results of the study revealed that students practiced different stages of writing process during their blog-writing activities. They practiced the pre-writing stage by searching for the ideas. They planned and structured their blog posts before writing them. The last stage was proofreading and editing their blogposts before publishing them on their individual blogs.

Community building among students was another important construct as the whole study was carried out outside the classroom environment. Since the students belonged to one cohort, they already knew each other. It was expected that even during their independent language learning practices they would keep a community sharing among themselves. Figure 5.11 displays how students built a community by sharing their experiences and helping their peers as well as asking for help when needed:
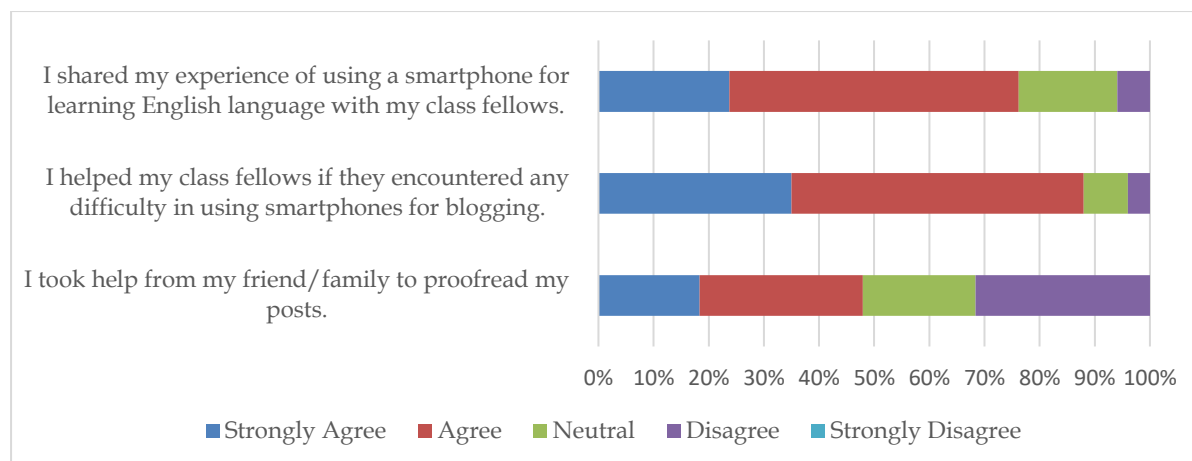
Figure 5.11 Community building among students

Figure 5.11 presents that more than 75% students helped their class-fellows by sharing their experiences in the use of smartphones for practicing English writing skills and solve any problem in the use of smartphones for blogging. On the other hand, 47% of the students reported that they took help in proofreading their blogposts.

5.4.5 Students' beliefs about increases in their motivation and confidence

The usefulness of the instructional posts and an improvement in the writing skills enhanced students' motivation and confidence level both in and outside their English classroom. In post-course survey, when students were asked if writing on blogs had helped them to increase their motivation and interest in writing in English language, 92% of the students answered positively. Students were further asked if practicing English writing skills had any effect on their participation in classroom activities, about 90% of the students reported an increased level of engagement in the classroom activities (Students' English teacher's observations and opinions about change in students' participation and engagement in classroom activities are reported in Section 5.4.8.) Another factor which motivated students to write more in English on their blogs was peer support and appreciation in the shape of comments on their blogs. The realisation that a larger audience than just their English-teacher was reading their writing, was not only motivating but also made them *confident about* their *future posts*. Students reported that *people not*

only read the posts, they understood them as well and it was very motivating. One student shared her experience:

> *It was an interesting experience for me. When I received one comment on my post, I really loved knowing that somebody had appreciated my effort. I also learned by reading other people's posts. It also taught me how people differ in their thoughts and opinions from each other. Definitely, it [blogging] gives so much motivation.*

5.4.6 Effect of training on the frequency of publishing individual blogposts

The successful completion of the course required the students to publish at least four posts by completing Activities 2, 3, 4 and 6, however, they were encouraged to publish as many posts as they liked. The results of the study revealed that 78% of the students published more than four posts. Furthermore, the minimum requirement of number of words for each post was 150 words. The results of the study showed that 78% of the students did not stick to the minimum word-limit, rather used more than 200 words on average for each post.

Activity 2 was the first blog post published by the students. Students were provided with five statements and were asked to write 150 or more words on one of the given statements. As stated earlier on page 21, these statements are given below.

1. If you could invite five people to a dinner party, who would they be? What is each guest like?
2. If you could only eat one food for the rest of your life, what would it be? Describe it and explain why you'd choose it.
3. What's one thing you could never live without and why?
4. Talk about five specific goals you want to accomplish in 2017 and explain how you are going to accomplish them.

5. If you could get one gift for everyone in your family, regardless of the cost, what would you get them and why?

A majority of the students (12 students) chose statement no. 3 with 662 as the highest number of words and 114 as the lowest number of words written by students who chose this statement. The results of the study revealed that the least favourite statements among students to write about were statement 2 and 5. The following table 5.3 shows the statements chosen by students and average number of words written for each statement.

Table 5. 3 Statistics related to Activity 2

	Statement 1	Statement 2	Statement 3	Statement 4	Statement 5
Number of students who choose this statement for their first blogpost	7	1	12	3	0
Average number of words for each statement	325	145	279	177	0

Activity 3 was completed during Week 5. In this activity students were asked to choose one of the six pictures (see Figure 5.4) provided in the course blog and write 150 or more words about that picture. The analysis of results revealed that none of the students chose to write about picture 4 which shows a mobile device being used for reading (see Figure 5.4). The reason behind this behaviour can be lack of awareness about mobile devices such as eBook readers for reading purposes. The results of the digital practices survey (see Chapter 4) also support these findings as only 6% of the students reported having access to eBook readers. The following Table 5.4 show the picture chosen by students and the average number of words written about that picture.

Table 5. 4 Statistical description of Activity 3

	Picture 1	Picture 2	Picture 3	Picture 4	Picture 5	Picture 6
Number of students who chose to write about this picture	7	4	3	0	1	8
Average number of words used for the post about this picture	202	222	303	0	266	278

Overall, Activity 2 and 3 were considered difficult by the students. In post-course interviews one student reported that publishing the first blogpost (Activity 2) was tough for him because he did not know how to write on a blog. Another student reported: "*Although all the activities were good, and I enjoyed them, the first two blog posting activities [Activity 2 & 3] were difficult because I had no experience and did not know how to do them*".

During Week 6, students were asked to participate in Activity 4, using smartphones for taking a picture and writing a blog post about that picture. It was assumed that students were comfortable enough to choose their own topics and work independently on their personal blogs. Hence, they were encouraged to publish as many posts as they liked. The results of the study revealed that five students published only one post, six students published two posts and twelve students published three or more blogposts for Activity 4, with nine as the maximum number of blogposts published by one student for Activity 4.

The post-course interviews and frequency of publishing blogposts (see Table 5.2) revealed that a majority of the students enjoyed Activity 4. The feeling of independence and ownership was one of the factors pointed out by the students involved in the popularity of the Activity 4. One student maintained: "*[Activity 4] gave me a chance to express my views about a picture that was captured by me. So, it was really interesting*". Another student shared similar views: "*Since I had to pick pictures on my own and they were my family moments, I could write a lot on it, so it became easy*".

Another student reported: "*The best activity was the one in which we were supposed to make posts of our own choice. I could do whatever I wanted to with my posts. It helped me in creativity and found it helpful for my language development*".

The next blog posting activity (Activity 6) was comprised of making a video using smartphones and publishing a post about it on students' individual blogs. There was no restriction on number of posts in this activity, rather students were encouraged to publish as many posts as they liked. However, the results of the study reported that this activity was not popular with students; only one student published three posts and four students published two posts for this activity. The rest of the students (18 students) published only one post. Students reported in post-course interviews that they had technical problems in making and uploading videos, which can be a reason behind the lower number of blog posts published by students for Activity 6. One student reported: "*I faced a problem while posting video because it was not getting played. I asked my friend to check and she confirmed that it was not being played, I got worried*". Another student pointed out during the post-course interview that he had to make multiple attempts to upload a video on this blog due to poor Internet. This made him disappointed and frustrated, resulting in no more than one post. One of the students pointed out his indecisiveness in choosing a theme of the video. He pointed out: "*the video blog was difficult because I was not sure what to capture*".

The following table (Table 5.5) displays the number of posts, number of words used for each post, and average number of words used by each student. As mentioned earlier, in Activity 4 and 6, students published multiple blog posts. These blog posts are mentioned in the table as alphabets ranging from a to i for Activity 4 and from a to c for Activity 6.

Table 5. 5 Students blogposts on their individual blog

Partici-pants	Act-ivity 2	Act-ivity 3	Activity 4									Act-ivity 6			Total # of posts	Total # of words	Average number of words
	A2	A3	A4a	A4b	A4c	A4d	A4e	A4f	A4g	A4h	A4i	A6a	A6b	A6c			
1	146	149	195	199	286							212	208		7	1395	199
2	358	405	259	536	512	325	291	682	384			442			10	4394	439
3	206	192	257	287	250	191	176					137	128		9	1824	203
4	244	220	241	204	240	324	245					382			8	2100	263
5	237	355	355	235								189			5	1371	274
6	471	236	247	215								269			5	1438	288
7	287	237	362	330	384	206	240					306	312	343	11	3007	273
8	266	318	289	258	260	283	372	275				196			9	2517	280
9	240	272	202	173	195							191			6	1273	212
10	147	145	75	87	82	84	103	86				120			9	929	103
11	662	490	323	507	374	363	350	337	224	244	338	176	217		13	4605	354
12	351	234	223	278	245	258	236	256	341			221			10	2643	264
13	193	130	95	109								176			5	703	141
14	184	294	130	134	138	149	113					237	192		9	1571	175
15	461	369	351									288			4	1469	367
16	183	192	259	185								189			5	1008	202
17	132	75	326	160	445							125			6	1263	211
18	283	265	222									171			4	941	235
19	174	136	266	85								134			5	795	159
20	298	261	217									132			4	908	227
21	220	242	229									180			4	871	218
22	443	448	534	452								378			5	2255	451
23	112	117	148									107			4	484	121

5.4.7 Students attitude towards online training

The results of the study revealed students' preferences and attitude towards online training and classroom instruction. During the pre-course interviews students reported that they had no prior experience of online training. After the training, majority of the students reported that they had a positive experience of online training during the course. They pointed out various positive aspects of having online training, such as the pressure of evaluation during in-person training or classroom teaching was accounted as a drawback by one student.

> *With the teacher in the class, there is a pressure that we must complete the classroom activities in a given time and we know that we would be evaluated for that, but on the other hand, online is easy and friendly. There is nobody to evaluate us and we can freely follow it. We do not have to be strictly available, we can take out time on our own and complete the thing either in 5 minutes or 5 seconds it totally depends on us. So, it is flexible and easy.*

Another aspect of online training mentioned by a student was unlimited access to certain training materials such as watching the training videos multiple times.

> *I will take online because I can watch online videos related to it as well. We can do multiple things and in class we must be attentive because it won't be repeated in that way again, but through online lectures we can go through the same things ten times without worrying.*

She further pointed out:

> *Online is beneficial because we can take our own time and there is no bound of place or time. You can work wherever you want to, and the time choice also depends on you, so it is easier. If there are any confusions, the lectures can be revisited, and everything can be done all over again. So, I would choose online education. It is easier and flexible.*

An opportunity to practice multitasking was another benefit of online training reported by a student.

> *Online course teaches us multitasking and helps many skills at a time. Reading, spelling and pronunciation and following guideline but in classrooms our listening skills are improved more as compared to other skills.*

However, some students supported the concept of teacher being physically present in the classroom while training. One student reported: "*It is easy to understand when the teacher is physically there, we can ask questions but online takes time because we cannot ask questions on the spot*". Synchronicity was another positive aspect of having a teacher in the classroom: "*I would prefer teacher instead of online. It is because you have more coordination with the teacher in class, and you can ask questions*". The importance of the teacher's body language was also reported by one student: "*I think in future I will prefer having a teacher because the gestures are also important, and it is important for somebody to be there and instruct you*".

5.4.8 The English teacher's observations

An interview with the students' regular English teacher was conducted at the end of the training course. As mentioned earlier the study was conducted during the first semester and the whole class participated in the study. Since the invitations to participate in the study were distributed through head of the department, the teacher was aware of the study. Furthermore, students had shared their participation in the study with their teacher.

The results of the interview revealed that practicing English writing skills out of the classroom had a positive impact on students' confidence, writing skills and engagement in the classroom activities. The English teacher mentioned that the first-year students in Pakistan usually did not have much exposure to the Internet, especially for language learning purposes. Furthermore, they were not trained for

using the Internet and other technologies for language learning purpose. On the other hand, according to her, the use of technology in English language learning and teaching was very crucial, especially when no or very limited direct exposure to target language was available. She further mentioned that English language was mostly taught through the Grammar Translation Method during the first twelve years of education in Pakistan, which was not enough for gaining proficiency in all language skills. According to the English teacher, direct exposure was very important for linguistic development, especially when it comes to creative writing and speaking skills. She further pointed out that the use of technology could help provide direct exposure to authentic language materials. She said:

> *In the beginning we teach students the basics of language, but they cannot utilise those basics unless they practically use them in expressions. These activities (blogging) help them find expression, today they have posted one thing, tomorrow they will post some other thing or the same thing in a very different way. They may use and replace vocabulary items, learn some new ones, so it will improve their writing skills.*

The English teacher also mentioned that although these blogging activities were performed outside the classroom, the students started sharing their experiences with her. Being their English teacher, students often shared their blog posts with her and expected her feedback as well. She further mentioned that students were reluctant and shy in the beginning, as they had never done such an activity before. However, they were enthusiastic and looking forward to it. She shared a story of one of her students who approached her at the beginning of the present study. The English teacher told that her student sent her an email stating that there was an opportunity available for her to improve her English writing skills through blogging, but she was not confident enough about her writing skills. Moreover, she understood that there would be a bigger audience for her posts, which made her more reluctant, yet eager to participate in the study. The English teacher mentioned that it was very interesting for her as the student had written the whole

email in English and it was very comprehensible. She encouraged her student and told her that she must not be afraid of the audience and must be confident about her writing skills. Later, her student was motivated and confident enough to participate in the study and shared all of her posts with her.

While answering a question about any change in students' performance during classroom activities, the English teacher mentioned that her students' expression during descriptive writing tasks, especially where pictorial aids were provided, had become more comprehensive. She explained:

> *Their expression was more unique, and they could see things beyond the basic description or presentation of the image. It was perhaps because they were practicing by posting on their blogs. They studied the pictorial aids thoroughly, looked at the minute details and highlighted the things in their writings, which were not apparent in the image but were important for them.*

According to the English teacher, besides practicing writing skills, blogs could also be used to share individual experiences and voices with others. Appreciation and encouragement in the shape of comments could help students become more expressive and outspoken. This aspect was observed during classroom activities as the students participated more actively. The teacher further mentioned that students participated more confidently in the group presentations. She also reported that after participating in this study, students started communicating with her and their peers through emails, which was not the case earlier. The teacher also revealed that the students were very excited about the use of smartphones for learning English writing skills. They were using their smartphones for writing emails to their teacher and peers, as well as to search for information on the Internet whenever an unfamiliar writing task was assigned to them. She explained: "*They loved the fact that they used their smartphones and got their work done. They did not have to dig into the books anymore.*"

While talking about the online training, the English teacher mentioned that such training platforms were very important for the students who had access to smartphones but did not know how to use them beyond general communication purposes. However, she explained that due to the course exam and assignment pressure, students tend not to stay connected with such activities for much longer, hence, these training activities must be incorporated through the curriculum and be graded as a part of the course. The English teacher also mentioned that Internet connectivity could be a huge hurdle in implementing online training in Pakistan, however she suggested that this problem can be dealt with in the blended learning approach towards teaching English language in classrooms.

Chapter Summary

This chapter has reported Phase 2 of the study, which answers the second research question: *What are the effects of learner training in MALL on learners' attitude towards, beliefs about, and use of smartphones for autonomous language learning?* The chapter describes the previous literature, methodology, research tools and reports the findings and results of Phase 2.

The results and findings of Phase 2 showed that students neither had any experience of using their smartphones for practices English writing skills nor publishing blog posts or reading blogs. However, after the training, the students showed an increased use of smartphones for practicing English writing skills on their blogs. Overall, the training was successful in developing positive attitudes among students towards use of smartphones for enhancing English writing skills. By the end of the course, students perceived smartphones to be a helpful digital learning tool. Students also showed interest in participation in future online training programs.

The results of Phase 2 also showed that all students reported a perceived improvement in their English writing skills after practicing English writing through their personal blogs. They became more careful about word choice and

spelling and spent more time in planning and revising their English writing tasks. Overall, 92% of students reported an improvement in English writing skills which helped them to perform better in exams and in class assignments in English. An improvement in students' confidence, motivation and engagement in English classroom activities was also reported by the English teacher. The findings and results reported here will be further discussed in Chapter 6.

<center>**Chapter 6: Discussion and conclusion**</center>

Chapter overview

This chapter discusses the thesis results and findings and draws several conclusions. The chapter begins with an overview of the thesis. It restates the research questions and related methodology (Section 6.1). The chapter then summarises the key results and findings reported in Chapter 4 and 5 followed by the discussion in the light of previous literature (Section 6.2 & 6.3). The next section (6.4) discusses the limitations of the study and recommendations for future research. At the end of the chapter, in Section 6.5, the implications of the study are discussed.

6.1 Overview of the study

The present study has examined the effect of training in Mobile Assisted Language Learning (MALL) on learners' attitude, beliefs and the use of smartphones for autonomous language learning. The study was carried out in a Pakistani context in two phases. Phase 1 explored the first research question: *What are the digital practices of undergraduate students both inside and beyond the classroom in Pakistan?* The aim of Phase 1 was to explore the digital practices for educational and non-educational purposes of undergraduate students in Pakistan. It further explored undergraduate students' use of smartphones for learning English language. Information was also collected on three demographic factors: gender, medium of education during high school, and study major in their undergraduate studies. In Phase 1, 316 undergraduate students at a public university in Pakistan (Bahaudin Zakariya University, Multan) participated by completing the digital practices survey administered online. The data was analysed to report the students' previous digital and MALL practices. The findings of this research question were reported in Chapter 4.

Phase 2 explored the second research question of this study: *What are the effects of learner training in MALL on learners' attitude, beliefs and use of smartphones for autonomous language learning?* This phase was also carried out online and used multiple tools to collect qualitative and quantitative data. These tools were pre-training interviews, a background information survey, participants' feedback, post-training interviews, a follow-up survey and an interview with the English teacher. The training was provided through a course-blog over a period of eight weeks. Twenty-three undergraduate students participated in this phase. The findings of Phase 2 were reported in Chapter 5.

6.2 Summary of key findings of Phase 1 and discussion

This phase of the study explored undergraduate students' digital practices in Pakistan, with a focus on students' existing practices both in and out of the classroom, and, in particular, their use of smartphones for enhancing English language skills. It also explored students' preferences for future use of digital tools for English language study, and examined whether participants' digital practices differed according to gender, medium of education during their high school studies, or their study major at undergraduate level. The main areas where differences among students' digital and MALL practices were found are as follows:

1. access to digital tools;
2. location for the use of digital tools;
3. use of technology for educational and non-educational purposes;
4. use of technology for contacting peers and teachers for study related purposes;
5. digital gender gap;
6. digital gap among students with Urdu-medium or English-medium high school studies;
7. digital gap among students with difference study majors for undergraduate studies;

8.   MALL practices.

The findings from the digital practices survey that was developed for this study revealed that undergraduate students in Pakistan are well equipped with digital tools, with smartphones the digital tool reported to be accessible by most participants (96%), followed by desktop or laptop computers at home (85%). These findings are aligned with the findings of Ahmed (2017) who reported that the overall smartphone penetration rate in Pakistan has increased from 30% to around 50% during 2015-16. Furthermore, in 2017, Pakistan was placed among four lower- and upper-middle income economies by Google, from where the next billion users of smartphones would emerge in coming years ("Google puts Pakistan", 2017). On the other hand, the use of technology in Pakistani universities is very low. This is at least partly due to budgetary issues. Tahir (2017) reported that the annual budget for education for the 2017-18 year in Pakistan was 2.5% of the GDP, which was the lowest in the South Asian countries. Qureshi, Ilyas, Yasmin and Whitty (2012) pointed out that high cost of technology infrastructure and low educational budget were among the major factors responsible for less use of technology in education in Pakistan. In this scenario, with this large ownership of and access to smartphones, and even higher rates predicted, smartphones present a valuable opportunity to capitalise on this digital tool for educational purposes.

The present study found that although the majority of the participants were using desktop or laptop computers at home for study-related purposes, bringing their own computers to university or using university-provided computers was not popular. The use of digital tools for study on campus was limited primarily to smartphones. The limited use of computers for study-related purposes on campus could be due to the lecture-style teaching methods adopted by most teachers in this context, and the absence of a learning management system at the university concerned. Ammar et al. (2015) pointed out that teaching methods was a neglected area in Pakistan. Many researchers have found that teachers solely relied on the lecture method at tertiary level in Pakistan, which makes teaching more teacher-

centred and students remain passive listeners (Hameed & Jan, 2016; Mohammad et al., 2017; Sajjad, 2011). In a study conducted by Sahito et al. (2017) at undergraduate level in Pakistan, 90% of the students reported their dissatisfaction about the lack of use of digital resources during teaching. In relation to this, Khokhar and Javaid (2016) reported similar findings in the Pakistani context, proposing that a lack of ICT policy and training for teachers resulted in less use of ICT equipment in educational institutions. This could be a factor in the minimal use of personal computers on campus reported in the current study. However, effective integration of technology in education requires more than just having an ICT policy and trained teachers. As pointed out by Ndubisi (2004), sufficient investment in the infrastructure, training teachers as well as ICT support staff, and developing technology enhanced learning materials can result in successful learning experiences for both teachers and students. Interview data from the current study suggests that students' frustration and dissatisfaction in the use of technology at universities can discourage them from bringing their own digital tools to educational environments.

This study revealed a gap between the use of digital technologies for educational and non-educational purposes, with students being more inclined to use digital tools for non-educational purposes. The most common digital activity overall, was communicating through text-messages. Text-messaging, Facebook and instant messaging were the most common tools used daily for non-educational purposes. In comparison, students' engagement with technology for studies was low, with students' most common educational use being search engines and Wikipedia to look for information, and using Facebook for group activities. It was interesting to note that the use of freely available educational resources and online libraries by the participants was minimal, which may indicate a lack of knowledge and/or awareness of the availability of these tools. Bashir et al. (2016) claimed that the use of the internet for academic and non-academic purposes by tertiary students in Pakistan is based on their self-learning. These students do not appear to seek help from library staff or support staff, or attend internet training classes. Hence their

knowledge and skills in the use of the internet and their awareness of freely available educational resources through the internet appear to be very limited. The mere presence of technologies does not guarantee successful learning and teaching experiences. This study suggests that training students and teachers in the use of available technologies for educational purposes may have positive outcomes for English language learners in tertiary education in Pakistan. Since the Higher Education Commission is responsible for all educational decisions at tertiary level in Pakistan, the responsibility of planning and organising specialised training programs in ICT is solely left on their shoulders (Bashir et al., 2016). However, universities could also take a proactive approach by assigning their IT support staff to arrange training workshops for basic IT skills for both teachers and students. Pedagogical training for teachers in the use of technology for language learning would also be useful, but is not offered and is beyond the capacity and brief of most IT support staff. However, in the meantime, teachers can take initiatives, such as introducing their students to freely available online resources related to their subjects. Bashir et al. (2016) suggested that the Higher Education Commission in Pakistan should plan and organise specialised training programs for these studies.

Students' use of text messaging, instant messages and Facebook to communicate with other students could indicate that the students considered these to be non-formal means of communication and they, therefore, may not see them as relevant or appropriate for communication with their teachers. On the other hand, students preferred meeting their teachers face-to-face and used emails on a weekly basis to communicate with their teachers. This finding aligns with results from previous studies which found that the use of technology among college students was highly contextualised and it was hard for students to conceptualise the academic benefits of certain technologies that were otherwise used for non-academic purposes (Gosper et al., 2013; Swanson & Walker, 2015). Similarly, Gosper et al. (2013) found that the availability of new technology, in itself, did not necessarily mean that the tertiary students in their Australian study wanted to use them for educational purposes.

The use of non-formal means of communication with teachers is considered culturally inappropriate in Pakistan where teachers are considered to be figures of authority and hierarchically higher in rank than the students. On the other hand, the findings of this study suggested that students preferred using text messages, instant messages and Facebook to communicate with other students, which has many prospects for language learning as described below.

The results of the digital practices survey confirmed previous reports of an established digital gender gap among undergraduate students in Pakistan (Chopra, 2017; Zakar, Zakar, Qureshi, & Fischer, 2014), and are also similar to the findings of other studies conducted in lower- and upper-middle income economies (e.g., Abu-Shanab & Al-Jamal, 2015; Alozie & Akpan-Obong, 2017; Antonio & Tuffley, 2014). Overall, male students in this study reported using digital tools more frequently for both educational and non-educational purposes than female students. A recent report published on the Samaa TV also confirmed this digital gap in Pakistan in the use of digital tools such as Facebook, where only 22% of females were reported using Facebook compared to 78% males ("Pakistanis entering digital revolution", 2017). Singh (2017) pointed out that in lower- and upper-middle income economies such as Pakistan, many structural and socio-economic factors such as lack of educational opportunities, inadequate infrastructure for ICT, and cultural preferences for boys are the major causes behind lesser access to and usage of ICT by women and girls. Singh (2017) further claimed that these factors contribute to psychological barriers for females in the form of lack of confidence, hesitation to participate in learning activities related to ICT, and considering ICT for men and the elite class only.

These findings are particularly important for teachers and curriculum developers while making decisions about the use of technology in Pakistani classrooms where 44% of the students are female (Higher Education Commission, 2017). As mentioned earlier, the culturally inappropriate use of technology can hinder the progress of students. The lack of confidence and hesitation to participate in

learning activities related to ICT, as pointed out by Singh (2017), can serve as affective filters in classrooms with a wide digital gender gap. Moreover, it is also important not to include the types of technologies which are culturally less appreciated technologies for female students in Pakistan, such as Facebook, video conferencing with opposite sex class-fellows, etc.

Differences in the use of technology among Urdu-medium and English-medium students were apparent in the findings of this study. Overall, English-medium students reported more use of technology both at home and on campus for educational and non-educational purposes compared to Urdu-medium students. However, there were some exceptions to this overall pattern; the strongest of these was that Urdu-medium students played online computer games more compared to English-medium students. As explained earlier, this increased use of technology by English-medium students may be related to availability and access to better digital facilities in schools.

Differences in patterns of use and purpose were also apparent between the different study major groups. Overall, students studying computer sciences reported greater access to digital tools compared to other students, and also a higher frequency of digital practices. Whether greater access was a factor in this groups' more frequent use, or, conversely, their greater access was a result of these students' interest or need to engage digitally was not able to be determined from the findings. This warrants further investigation, particularly as differences between study majors may mean that a one-size-fits-all solution may not be the most appropriate course in some contexts, and differentiated use of digital devices and tools may be of more value across the different faculties in an institution.

As stated earlier, a high percentage of students in this study had access to smartphones (96%). Although these were used by the students primarily for non-educational purposes, with only limited use to enhance English language skills, more than 80% of the participants reported an interest in using smartphones in the future, particularly to enhance vocabulary development and for reading and

writing skills. Interestingly, very few of the students reported using smartphones to develop their listening and speaking skills, and less interest was shown for using them for this in the future, compared to for vocabulary, reading and writing development.

Conducting the digital practices survey prior to the learner training programme for undergraduate students in MALL in this study was important due to many factors. Pakistan does not have a unified education system. As reported in Chapter 2, students from diverse cultural and educational backgrounds join together to make a new cohort at undergraduate level. These students have different proficiency levels in English, diverse skill levels in using technologies, different cultural gender-based expectations (such as some digital tools being considered culturally appropriate for one gender but inappropriate for the other), and different requirements for technology-enhanced learning due to differences in study majors. In such a situation, even adaptation of an e-learning model would not be straightforward.

In the present study, the results of the digital practices survey also contributed towards methodological decisions related to Phase 2. Firstly, Phase 2 was influenced by Vygotsky's (1978) ZPD which is described as the distance between learners' actual developmental level and the level of their potential development with appropriate scaffolding. In the present study, the digital practices survey helped to determine students' actual developmental level related to MALL.

Secondly, the digital practices survey helped in choosing smartphones as the digital tool to be used for learner training. The results of the digital practices survey confirmed that smartphones were available to a majority of the students and could be used as an alternative to other digital tools. Although students had access to other digital tools such as laptops or desktop computers, they were either not portable (desktop computers) or students preferred to use them at home (laptops). Smartphones not only offered availability and accessibility, they also offered mobility, which was very important as the study was being carried out outside the

classroom, in an informal learning context, but did not necessarily require students to be at a computer to complete the activities. Flexibility of time and place were shown to be important in motivating the students in the current study to complete the learner training programme.

Thirdly, although the study was being carried out in an informal setting, students perceived it as a learning activity. The results of the digital practices survey revealed that students preferred face-to-face meetings and emails as a way of communicating with their teachers. Hence, emails were chosen as the way of communication with the students for Phase 2.

Lastly, the results of Phase 1 also confirmed that students had not already been using blogs for practicing English writing skills. Different types of possible smartphone activities related to English language learning were listed in the digital practices survey to evaluate the extent of students' use of smartphones for developing their English language skills. The results of the digital practices survey revealed that a very small number of students were aware of and were utilising the affordances of smartphones for language learning. However, a majority of the students were interested in getting training in the use of smartphones for language learning.

To conclude, the digital practices survey (Phase 1) served as a needs analysis which provided in-depth information about the learners, learning context and available resources. It also informed important decisions about which technology to introduce in the learner training programme for undergraduate students to practice English writing skills and how much scaffolding to provide.

6.3 Summary of key findings of Phase 2 and discussion

The second phase of the study addressed the second research question: *What are the effects of learner training in MALL on learners' attitude towards, beliefs about, and use*

of smartphones for autonomous language learning? The key findings of this phase of the study are now presented and discussed.

6.3.1 Discussion on CLTM for this study

The training course used in this study followed Hubbard's (2004) principles of learner training and Romeo and Hubbard's (2010) learner training framework which comprised technical, pedagogical and strategic training. As stated in Chapter 5, expertise in the use of technology (technical skills) is the first step towards attaining maximum benefits out of technology enhanced language learning (Prensky, 2001; Romeo & Hubbard, 2010). The technical training was very important in the present study as the students had no prior experience of using blogs or smartphones for any writing other than chatting. Harju, Pehkonen and Niemi (2016) have also pointed out that for active participation in digital media environments, digital media literacy is essential. In the present study, students reported the first two activities to be difficult compared to the others, as they were in the process of learning the use of blogs as well as smartphones to access blogs. However, once they were comfortable in using their smartphones for blogs, 78% of students published more than the minimum required number of posts. In this respect, the easy-to-follow non-transient instructional posts and videos were very important.

The findings of Phase 2 also revealed that 88% of the students found the instructional posts and videos helpful and easy to follow (86% of the students), which made it easier to learn how to use blogs. Giannakos, Chorianopoulos and Chrisochoides (2015) pointed out that videos are a popular form of instructional media being widely employed in the learning and teaching context, which can be accessed through many digital tools such as TV, desktop computers, smartphones and tablets, etc. Further, Giannakos et al. suggested that learners should be actively involved in the learning process to retain the necessary motivation for the completion of the course. However, in the instructional videos, the content is delivered through a teacher-centred approach where the learners' role is very

passive, with limited access to interactivity and engagement with the course materials. One of the students in the present study felt that this was a disadvantage and did not find the instructional videos helpful, and so looked for information on the Internet.

Flexibility of time and space in using instructional blogposts and videos was another finding of the study. Previous literature has also reported similar benefits of using videos as a form of instructional media (Cunningham, 2016; Ljubojevic, Vaskovic, Stankovic & Vaskovic, 2014; Roehl, Reddy & Shanon, 2012; Torres-Ramírez, García-Domingo, Aguilera, & De La Casa, 2014; Zanten, Somogyi & Curro, 2012). Giannakos and Vlamos (2013) reported that instructional videos offer additional affordances such as fast-forward and rewind. In the present study, one student reported similar benefits as he used screenshots of the videos for a revision and review process during posting blogposts.

After completing technical training, students were provided with pedagogical training. As mentioned in Chapter 5, pedagogical training was based on Hubbard's (2004) five principles of learner training. The results of the study revealed that pedagogical training of the students in the use of smartphones for blogging was successful. The first principle of pedagogical training was "Experience CALL[MALL] yourself" which helped in the correct choice of smartphone brand and running the blogging app smoothly while training the students. Lazar, Jones and Shneiderman (2006) pointed out that when individuals encounter problems in the use of technology, they become frustrated which not only wastes time but also demotivates them. This has not changed much despite generally improved connectivity. The researchers further pointed out "error messages, Internet connection problems, application freezes, hard-to-find features and long download times" (p. 302) as common problems while using technology. In the case of the present study, the wrong choice of smartphone brand or blog hosting platform, such that they would not be compatible with each other, would have resulted in demotivating the students and then eventually dropping the

study altogether. Furthermore, completing a task and achieving a goal in the short time frame is necessary to boost individuals' self-confidence and motivation to use the digital tools (Attard, Mountain & Romano, 2016), which is not possible if students encounter hardware or software or connectivity-related issues while completing an activity. In the case of the present study, students reported an overall increase in motivation and self-confidence. This increase of motivation and self-confidence was reported both in English writing skills as well as in the use of smartphones for practicing English writing skills outside the classroom.

The second principle of pedagogical training was to "Give learners teacher training" which was completed prior to technical training sessions and during Week 7 while providing guidelines to students for peer feedback. The results of the study revealed an increased awareness of the learning process by the students. One case is particularly worth mentioning here, when a student reported how she became aware of her individual process of writing blog posts. She stated that choosing a title before writing the blog posts did not work well for her. Hence, she changed the order, writing the blog post first and then choosing a title for it. Previous literature has also highlighted the importance of awareness of the writing process. Zare-ee and Mahdavi (2014) argued that writing is a challenging task and an awareness of the writing process can enable the writers to utilise different approaches towards writing. Furthermore, the organisation and execution of the writing process also depends upon individual cognitive abilities and aptitudes. In the present study, although no formal writing training based on the process-based approach was provided, it was noticed that students practiced different stages of the writing process on their own such as pre-writing by searching for ideas and planning and structuring their blog posts based on those ideas, writing and then proofreading and editing it before publishing it on their blogs.

The third principle of pedagogical training focused on the cyclic approach towards training. As reported in Chapter 5, the first two sessions of technical training were scheduled on alternate weeks, thus leaving a gap of one week for students to

practice the skills introduced in the first training and then move on to the next. This is especially important in online environments, as Bawa (2016) argued that successful learning in an online environment is heavily dependent upon learners' ability to take control of their own learning and is self-driven. Hence, educators should allow learners enough time to practice and revisit online activities.

The fourth principle of pedagogical training was "Use collaborative debriefings". In the present study, collaborative debriefings were not guided by the researcher, rather they were self-debriefings among peers. The students in the present study reported that they shared their experiences of using smartphones for learning English language with their peers outside the classroom (77%), and helped their peers if they encountered any difficulty in using smartphones for blogging (88%). The effectiveness of self-debriefings has been reported by many researchers (Boet, Bould, Bruppacher, Desjardins, Chandra & Naik, 2011; Fanning & Gaba, 2007; Lennon, 2006). Li (2010) argued that "pairing and self-debriefings provide learners with the opportunity to share experiences, perspectives and insights, and generalise common understanding as collaborative learning does" (p. 5). The results of the study also revealed that the self-debriefings were not just confined to peers, rather students included their English teacher in it. The English teacher reported that students were excited about their new learning activity outside the classroom. They shared their blogposts with her and sometimes asked for her opinion as well.

The use of collaborative debriefings is especially vital in the Pakistani context. As reported by Ammar et al. (2015), learning English raises tension and anxiety among Pakistani students due to a conflict between English language beliefs and ethnic and religious identities and ideologies in Pakistan. Furthermore, language teaching practices in Pakistan are more teacher-centred than student-centred (Awan & Shafi, 2016), which discourages students to ask questions, share their opinions and actively engage in classroom activities. In this context, self-debriefings can provide a platform for students to share their experiences and

opinions without the fear of losing face and facing rejection in the classroom, which produces a positive impact on students' motivation, self-confidence and language learning outcomes.

The last principle of pedagogical training and the third part of Romeo and Hubbard's (2010) learner training framework overlapped and focused on strategic training of students in the use of technology. In the present study, strategic training was focused on the use of smartphones for practicing English writing skills. Strategic training further aimed at producing autonomous learners who could create English writing tasks for themselves. The results of the study revealed that strategic training was successful as all of the students were able to work independently on Activities 4 and 6. They chose themes and topics for their blog posts independently and were able to publish more than the minimum number of required blog posts (76% students). Furthermore, they used different features of smartphones, practicing meta-cognitive strategies, such as camera, web-browser, online dictionaries, etc. and practised socio-cognitive strategies while collaborating with their peers.

The strategic training was especially important in the Pakistani context as English language learners in Pakistan lacked strategies and used meta-cognitive strategies to some extent (Ali, Ghani, Malik & Ahmad, 2016; Kazi & Iqbal, 2011; Pervaiz, Akbar, Gul, Sial, Nadeem & Ranjha, 2013). Furthermore, in a learning context such as Pakistan, where teachers rely on traditional teaching techniques, and there is a deficiency of language aids with overcrowded classrooms, the importance of teaching language learning strategies increases (Kazi & Iqbal, 2011). Kazi and Iqbal (2011) concluded that English language learners in Pakistan preferred metacognitive strategies, which implied that students in Pakistan rely on selective attention and guessing, especially when listening. In addition, learners also reported using direct attention as a strategy to comprehend the general meaning of what is being said by the teacher, instead of paying attention to specific words and details. Pervaiz et al. (2013) also found lack of strategy-awareness among

Pakistani students and reported that students in Pakistan relied on memorising English vocabulary and practicing English speaking skills with friends and teachers.

From a constructivist perspective, learner training can be seen as enabling learners to develop the required skills for future teacher-led and independent non-formal language learning activities which pave the way to developing learner autonomy. The CLTM was also successful in following Nunan's (2003) nine steps of developing learner autonomy in students. These steps were: 1) make instruction goals clear to learners; 2) allow learners to create their own goals; 3) encourage learners to use their second language outside the classroom; 4) raise awareness of learning processes; 5) help learners identify their own preferred styles and strategies; 6) encourage learner choice; 7) allow learners to generate their own tasks; 8) encourage learners to become teachers; and 9) encourage learners to become teachers. Nunan (2003)'s nine steps of learner autonomy were focused on developing learner autonomy specifically in language learning. However, the CLTM was focused on developing learner autonomy in using technology (smartphones) for practicing English writing skills. The relevance of Nunan's (2003) nine steps of learner autonomy with the CLTM is explained below:

Using technology for language learning offers challenges to learners on two fronts: learning the use of technology; and learning the language. The first step is learning how to use the technology in general and for language learning purposes. As CLTM followed a step by step approach towards developing learner autonomy, training in technical skills was the first step. Training was provided in the use of general smartphone applications as well as specific applications for language learning. Pedagogical training cannot be successful until the students are comfortable using the technology for language learning purposes. The importance of ease of use has been emphasised by many researchers (Davis, 1989; Venkatesh & Bala, 2008; Venkatesh, Morris, Davis, & Davis, 2003).

The pedagogical training in this study was aligned with Nunan's (2003) continuum of developing learner autonomy. The first two guiding principles by Hubbard (2004) covered the whole continuum of developing learner autonomy in language learners. Experiencing CALL themselves as teachers and then giving the learners teacher training enables learners to understand the language learning process, identify their own learning styles, and set their own learning goals and tasks. This teacher training for language learners is reinforced by using a cyclic approach.

Furthermore, collaborative debriefings not only allow learners to learn the language and the use of technology for language learning purposes as a social process, which is inherent to Vygotsky's concept of social constructivism, they also foster the learning process by explaining the learned concepts to peers or the teacher. The success of pedagogical training can be depicted through students' use of learned strategies in various other learning situations, as reported in Wenden's (1998) concept of integration. This was not explored in the present study but could be explored in future research.

The findings of this study indicate that the CLTM developed for use in this study is in accord with Cognitive Learning Theory which views the learner as an active member of a learning process and focuses on "changing the learner by encouraging him/her to use appropriate learning strategies" (Ertmer & Newby, 1993, p. 52). Ertmer and Newby argued that the active participation of learners can be achieved by promoting learner control and metacognitive training such as training learners to plan, self-monitor and use revising techniques. The CLTM promoted learner autonomy and trained students to use metacognitive strategies. Bednar (1991) pointed out that a cognitive approach advocates for transfer of knowledge to the students in an efficient and effective manner, which is achieved by the simplification of knowledge into basic units. This involves structuring, organising and sequencing of the information as is done in the current study.

Furthermore, a cognitive learning approach requires learning environments where learners can build on their previously acquired knowledge. The CLTM used a

sequential approach towards planning and executing the training course. The three-part framework moved from simple to complex training tasks which allowed the students to relate the new information to previously learned concepts. Ally (2004) further added to this concept by pointing out that due to the limited capacity of working memory, information should be presented in chunks to facilitate effective processing. Using the cyclic approach in pedagogical training stipulated by Hubbard (2004), as was done in this study, may not only promote the effective processing of information, it might also facilitate the storage of new information in the long-term memory (Ally, 2004).

The CLTM also serves as a continuum of learner training in technology. It provides a step-by-step guide for teachers, especially teachers who are new to the concept of integrating technology in language learning. These teachers can use each of the steps in the three-part framework (Romeo & Hubbard, 2010) as a teaching and learning objective and develop their lessons around it.

6.3.2 Effect of training on students' attitude towards blogging

The results of this study reveal that after the first two sessions of technical training, students became comfortable with the use of smartphones for English writing skills, which had a positive effect on students' attitude towards blogging. Many studies have reported on the many advantages of blogs for teaching English writing skills, providing feedback without restrictions of time, place or pace, constructing individual knowledge, and sharing information outside the classroom (Özdemir & Aydın, 2015; Sampath & Zalipour, 2010; Vurdien, 2012; Yunus, Tuan & Salehi, 2013; Zarei & Al-Shboul, 2013). In the present study students reported creativity, independence of opinion and the ability to share their opinions with a larger audience as key features of blogging. These findings are also aligned with Gunduz's (2016) findings that the use of blogs enhanced students' critical thinking and encouraged them to express their opinions freely. Another important finding of the study was sharing and learning from each other's social experiences. One student mentioned that she did not have any experience of

having a grandparent. However, she was able to learn about the feelings and the experience of living with a grandparent by reading one of her peer's blog posts on the same topic. Deng and Yuen (2011) have also pointed out similar cognitive and social dimensions of blogging, where not only do writers go through self-reflection process while writing for their blogs, but also the readers reflect on and learn from the blogs.

Venkatesh, Morris, Davis and Davis (2003) argued that learners' expectations that use of new technologies would be easy and useful as well as fun are directly related to their motivation and willingness to engage in using those technologies. In the present study, students reported blogging as a fun activity, which is also aligned with previous research findings (Akdağ & Özkan, 2017; Harju et al., 2016). Harju et al. (2016) argued that non-formal learning depends upon learners' own interests and goals, and is self-directed and done during free-time. Kim, Hung, Jamaludin and Lim (2014) further added that although this learning is considered as an independent and personal activity, it is also influenced by the context of learning and social factors. In the case of the present study, although students were working on their individual blogs independently, outside the classroom context, they preferred receiving comments on their blogs from their peers. Similar findings were also reported by Fauzan (2017) who claimed that students in his study liked receiving attention from their peers in the form of comments on their blogs.

6.3.3 Effect of training on the use of smartphones for blogging

Overall, the training in the current study was successful in developing positive attitudes among students towards the use of smartphones for enhancing English writing skills through blogs. By the end of the course, students perceived smartphones to be a helpful digital learning tool. The results of this study revealed that 74% of the students preferred using their smartphones to write on their blogs and 84% of the students reported that it was easier to use smartphones for reading blogs. The reasons behind this preference reported by the students were better Internet access through mobile service providers compared to university-provided

Internet, and flexibility of time and space. Furthermore, students used various apps to support their blog writing, so that 45% of the students reported the use of proofreading software, 66% of the students used dictionaries on their smartphones, 50% of the students used Google to search for information as well as to translate words from their mother tongue to English. The use of the Internet by the students during blog writing activities to get help for English grammar, translating words from their native language to English, searching for information and ideas have also been reported by Fauzan (2017). However, in his study, students were not using any particular digital device to access the Internet. Previous studies have also reported the increasing use of smartphones among students (Abeele, 2016) due to better Internet connectivity (García-Ormaechea, González, Duplá, Andres & Pueyo, 2014) and other useful features such as using a smartphone's camera to capture the lecture notes during class (Anshari, Almunawar, Shahrill, Wicaksono & Huda, 2017). Furthermore, "convenience, portability, comprehensive learning experiences, multi sources and multitasking, and environmentally friendly" (p. 3064) are some of the key features of smartphones, reported by Anshari et al. , which motivate students to use them as learning aids.

The results of the current study revealed that 78% of the students took the blog posting activity as a competition among their peers. Previous literature has also reported similar findings. Fauzan (2017) reported in a study conducted in Indonesia that students kept checking their peers' blogs to see which topic they were using for their blogs, so that they did not repeat the same themes and topic for their own blogs. Furthermore, the realisation that students are writing for people worldwide helps them develop meaningful writing. In the present study, 78% of the students reported that blogs helped them improve their overall communication skills.

Aydin (2014) found similar results in his study and argued that use of blogs improves interaction among students as well as a wider audience outside the

classroom. Trajtemberg and Yiakoumetti (2011) also mentioned that these interactions eventually promote self-expression, self-evaluation and language progress. Furthermore, these interactions are carried out in English, hence they help in promoting communication skills. In the present study, students reported a practice of community building by helping each other in dealing with blogs by sharing their experiences. Previous research has also pointed out that increased interaction among peers as well as students and teacher in a blogging activity not only helps the students to learn through interactions but also helps them in building a positive learning environment and a learning community (Manan, Alias & Pandian, 2012; Miceli, Murray & Kennedy, 2010).

6.3.4 Effect of training on perceived improvement in English writing skills

In the present study, all students reported a perceived improvement in their English writing skills after practicing English writing through their personal blogs. Overall 93% of students reported becoming careful about word choice and spelling, and 73% of students reported spending more time in planning and revising their English writing tasks. Overall, 92% of students reported an improvement in English writing skills which helped them to perform better in exams (90% of the students) and in class assignments in English (84% of the students). These results are of much importance for English language learners and teachers in Pakistani context. Naeem (2011) reported that teachers were using the lecture method which is a teacher-centred approach and the grammar-translation method to teach English writing skills in Pakistani classrooms. Fatima and Akbar (2017) supported Naeem's (2011) argument and pointed out that English teachers in Pakistan do not teach process writing while teaching and instead focus on memorising content and translations. Lack of synchronous feedback was also an issue reported by Fatima and Akbar (2017). In this situation, use of blogs is supported by many researchers (Alsamadani, 2017; Alsubaie & Madini, 2018; Fauzan, 2017) who claim that it can help students practice and improve their

writing skills outside the classroom. Furthermore, the use of blogs can have a positive impact on their classroom engagement and activities.

6.3.5 Effect of training on learner autonomy

As described in Section 1.3, the present study aimed to investigate the use of digital devices, including mobile phones, by undergraduate students at Bahauddin Zakariya University (BZU), Multan, Pakistan. It was assumed that the MALL practices of these students were based on their individual expertise in using mobile devices for general purposes, which may not be sufficient enough to gain the maximum benefit from their MALL practices. Hence, it was assumed that MALL training may have an effect on students' beliefs and attitude towards the use of mobile devices in language learning and on the frequency of their MALL practices. Hence, the focus of the study was not exploring the effect of training in MALL on English writing skills, rather it was focused on students' attitude, beliefs and MALL practices related to smartphones. The learner autonomy was indicated through number of words produced in each blogpost, number of blogposts published during the course, students' motivation, self-confidence, use of English language in writing blogs and willingness to keep their blogs alive in future.

The results of the study revealed that training was successful in developing learner autonomy in practicing English writing skills outside the classroom, which was observed during the learner training course, revealed by their willingness to keep their blogs alive even after the completion of the training course. The results of the present study also revealed that students were motivated and became more confident to move from relative dependence to relative independence. As described by Cotterall (1999), language learning beliefs have direct relationship with learner autonomy. In the case of the present study, based on students' response to the follow-up survey and post-course interviews, there is evidence that learner training had a positive effect on students' beliefs and attitudes towards using smartphones and blogs for practicing English writing skills. The students'

learning behaviour became more self-determined and they reported increased interest in using smartphones for language learning purposes.

The first sign of learner autonomy in this study was observed through the number of blogposts and the number of words used per blogpost. The minimum requirement for the course was publishing four blog posts. However, only five students published four blog posts and eighteen students published more than four blogposts with a maximum number of eleven blogposts by one student. Furthermore, the required number of words for each blogpost was 150 whereas seventeen students wrote more than 200 words on average for each blog post with 451 as the highest average number of words in a post. The second sign of learner autonomy was observed through students' willingness to keep their blogs alive in future. They also showed interest in learning about new technologies and getting training in their use in language learning.

The results of the interview with the English teacher revealed that practicing English writing skills out of the classroom appeared to have a positive impact on students' confidence and engagement in the classroom activities, which are considered as key indicators of learner autonomy (Wenden, 1998). According to the English teacher, due to lack of experience in the use of blogs as well as smartphones for practicing English writing skills, students were reluctant and shy in the beginning of the study. However, with the passage of time, as the training course progressed, the English teacher perceived that the students' confidence and motivation started to develop.

The students were so involved in the writing tasks that they shared their blog posts with their English teacher and asked for her feedback and opinion. This exercise appeared to encourage even the shy students in the class to step forward and get actively involved in group activities and presentations. Previous research has also pointed towards these findings. Nouri and Marzban (2018) claimed that writing is a very important skill for many areas of life. It allows writers to share their ideas, feelings and opinions with others. Westwood (2004) argued that the success of

teaching and learning writing process requires the students to be personally involved in the process of learning. This personal involvement can encourage even the quietest and shyest students in the class to write something and the freedom of choosing own theme and topic makes students more enthusiastic and involved in the learning process (Nouri and Marzban, 2018).

The English teacher also reported an improvement in students' writing skills. Similar findings were reported by Robb and Kano (2013) who documented an improvement in students' reading skills due to "additional contact hours that the students spent with English" (p. 244). Robb and Kano (2013) further claimed that any English language activity performed by students outside the classroom for extended hours would produce a positive impact on students' performance in class. These findings are particularly important in Pakistani context, as learner autonomy is not a much-encouraged aspect of language learning in Pakistani classrooms. Yasmin and Sohail (2018) reported "lack of awareness about learner autonomy, the authoritative attitude of teachers, intolerance towards learner creativity and intelligence, learner dependence on the teacher, shyness in interaction with opposite sex and teacher bias" (p. 7-8) as the major socio-cultural barriers in promoting learner autonomy in Pakistan. In these circumstances, providing learners training in the use of technology for language learning outside the classroom may have positive effect on developing learning autonomy and successful language learning.

6.3.6 Effect of training on students' attitude towards online training

Students also showed interest in participation in future online training programs. The effectiveness of online training has been proved in many studies (Kleiboer, Sorbi, van Silfhout, Kooistra & Passchier, 2014; Lai et al., 2016). Lai et al. (2016) argued that learners' use of technology is very limited and also reflect on their lack of understanding in effective use of technology for learning purposes. Hence, learners must be trained to practice self-directed use of technology. Similar findings were reported in the present study. All students in Phase 2 and 96% of

students in Phase 1 reported that they had access to smartphones, but they were not using them for academic purposes. Furthermore, they had no prior experience of using blogs, and neither had they participated in an online training program. However, after the completion of training, the majority of the students were willing to participate in future online training programs and also perceived it as a better way of learning compared to in-person training. The frequency of blog posts published by students also indicates that training was successful in helping students in using their smartphones for autonomous language learning. As the training was structured on continua of easy to difficult and researcher-centred to student-centred, the frequency of blog posts also suggests that students moved from being dependent to independent language learners.

6.4 Overall results of the study

The present study explored the effect of learner training in MALL on undergraduate students' attitude towards, beliefs about and use of smartphones for autonomous language learning. The students in this study were studying at a public university in Pakistan. As elaborated in Chapter 2, these students come from three different types of schools (private, public or madrassa) with different medium of education. These schools also differ from each other in the availability of infrastructural and technical facilities, qualifications and capabilities of the teachers, and the curriculum being taught. These factors play vital role in the English language proficiency of the students studying in these different types of school. However, after finishing their high school studies these students are put together in the same classrooms at tertiary level where the medium of education is English. This situation makes it difficult for the teachers to fulfil the individual needs of the students with so diverse English proficiency levels and cover the syllabus in time.

In the above-mentioned situation, the use of technology for practicing English language skills outside the classroom can be helpful for the students. However, there is no documented data about what kind of technologies are being used by

the undergraduate students in Pakistan and for which purposes they are using these technologies. Hence, prior to investigating the effect of training in MALL on students' attitude towards, beliefs about and use of smartphones for autonomous language learning it was deemed necessary to explore their digital practices both inside and beyond the classroom. Hence, the first research question of the study explored the digital practices of students both for educational and non-educational purposes. It also gathered information on whether and how students were using their smartphones for learning English and on students' previous digital and MALL practices, as well as demographic factors (gender, medium of education during high school and major subject in their undergraduate studies). This provided a clear picture of what was already being practiced and how to gain maximum outcomes from the ever-growing mobile industry in Pakistan by employing MALL practices.

The results of the first research question of the study, *what are the digital practices of undergraduate students both inside and beyond the classroom in Pakistan?* confirmed that smartphones (96% of the students had access to smartphones) were the most common digital devices being used by the undergraduate students in Pakistan. Although, 85% of the students had access to desktop or laptop computers at home and they were using these devices for study related purposes, they were not bringing them to university. The use of digital tools for study related purposes on campus was limited primarily to smartphones. Furthermore, the use of digital tools for study related purposes was very limited as compared to non-educational purposes. The most common digital activities were the use of text-messaging, Facebook and instant messaging for non-educational purposes and as communication tools. On the other hand, search engines and Wikipedia were being used for educational purposes.

The results of the first research question also confirmed a digital gender gap between male and female students. Male students in the study reported a higher use of digital tools for both educational and non-educational purposes than the

female students. Similarly, English-medium students reported a comparatively higher use of digital devices than Urdu-medium students. The results of the study also revealed a difference in the digital practices of the students studying different study majors. Overall, computer science students reported higher use of digital tools as compared to the students studying management sciences, social sciences and molecular biology and biotechnology.

The first research question also explored the use of smartphones by undergraduate students to enhance English language skills. The results of the study revealed that although smartphones were the most common digital devices among students, they were not using them for study-related purposes, especially enhancing English language proficiency. However, the majority of the students reported an interest in using these devices in future and a willingness to get training in the use for smartphones for enhancing English language proficiency.

Overall, the findings of this study clearly indicate that although a substantial proportion of undergraduate students in Pakistan have access to digital tools, they are not using them for educational purposes. However, the high rate of smartphone access reported indicates that these are certainly available to most students to use to augment their studies, should they choose to. Given the high level of interest students in this study expressed for training in the future for at least some of the technologies and applications proposed, this suggests exploration of potential types of learner training for learners and tertiary educators in the context studied is warranted in order to capitalise on the interest students expressed.

The second research question explored the effect of learner training in MALL on undergraduate students' attitude towards, beliefs about and use of smartphones for autonomous language learning. CLTM based on Hubbard's (2004) principles of learner training and Romeo and Hubbard's (2010) three-part learner training framework was used to train students in MALL. Overall results of the study indicated that CLTM was successful in providing technical, pedagogical and

strategic training to students. The students practiced English writing skills through publishing blogposts on their individual blogs using their smartphones. The success of CLTM for practicing English writing skills was indicated by students' ability to publish blogposts independently, their positive attitude towards blogs, increased use of smartphones for blogging, their perceptions about improvement in their English writing skills, and the development of learner autonomy in the use of smartphones for practicing English writing skills. The results of the study indicated that by the end of the learner training course students reported a positive attitude towards the use of blogs on their smartphones for practicing English writing skills. They also perceived an improvement in their English writing skills, self-confidence and motivation to use smartphones for enhancing English writing skills. An increased number of blogposts, with more than minimum required number of words, published by students indicated the development of learner autonomy in the use of smartphones for practicing English writing skills. Furthermore, training in MALL also had a positive effect on students' attitude towards online training as they indicated a preference for getting involved in online training in the future.

6.5 Limitations of the study and recommendations for future research

This study examined the effect of training in MALL on undergraduate students' use of smartphones for autonomous language learning. The study found that the training course was successful in motivating the students to use blogs on their smartphones for enhancing their English writing skills. Students exhibited a greater frequency of publishing posts on their blogs, a positive attitude towards use of smartphones for practicing English writing skills, and a willingness to engage in more training courses for the use of technology in English language learning. The findings also confirmed that Hubbard's (2004) principles of learner training and Hubbard and Romeo's (2010) framework together provide an effective model for learner training to promote autonomous language learning

using smartphones outside the classroom. However, the present study had some limitations. These are described below.

- The study was conducted online in an Asian context, i.e. Pakistan, where students had minimum exposure to the use of smartphones for study related purposes. The study was conducted outside the classroom with volunteer participation by a group of students studying in their first semester of undergraduate studies. Hence, the results of the study cannot be generalised to the entire population of tertiary students. The study may produce different results in different contexts, with participants from different cultural backgrounds, demographics, level of skills in the use of technology and English language proficiency. The training course itself can yield different outcomes due to difference of context, format (distance, online, in-person), intensity and duration. Further research considering these factors is needed to explore the effectiveness of learner training in promoting autonomous language learning with smartphones.

- The post-course interviews and follow-up surveys were conducted immediately after the training course; hence they fail to report the long-term effect of training course on students' motivation and willingness to use smartphones for practicing English writing skills and their practices of MALL. Further research is needed to explore the long-term effect of training, and how this long-term effect can be sustained and supported.

- The training course focused on only one English language skill, i.e. writing. Furthermore, only one type of mobile devices (smartphones) was used to train students to use blogs though a particular blog hosting online platform. Hence, the results of the study cannot be generalised for all language skills. The effect of training on speaking, reading and listening skills through smartphones can produce different results. Furthermore, blogs were created on blogger.com and cannot be generalised for all blog hosting platforms.

- The study's findings were based on self-reported data. The study also lacks a control group which limits the triangulation and comparison of the findings. Future research including a control group and an experimental group with pre-and post-testing approach is required to evaluate the statistical significance of the training in MALL.

- Phase 1 of the study focused on students' use of technology and did not investigate teachers' access, skills and practices of digital tools. Further research could be conducted to document the teachers' perspectives on which technologies should be used for teaching and learning purposes at tertiary level in lower- and upper-middle income economies, and how. Further research could also explore ways to manage and bridge potential gaps between digitally-savvy students and digitally-naïve teachers, and how and by whom planning and provision of training for teachers and students might be managed.

- As indicated earlier, the purpose of Phase 1 was to explore the access to and use of technology by undergraduate students at BZU. Due to lack of previous studies in this context in Pakistan, very little information was available on students' use of technology for academic and non-academic purposes. Hence, information about students' use of technology had to be collected before commencing with Phase 2. Due to several reasons (See Section 3.3.4) different groups of students participated in Phase 1 and Phase 2. Same participants in both the phases could have generated deeper understanding of the effect of training in MALL on students' attitude towards, beliefs about, and using smartphones for autonomous language learning. Similarly, the same study could produce different results at a different university in Pakistan.

- Descriptive statistics were used to document differences in access to and use of technology on the basis of gender, study major and medium of instruction in secondary education. However, further statistical analysis

would generate deeper understanding of the kind of technology available and its usage pattern among various groups. This would possibly help teachers, curriculum developers and material designers to integrate technology in teaching and learning in a productive way.

- Further research could also include the use of the digital practices survey in other private and public universities in Pakistan, in order to establish the extent to which the findings of this study are representative of the wider situation there, and also in other lower- and upper-middle income economies. It would also be interesting to repeat the survey at the same university in the future to see how use of digital tools has progressed among undergraduate students with the passage of time.

6.6 Implications and conclusion

This study of Pakistani undergraduate students' digital practices has implications for faculties, higher educational institutions in Pakistan, and possibly also in other lower- and upper-middle income economies. With growing awareness of the educational potential of some digital technologies, many tertiary providers have included technology as a part of their curriculum delivery in order to enhance the learning of students who are well equipped with digital tools. Some institutions also highlight their integration of technology as a point of difference in their institutional branding (Royo-Vela & Hünermund, 2016). However, the challenge for many providers in contexts where resources are more limited is to determine which technologies to adopt in order to maximise institutional and individual outcomes. Documenting students' existing digital practices and their future preferences, as has been done in this study, is an important step in this process.

The data from this study provide evidence that undergraduate students studying at BZU are aware of and have access to certain technologies, and are interested in using at least some of them for study-related purposes. Smartphones, in particular, were accessible to almost all of the participants in this study, and, in the absence

of a learning management system, could serve as a useful tool for communication between an institution and its students, as well as for teaching and learning purposes. A challenge for curriculum developers and teachers in the Pakistani context is how to best utilise the technologies that students are currently using for non-educational purposes as teaching and learning tools, and to prepare teachers and students for these developments.

Keeping in view the predominantly traditional language teaching practices in Pakistan and the obstacles faced by students at tertiary level due to varying English proficiency level students studying in the same class, this study has offered a potential solution to both students as well as teachers in the shape of extra practice outside the classroom. The incorporation of smartphones in practicing English writing skills has not only motivated the students and developed their confidence, it was also perceived to have a positive effect on their performance in the class activities.

Further, there were only small differences in the use of technology between Urdu medium and English medium school students, meaning that smartphones could be incorporated in tertiary classroom teaching as well as individual practice outside the classroom irrespective of the medium of education during high school studies. This small difference also implies that smartphones and other forms of technology could be integrated in both Urdu-medium as well as English-medium high schools to help students perform better in their English language studies. Hence, this study has provided a potential prototype for incorporating smartphones in English language learning both in and out of the class at both secondary and tertiary levels.

The overall responses of the students in this study confirmed their positive attitude towards the use of smartphones in English language learning. The study revealed a relationship between the students' study major and their use of technology. However, further studies are needed to determine whether students who use more technology are likely to choose technology-intensive study majors. The students

who showed a greater use of technology as compared to other students also needed training in the use of smartphones for enhancing English language skills. This makes it evident that even the students studying computer science as a subject in this context cannot be considered proficient enough to use technology efficiently for educational purposes, and specifically for practising English outside the classroom.

This study has capitalised on the enormous growth in the mobile sector in Pakistan. As the results of Phase 1 have revealed, 96% of the students had access to smartphones but they were not using them for study-related purposes especially for learning English language. This study has exploited the potential resources in the shape of smartphones for the benefit of practicing English writing skills.

The use of text messaging features of mobile phone in learning and teaching language have been explored by many researchers (Cavus & Ibrahim, 2009; Kennedy & Levy, 2008; Shahbaz & Khan, 2017; Stockwell, 2010). The use of text messages also promotes collaborative learning (Cavus & Ibrahim, 2009; Shields & Potfak, 2002) and is in accord with self-determination theory where learners are intrinsically motivated to use technology in informal language learning activities, and social-constructivism theory which promotes learning as a social process (Gasaymeh & Aldalalah, 2013). Kukulska-Hulme & Viberg (2018) pointed out that research into how learners communicate with each other outside an educational context can help MALL researchers and practitioners in designing effective mobile activities for collaborative language learning. In Pakistan, language teaching is still dominated by conventional, primarily lecture-based, teaching methods. In such a scenario, the use of text messages may help both students and teachers in making their language learning and teaching experiences more productive and successful, as was done by Shahbaz and Khan (2017) in Saudi Arabia. Furthermore, using text messages does not require much technical expertise, hence its use does not require in-depth training workshops or complicated digital infrastructure.

This study has also provided a guideline or a potential pathway for language teachers to cope with any lack of resources in Pakistani English classrooms. The training course designed on the theoretical framework of Hubbard's (2004) principles and Romeo and Hubbard's (2010) framework of learner training has potential for language teachers to design and implement training courses for all skills in English language before incorporating technology in their daily lesson plans. It also carries incentives for teachers to follow the latest English language teaching practices in public sector institutions which lag behind private sector institutions in the availability of technological, infrastructural and classroom facilities. Hence, the study has also contributed towards finding a solution to improve students' performance in English at both school and college level in Pakistan. The scope of the study is not limited to Pakistan; rather teachers from other lower- and upper-middle income economies facing the same problem can also design and implement similar training courses for the benefit of their students.

As students in this study reported not using digital technologies inside or outside the classroom for their English language learning, it is likely that this is not an expectation in the classes they are taking at university. This gives insights into the need for increasing awareness among teachers regarding potential benefits of ICT and inclusion of ICT, especially mobile technologies, in professional development courses for teachers. These professional development courses could be developed by the individual institutions as well as the Higher Education Commission, and could be made accessible to all teachers through online platforms. To conclude, this study has shown that students in Pakistan are well equipped with the digital tools, however they are not using them for educational purposes. This study has shown that undergraduate students in Pakistan can be trained in the autonomous use of smartphones for English language practice outside the classroom, which can produce a positive impact on their attitude, motivation and engagement in classroom activities, as reported by the students in this study. This study has further shown that smartphone-based learner training is viable and meaningful in this environment, and without it students are unlikely to be able to use the

technology they have in their hands for study purposes to the full extent possible. However, it is important to know the existing digital practices of students before embarking on training. This study has also shown that the combination of Hubbard's (2004) principles of learner training and Romeo and Hubbard's (2010) three-part framework for learner training into CLTM was perceived by the students as successful in improving English writing skills, motivation, and confidence.

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Appendix 1 **Ethical approval of the study**

HUMAN ETHICS COMMITTEE
Secretary, Lynda Griffioen
Email: human-ethics@canterbury.ac.nz

Ref: 2015/50/ERHEC

17 December 2015

Shaista Rashid
School of Teacher Education
UNIVERSITY OF CANTERBURY

Dear Shaista

Thank you for providing the revised documents in support of your application to the Educational Research Human Ethics Committee. I am very pleased to inform you that your research proposal "Impact of training in mobile assisted language learning on attitude, beliefs and practices of tertiary students in Pakistan" has been granted ethical approval.

Please note that this approval is subject to the incorporation of the amendments you have provided in your email of 15 December 2015.

Should circumstances relevant to this current application change you are required to reapply for ethical approval.

If you have any questions regarding this approval, please let me know.

We wish you well for your research.

Yours sincerely

Nicola Surtees
Chair
Educational Research Human Ethics Committee

"Please note that Ethical Approval and/or Clearance relates only to the ethical elements of the relationship between the researcher, research participants and other stakeholders. The granting of approval or clearance by the Ethical Clearance Committee should not be interpreted as comment on the methodology, legality, value or any other matters relating to this research."

F   E   S

Appendix 2 **Consent form for Heads of Departments**

Telephone: +64273103992

Email: shaista.rashid@pg.canterbury.ac.nz

UC
UNIVERSITY OF
CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

CONSENT FORM FOR HEADS OF DEPARTMENTS

I have been given a full explanation of this project and have been given an opportunity to ask questions.

I understand what will be required of me if I agree to take part in this project.

I understand that my participation is voluntary and that I may withdraw my participation at any stage without penalty.

I understand that any information or opinions that my students provide will be kept confidential to the researcher and that any published or reported results will not identify them.

I understand that all data collected for this study will be kept in locked and secure facilities at the University of Canterbury and will be destroyed after ten years.

I understand that I can receive a report on the findings of this study. I have provided my email details below for this.

I understand that if I require further information I can contact the researcher, Shaista Rashid and/or Sadia Malik. If I have any complaints, I can contact the researcher's supervisor – Assoc. Prof. Una Cunningham, or the Chair of the University of Canterbury Educational Research Human Ethics Committee.

By signing below, I agree to grant permission for you to email my students to invite them to participate in this research project.

Name: _____

Date: _____

Signature: _____

Email address (for report on the project once it is finished):
_____

Please return this completed consent form by email to Shaista Rashid by [02/04/2016].

Telephone: +64273103992

Email: shaista.rashid@pg.canterbury.ac.nz

Impact of Training in Mobile Assisted Language Learning on attitudes, beliefs and practices of tertiary students in Pakistan

Information sheet for heads of departments

I am Shaista Rashid, a PhD candidate at College of Education, Health and Human Development, University of Canterbury, New Zealand. I am conducting research in the field of Mobile Assisted Language Learning (MALL) in order to investigate how training in the use of smartphones for independent English language learning may affect learners' attitudes, beliefs and practices related to use of MALL.

I would like to ask you for permission to conduct my research with your students in the 1st semester of their undergraduate degrees. This would require you to provide the students' email addresses so that I can invite them to take part in my study. My study involves pre-survey, pre-interview, intervention, post-survey and post-interview. The whole study will be completed in three stages which are explained as follows;

> **Stage 1:** Students will be invited to take part in an online survey about their use of digital tools for both educational and non-educational purposes, and especially for learning English language. This will take approximately 20 minutes. At the end of the survey, they will be invited to take part in an interview which will take approximately 15 minutes to complete. The interview will be carried out via Skype and audio recorded and transcribed by the researcher. They will also be invited to take part in an online intervention for four weeks.

> **Stage 2**: The intervention will be managed through an online course management system. Each week students will be introduced to effective ways of using one particular smartphone app/feature for independent English language learning. They will practice using that app/feature for learning English language and share their experiences on an online discussion board as well as do one assignment each week related to the topic/feature/app.

> **Stage 3**: At the end of the fourth week, students will be asked to complete another online survey (it will take approximately 10 minutes to complete) and will be invited for an individual interview (about 15 minutes long) about their experience of training in the use of smartphones for language learning as well as their beliefs and attitudes towards future use

of MALL. These interviews will also be arranged via Skype and will be audio recorded. Students will receive a complete transcription of the interview within 4 months after the interview for their review and approval.

Please note that participation in this study is voluntary and if students do not want to participate at any stage, they will have the right to withdraw from the study at any time without penalty. If they withdraw, I will do my best to remove any information relating to them, provided this is practically achievable.

I will take particular care to ensure the confidentiality of all data gathered for this study. I will also take care to ensure the anonymity of students in publications of the findings. All the data will be securely stored in password protected facilities and locked storage at the University of Canterbury for ten years following the study. It will then be destroyed. The results will be reported in my PhD thesis, as well as internationally at conferences and in English language teaching journals. All participants will receive a report on the study if they wish by providing their email contact details in the appropriate section at the end of the survey.

If you have any questions about the study, please contact me (details above) or my supervisor – Assoc. Prof. Una Cunningham, (una.cunningham@canterbury.ac.nz). If you have a complaint about the study, you may contact either my supervisor, or the Chair, Educational Research Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz. You may also contact Sadia Malik, Lecturer at Department of English, Bahauddin Zakariya University (sadiamalik@bzu.edu.pk) if you require more information.

If you agree to participate in this study, please type your name at the bottom of the consent form and email it to me along with the email addresses of the students so that I may send them the complete information about my study and invite them to participate in it. I ensure you that this study will not take place during their class timings hence, will not affect their studies at the university. Please also note that your permission in this study is voluntary. You have the right to ask me to stop collecting data at your department at any time during my study. If I am asked to stop collecting data, I will do my best to remove any information relating to the students at your department, provided this is practically achievable.

Thank you for reading this, and have a great day ahead!

Shaista Rashid

Appendix 4 **Information sheet for participants**

Telephone: +64273103992
Email: shaista.rashid@pg.canterbury.ac.nz

UC
UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

Impact of Training in Mobile Assisted Language Learning on attitudes, beliefs and practices of tertiary students in Pakistan

Information sheet for participants

I am Shaista Rashid, a PhD student at College of Education, University of Canterbury, New Zealand. I am conducting research in the field of Mobile Assisted Language learning (MALL). My research is trying to investigate how training in the use of smartphones for independent English language learning can affect their attitudes, beliefs and practices related to use of MALL.

I would like to invite you to take part in my research. If you agree, you will be asked to complete an online survey about your use of digital tools for both educational and non-educational purposes, and especially for learning English language. This will take approximately 20 minutes.

At the end of the survey, you will be invited to take part in an online intervention for four weeks. The intervention will be managed through an online free blackboard website. During each week you will be introduced to how to use one particular smartphone app/feature for independent English language learning. You will practice using that app/feature for learning English language and share your experiences on the discussion board. At the end of the fourth week, you will be asked to complete an online survey and invited for an interview about your experience of training in the use of smartphones for language learning as well as you beliefs and attitudes towards future use of MALL.

Please note that participation in this study is voluntary. If you don't want to participate anymore, you have the right to withdraw from the study at any time without penalty. If you withdraw, I will do my best to remove any information relating to you, provided this is practically achievable.

I will take particular care to ensure the confidentiality of all data gathered for this study. I will also take care to ensure your anonymity in publications of the findings. All the data will be securely stored in password protected facilities and locked storage at the University of Canterbury for ten years following the study. It will then be destroyed. The results will also be reported internationally at conferences and in English language teaching journals. All participants will receive a report on the study on request.

If you have any questions about the study, please contact me (details above) or my supervisor – Assoc. Prof. Una Cunningham, (una.cunningham@canterbury.ac.nz). If you have a complaint about the study, you may contact either my supervisor or the Chair, Educational Research Human

Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz).

If you agree to participate in this study, please click on the link provided below, it will take you to the online survey.

Thank you for reading this, and good luck in your studies!

Shaista Rashid

Appendix 5 **Pre-course interview questions**

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Pre-course interview questions

- Are you satisfied with your proficiency in English reading and writing skills? If provided an opportunity, would you like to polish these skills a bit more?

- Do you use your smartphone for improving English reading and writing skills?

- Do you think your skills in using your smartphone for improving English language are good enough or you would like to have some training in it?

- What do you know about blogs?

- Have you ever read and commented on other's blog posts?

- Have you ever used a blog for publishing your own posts?

- Have you ever used your smartphone to read and commented on anyone else's blog post or access your own blog?

- Do you think that blogging can help in improving English reading and writing skills?

Appendix 6 **Post-course interview questions**

Telephone: +64273103992
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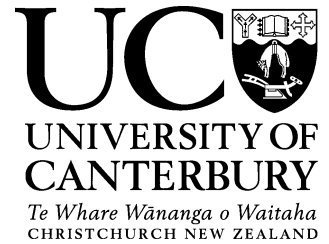
Post-course interview questions

1. What do you think about blogging?

2. Which digital tool did you use the most for blogging? Why did you prefer using it?

3. How did you write your posts? Did you use other smartphone features for help such as word prediction, dictionary, spellings, google, etc?

4. How did you proof read your work?

5. How did you choose the topics and themes for your blogposts?

6. What was the motive behind choosing the title of your blog?

7. Were the instructional posts and videos helpful?

8. What is the difference between online training and in-person training? Which one do you prefer and why?

9. Do you think that frequent independent writing in English can help improve writing skills?

10. Would you like to keep your blog alive in future by occasionally publishing posts on it?

11. What made you post so frequently on your blog?

12. What do you think about the comments posted by your peers on your blog posts?

13. Which post did you enjoyed the most while writing and publishing on your blog and why?

Appendix 7 Interview questions for the English teacher

Telephone: +64273103992
Email: shaista.rashid@pg.canterbury.ac.nz
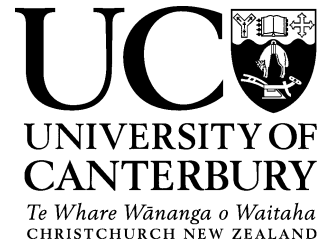
Interview questions for the English teacher

1. Are you satisfied with the English language learning and teaching situation in Pakistan? If not, why?

2. How did you learn about the present study?

3. What kind of response were you expecting from the students?

4. Did you notice any change in students' performance in classroom activities?

5. Was there any change in students' confidence and motivation level while performing classroom activities?

6. Did you observe any change in students' English writing skills during or after the training course?

7. Did the students share their experience of using smartphones for blogging with you?

8. Would you like to incorporate smartphones in your English class?

9. Do you think students need to be trained for using smartphones for English language learning?

10. In your opinion, what are the major obstacles in incorporating smartphones or other forms of technology in English language learning and teaching in Pakistan?

11. If this study has to repeated in future, what would you suggest to make it better and more effective?

Appendix 7 Interview questions for the English teacher

Appendix 8 **Digital practices survey**

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Digital Practices Survey (BZU)

Page 1

This survey forms the first part of this research project which is investigating the use of smartphones for independent learning of English language. The survey will take approximately 20 minutes.

At the end of this survey, you will be invited to take part in a pre-intervention interview which will take approximately 15 minutes to complete via Skype. You will also be invited to take part in an online intervention which will take approximately 2 to 3 hours per week for four weeks. To take part in the intervention you will need to have access to a smartphone with internet provision. The intervention will be managed through an online course management system. Each week you will be introduced to effective ways of using one particular smartphone app/feature for independent English language learning. You will practice using that app/feature for learning English language and share your experiences on an online discussion board in groups of five. All group members will be asked to maintain confidentiality in relation to the discussion forum. At the end of the intervention you will be able to use your smartphone effectively for Learning English language. It is supposed that your English proficiency will also improve. You will receive a certificate of participation from University of Canterbury at the successful completion of the intervention as well as you will be included in a draw to win one of the 5 lottery tickets worth 20 NZD each if you complete all the activities of the intervention. At the end of the fourth week, you will be asked to complete another online survey (it will take approximately 10 minutes to complete) and will be invited for an individual interview via Skype (about15 minutes long).

Please note that participation in this study is voluntary and your decision about whether or not to participate will have no impact on the grade for your course. If you don't want to participate at any stage of the study, you have the right to withdraw at any time without penalty, and I will do my best to remove any information relating to you, provided this is practically achievable.

1.   **Have you been given full explanation of this project, confidentiality of data, and an opportunity to ask questions. ***

   ○ yes

   ○ no

2.   **Do you understand what is required of me in this project and my participation is voluntary with freedom to withdraw at any stage without penalty. ***

   ○ yes

   ○ no

3.   **Do you understand when you have completed this survey and clicked "Submit", you are agreeing to participate in this study. ***

   ○ yes

   ○ no

Background Information

1.   **Your demographic information**

Gender	
Age	
Mother tongue(s)	
Currently study in the department of	
A student of semester	

2. **You studied at a _____ during your Matriculation /O Levels.**

○ English medium private school

○ English medium public school

○ Urdu medium private school

○ Urdu medium public school

○ Madrassah

○ Other [ ]

3. **For how many years have you been studying English?**

○ Less than 5 years

○ 5 to 11 years

○ 12 or more years

4. **Choose the appropriate answer**

	Always	Most of the times	Sometimes	A few times	Never
Do you feel comfortable while communicating in English with your teachers and class fellows?	○	○	○	○	○
Do you find it easy to write in English for your class assignments and homework?	○	○	○	○	○
Do you understand your teacher completely when he/she talks in English?	○	○	○	○	○
Do you like reading books in English?	○	○	○	○	○
Do you use English language to post on Facebook?	○	○	○	○	○
Do you use English language while communicating through Skype, text messages (SMS) or instant messages (MSN, Facebook chat, Yahoo chat, etc.)?	○	○	○	○	○

5. **Do you own a smart phone?**

○ yes

○ no

6. **You have been using a smart phone for**

○ Less than 1 year

○ 1 -2 years

○ More than 2 years

7. **You use your smartphone for (indicate all that apply)**

☐ Making phone calls

☐ Using internet for emails

☐ Entertainment (social networking, listening songs, watching videos, playing games, etc.)

☐ Accessing educational content

☐ Other (Please specify) [   ]

8. **Do you have access to (Indicate all that apply)**

☐ Desktop or laptop computer at home

☐ tablet (eg iPad, Samsung Galaxy or similar)

☐ Own laptop at university

☐ University provided computer on campus (eg in labs, library)

☐ Smartphone (eg iPhone, Android, Blackberry)

☐ eBook reader (eg Kindle, Noodle)

☐ Other devices with internet access (eg games console)

9. **Which of the following equipment do you use often for your studies**

☐ Desktop or laptop computer at home

☐ Tablet (eg iPad, Samsung Galaxy or similar)

☐ Own laptop on campus

☐ University provided computer on campus (eg in labs, library)

☐ Smartphone (eg iPhone, Android, Blackberry)

☐ eBook reader (eg Kindle, Nook)

10. **How often do you use technologies for your studies from the following locations?**

	Never or Rarely	A few times a MONTH	A few times a WEEK	One or more times a DAY
On campus using computer labs or library computer	☐	☐	☐	☐
On campus in other spaces	☐	☐	☐	☐
At home	☐	☐	☐	☐
On the move	☐	☐	☐	☐

Use of digital technologies for educational and non-educational purposes

1. **Outside of university, how often do you currently use the following technologies in your everyday life for social purposes (ie for purposes NOT associated with your studies)?**

	Never or Rarely	A few times a MONTH	A few times a WEEK	One or more times a DAY
Instant Messaging (eg MSN, Yahoo Chat, Facebook Chat)	☐	☐	☐	☐
Text messages (SMS)	☐	☐	☐	☐
Email	☐	☐	☐	☐
Skype	☐	☐	☐	☐
Facetime, Adobe Connect, Google Hangouts	☐	☐	☐	☐
Facebook	☐	☐	☐	☐
Twitter	☐	☐	☐	☐
Wikis (eg Wikipedia)	☐	☐	☐	☐
Online computer games	☐	☐	☐	☐
Photo or video sharing on the web (eg Instagram, Flicker, Youtube, Vimeo)	☐	☐	☐	☐

2. **How often do you engage in the following learning activities for your studies?**

	Never or rarely	A few times a MONTH	A few times a WEEK	One or more times a DAY
Use online library	☐	☐	☐	☐
Use internet search engines (eg Google, Google scholar, Yahoo)	☐	☐	☐	☐
Use Wikipedia	☐	☐	☐	☐
Use web-based document tools (eg Google docs/drive, Dropbox)	☐	☐	☐	☐
Use Facebook for group activities with other students	☐	☐	☐	☐
Skype	☐	☐	☐	☐
Facetime, Adobe Connect, Google Hangouts	☐	☐	☐	☐
Use freely available educational resources (eg TedX, Khan academy, iTunesU, YouTube)	☐	☐	☐	☐

3. **Would you like to engage in the following learning activities for your studies?**

	No, I Wouldn't	Yes	Yes and I would like to have training in it
Use online library	☐	☐	☐
Use internet search engines (eg Google, Google scholar, Yahoo)	☐	☐	☐
Use Wikipedia	☐	☐	☐
Use web-based document tools (eg Google docs/drive, Dropbox)	☐	☐	☐
Use Facebook for group activities with other students	☐	☐	☐
Skype	☐	☐	☐
Facetime, Adobe Connect, Google Hangouts	☐	☐	☐
Use freely available educational resources (eg TedX, Khan academy, iTunesU, YouTube)	☐	☐	☐

4. **How often do you use the following ways to contact and interact with your teachers at university?**

	Never or Rarely	A few times a MONTH	A few times a WEEK	One or more times a DAY
Instant messaging (eg MSN, Yahoo Chat, Facebook Chat)	☐	☐	☐	☐
Text messages (SMS)	☐	☐	☐	☐
Phone Calls	☐	☐	☐	☐
Email	☐	☐	☐	☐
Skype	☐	☐	☐	☐
Facebook	☐	☐	☐	☐
Other social networks (eg, Twitter, Instagram, etc.)	☐	☐	☐	☐
Face-to-face meetings	☐	☐	☐	☐

5. **How often do you use the following technologies to connect and interact with other students for your studies?**

	Never or Rarely	A few times a MONTH	A few times a WEEK	One or more times a DAY
Instant messaging (eg MSN, Yahoo Chat, Facebook Chat)	☐	☐	☐	☐
Text messages (SMS)	☐	☐	☐	☐
Email	☐	☐	☐	☐
Phone calls	☐	☐	☐	☐
Skype	☐	☐	☐	☐
Facebook	☐	☐	☐	☐
Other social networks (eg Twiter, Instagram, etc.)	☐	☐	☐	☐
Face-to-face meetings	☐	☐	☐	☐

Use of smartphones for enhancing English language proficiency

1. **Do you think smartphones can be helpful in enhancing your English language proficiency?**

   ○ Yes

   ○ Somewhat/A little

   ○ No

   ○ I am not sure

2. **How often do you use your smartphone for the following activities to enhance your reading and writing skills in English?**

	Never or Rarely	A few times a MONTH	A few times a WEEK	One or more times a DAY
Read ebooks on your smartphone.	☐	☐	☐	☐
Use Google Translate to translate your ideas and thoughts into English.	☐	☐	☐	☐
Use mobile apps for English dictionaries and thesaurus.	☐	☐	☐	☐
Use social-networking sites through your smartphone to practice English reading and writing skills.	☐	☐	☐	☐
Use the camera of your smartphone to take a picture and write about it in English.	☐	☐	☐	☐
Use your smartphone to keep a blog in English.	☐	☐	☐	☐
Use smartphone memory to store reading materials for ease of access at anytime, anywhere.	☐	☐	☐	☐
Use the text messaging (SMS) feature of your smartphone to practice social/everyday conversation in English.	☐	☐	☐	☐

3. **Would you like to use your smartphone for the following activities to enhance your reading and writing skills in English?**

	No, I wouldn't	Yes	Yes and I would like to have training in it
Read ebooks on your smartphone.	☐	☐	☐
Use Google Translate to translate your ideas and thoughts into English.	☐	☐	☐
Use mobile apps for English dictionaries and thesaurus.	☐	☐	☐
Use social-networking sites through your smartphone to practice English reading and writing skills.	☐	☐	☐
Use the camera of your smartphone to take a picture and write about it in English.	☐	☐	☐
Use your smartphone to keep a blog in English.	☐	☐	☐
Use smartphone memory to store reading materials for ease of access at anytime, anywhere.	☐	☐	☐
Use the text messaging (SMS) feature of your smartphone to practice social/everyday conversation in English.	☐	☐	☐

4. **How often do you use your smartphone for the following activities to enhance your listening and speaking skills in English?**

	Never or Rarely	A few times a MONTH	A few times a WEEK	One or more times a DAY
Use voice recording feature of your smartphone to record and listen to native English language samples	☐	☐	☐	☐
Use voice recording feature of your smartphone to record your own conversation in English with a fellow and do a self evaluation	☐	☐	☐	☐
Use voice calling feature (such as Skype, Viber, Line, FaceTime, etc.) through your smartphone to practice English speaking skills with a fellow	☐	☐	☐	☐
Use mobile apps (such as Speakingpal, Audacity, Listen & Speak, etc.) for enhancing English listening and speaking skills.	☐	☐	☐	☐
Use your smartphone memory to store English listening materials for practicing English listening skills at anytime, anywhere.	☐	☐	☐	☐

5. **Would you like to use your smartphone for the following activities to enhance your listening and speaking skills in English?**

	Yes	No	Would like to have training in it
Use voice recording feature of your smartphone to record and listen to native English language samples	☐	☐	☐
Use voice recording feature of your smartphone to record your own conversation in English with a fellow and do a self evaluation	☐	☐	☐
Use voice calling feature (such as Skype, Viber, Line, FaceTime, etc.) through your smartphone to practice English speaking skills with a fellow	☐	☐	☐
Use mobile apps (such as Speakingpal, Audacity, Listen & Speak, etc.) for enhancing English listening and speaking skills.	☐	☐	☐
Use your smartphone memory to store English listening materials for practicing English listening skills at anytime, anywhere.	☐	☐	☐

6. **How often do you use your smartphone for the following activities to enhance your English vocabulary?**

	Never or Rarely	A few times a MONTH	A few times a WEEK	One or more times a DAY
Use the Notes/Memo feature of your smartphone to keep a record of new English words you come accross everyday.	☐	☐	☐	☐
Use your smartphone to play word games (such as Crossword Puzzles, Scrabble, etc.).	☐	☐	☐	☐
Use free apps (such as Flashcards, AnkiDroid Flashcards, Flashcard Deluxe, etc.) to make your own vocabulary flash cards.	☐	☐	☐	☐

7. **Would you like to use your smartphone for the following activities to enhance your English vocabulary?**

	No, I wouldn't	Yes	Yes and I would like to have training in it
Use the Notes/Memo feature of your smartphone to keep a record of new English words you come accross everyday.	☐	☐	☐
Use your smartphone to play word games (such as Crossword Puzzles, Scrabble, etc.).	☐	☐	☐
Use free apps (such as Flashcards, AnkiDroid Flashcards, Flashcard Deluxe, etc.) to make your own vocabulary flash cards.	☐	☐	☐

Page 5

1. **I am willing to participate in an interview of approximately 15 minutes to discuss how I use technology for language learning.** *

   ○ yes

   ○ no

2. **If you answered "yes" for the previous question, please provide your Skype ID or mobile number for Viber, whatsapp or IMO in the following box.**

   _____

3. **I am willing to participate in the 4 weeks training course on how to use a smartphone effectively for independent English language learning and would like to receive more information about it via email.** *

   Please provide your email address in the text box below if you answer 'Yes' to the question!

   ○ Yes

   ○ No

   ○ Email address _____

4. **If you wish to receive a report on the results of the present study, kindly type your email address in the box provided below.**

5. **I understand that by clicking "Submit" I am giving my consent to the researcher to use the information I provided in this survey for her PhD study and research publications.** *

    ○ yes

    ○ no

You have completed the survey. Thank you very much for your participation.

You can now close the window.

Appendix 9 **Background information survey**

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Te Whare Wānanga o Waitaha
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Survey

Background Information

1. **Your demographic information**

   Name

   Gender

   Age

   Mother tongue(s)

   Currently study in the department of

   A student of semester

   Email address

2. **At which of the following type of school did you complete your Matriculation/O Levels?**

   ◯ English medium private school

   ◯ English medium public school

   ◯ Urdu medium private school

   ◯ Urdu medium public school

   ◯ Madrassah

   ◯ Other

3. **For how many years have you been studying English?**

   ◯ Less than 5 years

   ◯ 5 to 11 years

   ◯ 12 or more years

4. **What do you think about your proficiency in English?**

	Beginner	Elementary	Low Intermediate	Upper Intermediate	Advance	Very Advance
Reading skills	○	○	○	○	○	○
Writing skills	○	○	○	○	○	○
Speaking skills	○	○	○	○	○	○
Listening skills	○	○	○	○	○	○

5. **Do you have access to a smart phone?**

○ yes

○ no

6. **For how much time have you been using a smart phone?**

○ Less than 1 year

○ 1 -2 years

○ More than 2 years

7. **For which of the following purposes do you use your smartphone? (Indicate all that apply)**

☐ Making phone calls

☐ Using internet for emails

☐ Entertainment (social networking, listening songs, watching videos, playing games, etc.)

☐ Accessing educational content

☐ Other (Please specify) [ ]

You have completed the survey. Thank you very much for your participation.

You can now close the window.

Appendix 10 **Follow-up Survey**

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CHRISTCHURCH NEW ZEALAND

Follow-up survey

Page 1

Thank you for completing the course!
It was a wonderful experience working with you during this course.
Please complete the following survey that is formulated around your experiences and practices during this course!

Choose the appropriate answer *

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
I believe that my blog helps improve my English writing skills.	○	○	○	○	○
It was easy to learn how to use blogs.	○	○	○	○	○
I enjoyed working on my blog during my free time.	○	○	○	○	○
I prefer using blogs to write in English as compared to pen and paper.	○	○	○	○	○
I enjoyed reading others' blogs.	○	○	○	○	○
I enjoyed posting comments on others' blogs.	○	○	○	○	○
I enjoyed receiving comments on my blog posts.	○	○	○	○	○
I used an online dictionary to search for better choice of words.	○	○	○	○	○
I googled to get information on a specific topic before writing on my blog.	○	○	○	○	○
I took help from my friend/family to proofread my posts.	○	○	○	○	○
I used a software/application to proofread my writing in English.	○	○	○	○	○
It was easier to use smartphones for					

reading blogs as compared to other digital tools.	◯	◯	◯	◯	◯
It was easier to use smartphones for writing on blogs as compared to other digital tools.	◯	◯	◯	◯	◯
It was easy to follow the instructions during the course.	◯	◯	◯	◯	◯
The training offered flexible time to complete the activities.	◯	◯	◯	◯	◯
I shared my experience of using a smartphone for learning English language with my class fellows.	◯	◯	◯	◯	◯
I helped my class fellows if they encountered any difficulty in using smartphones for blogging.	◯	◯	◯	◯	◯
I will continue to use my blog in future.	◯	◯	◯	◯	◯

Writing on blogs has helped me to *

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Express my ideas and opinions in a better way.	○	○	○	○	○
Develop my academic writing skills.	○	○	○	○	○
Learn new vocabulary.	○	○	○	○	○
Improve my grammar.	○	○	○	○	○
Perform better in my English writing assignments in class.	○	○	○	○	○
Become more careful about word choice and spelling.	○	○	○	○	○
Pay more attention to sentence structure.	○	○	○	○	○
Understand how to write descriptive and argumentative essays.	○	○	○	○	○
Increase my motivation and interest in writing in English.	○	○	○	○	○
Spend more time in planning and revising my writing tasks.	○	○	○	○	○
Improve my communication skills.	○	○	○	○	○
Perform better in exams as I was able to write better English.	○	○	○	○	○
Increase my confidence and engagement in class activities.	○	○	○	○	○

Blank page

Appendix 11 **Screenshot of Welcome page of the course blog**

A short training course in mobile assisted language learning

Monday, November 7, 2016

WELCOME!

Course Information

This course is a part of PhD research being conducted by Shaista Rashid at School of Teacher Education, University of Canterbury, New Zealand. The course is aimed at exploring the effect of training in using smartphones for English language learning on the perceptions, attitudes and practices of tertiary students in Pakistan. The training will be focused on the use of smartphone for independent learning for English language by the participants. This course is built around online activities and places the learning responsibility on the participants.

Learning Outcomes

Participants completing this course will be able to
· Setup their personal blogs.
· Publish different posts on their blogs.
· Follow and comment on others' blog posts.
· Practice and improve their reading and writing skills by using blogs.
· Enhance their motivation level by using blogs of learning English language.
· Develop critical thinking about how to use their smartphones more effectively for English language learning.

Pre-Requisites

The participant must
• Be an undergraduate student at a public or private university in the Punjab province of Pakistan.
• Have access to a smartphone with internet connectivity

Course Coordinator: Shaista Rashid

Tasks
• Weekly publishing a post on your personal blog
• Reading and giving feedback on at least three blog posts by your peers

Blog Archive
► 2017 (3)
▼ 2016 (7)
  ► December (3)
  ▼ November (4)
    Using your smartphone for blog posting! Is it poss....
    Activity 1
    How to setup a personal blog?
    WELCOME!

Appendix 12 **Screenshot of "How to set up a personal blog"**

A short training course in mobile assisted language learning

Monday, November 7, 2016

How to setup a personal blog?

What is a blog?
A blog is described as a personal diary or a journal which is updated and maintained frequently. It is a place where you can share your thoughts, opinions, passions, etc. with the rest of the world. Now a days blogs are being used in almost all fields of life. Many online platforms provide free services to setup your blog, such as www.wordpress.com, www.blogger.com, etc.

How to setup a personal blog using your smartphone?
Setting up a personal blog is very easy. You just need to follow these steps and your blog will be ready in a few minutes.
Step 1
- Type "www.blogger.com" in the internet browser of your smartphone.
- Click on "CREATE YOUR BLOG"

Blog Archive
- ▶ 2017 (3)
- ▼ 2016 (7)
  - ▶ December (3)
  - ▼ November (4)
    - Using your smartphone for blog posting! Is it poss...
    - Activity 1
    - How to setup a personal blog?
    - WELCOME!

← → 🔒 www.blogger ↻ 🗗 🔖

ᴮ Blogger SIGN IN

Publish your passions, your way

Create a unique and beautiful blog. It's easy and free.

CREATE YOUR BLOG

- You will be asked to sign in using your gmail account. If you don't have one, you can easily create a gmail account.

← → 🔒 accounts.goo ↻ 🗗 🔖

Google

One account. All of Google.

Enter your email

Next

Find my account

Create account

Step 3
- You can choose a title for your blog.
- After choosing a title you have to select an address for your blog. You can play with the name of the address until you see that it is available for you to use for your blog.
- Now you have to choose a template for your blog. Template is the appearance of the blog. You can choose any form the given list.
- Once you have selected the template, hit the "Create blog" button.

← → 🔒 🝖 www.blog ↻ 🗗 🔖

Step 4

- This page is showing the overview of your blog.
- Hit the button "My blogs" and you will be directed to the home page of your blog.

Hurry! My blog is ready!

Still struggling?
Watch the following video in Urdu!
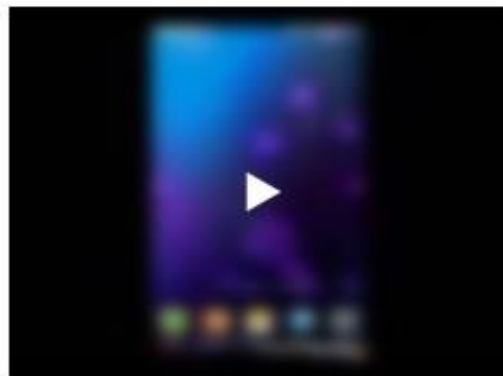
Appendix 13 **Screenshot of "Using your smartphone for blog posting"**

Watch following video tutorial in Urdu
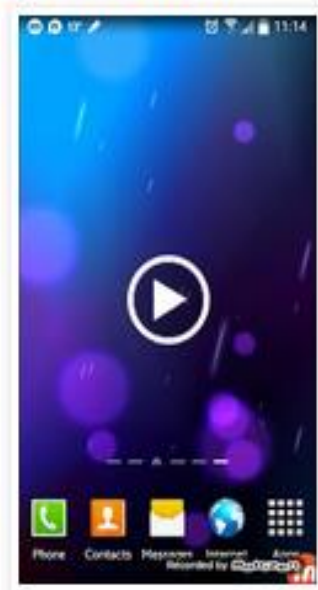
Appendix 14 **Screenshot of Activity 1**

A short training course in mobile assisted language learning

Thursday, November 24, 2016

Activity 1

Set up your personal blog

This is the first task of this short training course. For this task you are required to complete following steps:

- Read the blog post "How to setup a personal blog?"
- Follow the steps given in the above mentioned blog post and set up your personal blog. You can choose your own theme, title, and design for your blog.
- Once your personal blog is ready, copy and paste the link of your blog in the comment section of this blog post.

Deadline for this task is 28/11/2016.

Blog Archive

▶ 2017 (3)
▼ 2016 (7)
  ▶ December (3)
  ▼ November (4)
    Using your smartphone for blog posting! Is it poss...
    Activity 1
    How to setup a personal blog?
    WELCOME!

Appendix 15 **Screenshot of Activity 2**

Thursday, December 1, 2016

Activity 2

Your first blog post!

This is the second task for this short training course. Please follow these steps!

- Read the blog post "Using your smartphone for blog posting! Is it possible?"
- Follow the steps given in the above mentioned blog post and download the blogger app.
- Choose one of the following topics and write **150 or more words**. Publish this post on your personal blog. Do not plagiarize! Do not copy others work!

1. **If you could invite five people to a dinner party, who would they be? What is each guest like?**
2. **If you could only eat one food for the rest of your life, what would it be? Describe it and explain why you'd choose it.**
3. **What's one thing you could never live without and why?**
4. **Talk about five specific goals you want to accomplish in 2017, and explain how you are going to accomplish them.**
5. **If you could get one gift for everyone in your family, regardless of the cost, what would you get them and why?**

Do not restrict yourself to 150 words. Write as much as you like.

Appendix 16 **Screenshot of Activity 3**

Activity 3

- Read the blog post "Using your smartphone for blog posting! Is it possible?"
- Follow the steps given in the above mentioned blog post and download the blogger app (In case you have not done that yet).
- Choose one of the following pictures and write **150 or more words**. You are also required to give a suitable title to the picture. Use your own thoughts and avoid copying from any other source (Your task will not be considered completed if your work is plagiarized).
- Publish this post on your personal blog.

Appendix 17 **Screenshot of Activity 4**

Saturday, December 17, 2016

Activity 4

Activity 4
The next task for this short training course is about using camera feature of your smartphone for blog posting. Please follow these steps!

- Read the blog post "Using your smartphone for blog posting! Is it possible?"
- Follow the steps given in the above mentioned blog post and download the blogger app (if you haven't done that yet).
- Use camera feature of your smartphone and take a picture which is relevant to the title of your blog.
- Write **150 or more words** about that picture. Give your blog post a good title and publish this post on your personal blog. Please do not plagiarize!

This is the time when you can publish as many posts as you want. Do not download a picture from somewhere else rather take a picture using your smartphone.

Posted by Shaista Rashid at 12:40 AM

Appendix 18 **Screenshot of Activity 5**

Activity 5

The next task for this short training course is about providing feedback to your peers on their blog posts. Please follow these steps!

- Read the blog post "Using your smartphone for blog posting! Is it possible?"
- Follow the steps given in the above mentioned blog post and download the blogger app (if you haven't done that yet).
- Choose any one blog from the list given below (Please do not select your own blog for this activity)

1. http://usmanriazp.blogspot.com
2. http://toobakomal.blogspot.com
3. http://shhussain.blogspot.co.nz/
4. http://furwaasim124.blogspot.com
5. http://mairaalikhan.blogspot.com/
6. http://ruestephen.blogspot.com/
7. http://sadiamalik979797.blogspot.com/
8. http://punjabirecipi.blogspot.co.nz/
9. http://daima08.blogspot.co.nz/
10. http://peaceandpatience12.blogspot.com
11. http://welcomeany.blogspot.com/
12. http://getmotivatedhere64.blogspot.com
13. http://hira1997view.blogspot.com/
14. http://duaablog.blogspot.com
15. http://mahnoor1997.blogspot.com/
16. http://communicationskills247.blogspot.com

17. http://mashalzeest.blogspot.com/
18. http://multancustomdomain.blogspot.co.nz
19. http://literaturemaniadepp.blogspot.com
20. http://hafsa56.blogspot.com
21. http://ailyanaqvi.blogspot.co.nz/
22. http://sanazainab2212.blogspot.co.nz
23. http://saifudeen428.blogspot.com
24. http://technologystreamhouse.blogspot.com
25. http://aiman118.blogspot.com
26. http://punjabicultur.blogspot.co.nz

- Read at least 2 posts and provide feedback on them. Your feedback must be based on following question;

1. What is the purpose of the post? Is it informative, descriptive, or for entertainment purposes? Please justify your opinion!
2. Do you agree or disagree with the writer about his/her thoughts in the post? And why is so?

- Once you have completed the activity, please post the blog link (on which you have provided the feedback) in the comment section of this post.

Happy blogging! 👍

Appendix 19 **Screenshot of Activity 6**

Monday, January 9, 2017

Activity 6

Congratulations! You have done very well in this course.

Please follow these steps for your next blog post!

- Make a 1 or 2 minute video using your smartphone camera.
- Post this video on your blog and write 150 or more words about it.

There is no restriction on number of posts. Feel free to publish as many posts as you like.

Appendix 20 **Screenshot of Activity 7**

A short training course in mobile assisted language learning

Monday, January 16, 2017

Activity 7

Activity 7

This is the last activity of this course. For this activity I would like to invite you to express your opinion, experiences and expectation about the course. Please indicate which activities were interesting for you and which were hard to complete! I would also like to know about future of your blog; will you keep it alive or will stop posting on it?

Keep blogging! 😊

Blog Archive

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