ABSTRACT

SMARTPHONES WANDERING AT THE MALL: A CASE STUDY INVESTIGATING THE USE OF SMARTPHONES ON ENGLISH ORAL LEARNING SKILLS IN A COLLABORATIVE MOBILE-ASSISTED LANGUAGE LEARNING ENVIRONMENT

Anwer S. Al-Zahrani, Ed.D.
Department of Educational Technology, Research and Assessment
Northern Illinois University, 2015
Wei-Chen Hung, Director

The rapidly ever-changing pace of technology imposes the need for integrating new emerging technologies. Under the umbrellas of mobile learning and language learning, Mobile-Assisted Language Learning (MALL) finds its promising, new spot on the surface of emerging trends in education. In both K-12 and higher education domains, future generations are more likely to own and be closely attached to mobile technologies more than ever.

As MALL facilitates language learning via mobile devices, many students strive to improve their English learning skills. Students usually struggle with listening and speaking because of the prompt nature of most conversations, unlike reading and writing where they often have enough time to respond. Hence, this investigation explored the practical uses and supportive features of smartphones to improve English language learners’ learning skills, mainly listening and speaking.
Previous research studies addressed the use of mobile technologies in language learning environments. This study sought to explore possible ways of integrating mobile technologies in language learning, to provide additional language learning activities to support tradition classroom activities, and to explore the role of collaboration among English language learners’ listening and speaking skills in MALL environments as well as how mobile applications could be used in language learning classrooms as methods to vary course activities beyond the face-to-face ones. This study could inform scholars and teachers looking for practical ways to use mobile technologies in the learning process and ways to incorporate them in and outside the classroom.

Examining the views of English learners who are studying English as a second or foreign language is the main focus of the study. Moreover, the universality of the English language is a major reason why it has been selected. The participants in this study were ten students who study English at a language learning institute at a Midwestern university. A WhatsApp group, MALL environment, was designed to include the participants in the study. The data collection methods were interview, survey, the WhatsApp group chat log and observation. This qualitative case study research was motivated by two research questions: 1) how mobile devices, such as smartphones, are used for learning English? and 2) what elements of the mobile-assisted language learning environment, if any, were identified as most useful or distracting in enhancing listening and speaking skills?. The findings of this research study show that in addition to the current uses of smartphones in WhatsApp; there are also benefits and advantages as well as drawbacks and obstacles to using smartphones to enhance language learning skills, mainly listening and speaking. The results, implications for instructional practice, and recommendations for future research are also discussed.
SMARTPHONES WANDERING AT THE MALL: A CASE STUDY
INVESTIGATING THE USE OF SMARTPHONES ON ENGLISH ORAL LEARNING
SKILLS IN A COLLABORATIVE MOBILE-ASSISTED LANGUAGE
LEARNING ENVIRONMENT

BY

ANWER S. AL-ZAHRANI
© 2015 Anwer S. Al-Zahrani

A DISSERTATION SUBMITTED TO THE GRADUATE SCHOOL
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE
DOCTOR OF EDUCATION
DEPARTMENT OF EDUCATIONAL TECHNOLOGY,
RESEARCH AND ASSESSMENT

Doctoral Director:
Wei-Chen Hung
ACKNOWLEDGEMENTS

First and foremost, all the praises and thanks are to Allah the almighty, the most Beneficent, the most Merciful, for His blessings upon me, among which is the success to complete this dissertation. This dissertation could not have been completed without many significant people and entities that have been an instrumental part throughout the time I was working on completing this work. In addition to my professors, committee members, and colleagues, I would like to show my gratitude and appreciation to my parents, my wife, my brothers and sisters and my kids for their support, endless love and caring commitment to continuously push me towards achieving this goal.

I would like to thank all those whose assistance proved to be a milestone in the accomplishment of my ultimate goal. My professor, advisor, and dissertation committee chair, Dr. Wei-Chen Hung, is the first person that comes to mind. It is truly expressed that your advice and suggestions for my research study proved to be a landmark effort towards the success of my dissertation completion. I learned a lot from your immense knowledge in various fields, your professionalism, your dedication to knowledge and openness to exploring new areas and fields. I have been very fortunate to have had your consistent support throughout all my doctoral journey.

I would like to also thank my committee members for their unwavering support. First, I thank Dr. Jessamine Cooke-Plagwitz for encouraging me to creatively integrate technology into language learning and for her suggestions and feedback along the research process. Second, I thank Dr. Pi-Sui Hsu for her expertise in qualitative research, and technology integration along
with guidance in the research procedures. Therefore, to all my committee members: Dr. Hung, Dr. Cooke-Plagwitz and Dr. Hsu, I truly thank you for your incredible support, timely assistance, and considerate understanding. I owe you a lot and I appreciate all the time you had to creatively craft and accommodate my work into for all these years. I am grateful and honored to have your academic and professional expertise mirrored in my doctoral journey.

By the same token, I would like to thank all NIU professors, faculty, staff, colleagues and classmates that I had the honor and privilege to learn from and work with, especially in the Educational Technology Research and Assessment department, for their support throughout the years that I spent working on my dissertation which contributed to my success on the university level, in my teaching experience and ultimately lead to the completion of this dissertation.

I would like to show my gratitude to my institution, the Royal Commission of Jubail and Yanbu, for facilitating all the hurdles I faced and for supporting me financially during my doctoral degree program. Likewise, I would like to thank my colleagues at Jubail Industrial College: Mr. Othman Albijadi, Mr. Ibrahim Alzahrani, Dr. Sultan Arishi, Dr. Fahad AlShahrani, Dr. Mohammad Alnufaie, Mr. Abdulfattah Al-Garni, Mr. Yousef Alwahibi and many others for being always helpful and supportive since I started my dissertation journey until its completion.

I would like to thank the institution that I conducted my research study at. I thank its administration, staff, and teachers. I also thank the students who volunteered to participate in my study despite their busy schedules in the advanced levels. Thank you all for giving me the time and space to complete this research, and to explore new horizons in language learning and mobile technology integration that could hopefully add a few pieces of knowledge to such fields.
I would like to thank Dr. Jason Messinger for giving me the permission to use and to edit the research instruments to align with my research study scope. Additionally, I wish to present my special thanks to Dr. Sarah Eastlund for reviewing my work and providing remarkable feedback and suggestions.

Last but not least, I would like to thank all my friends who inspired me to reach to this stage and complete this dissertation with their strength, encouragement, kindness, patience and support throughout the journey especially Abdullah Albalawi, Abdullah Hanbazazah, Abdullah Alajlan, Abdulmajeed Almayoof, Abdulmohsen Alhosaini, Abdulrahim Aloufi, Adel Qahmash, Ahmad Alshahrani, Ahmed Alzahrani, Ali Alamri, Ali Awad, Anwer Almajnooni, Bander Alsaaedi, Belqasem Aljafari, Dr. Awni Alkarzon, Dr. Hassan Al-Zahrani, Dr. Mansoor Almalki, Dr. Muhamad Ali Akrom, Dr. Rey Ty, Fahad Alenizi, Fahad Alraddadi, Fahad Althobaiti, Farraj Alshehri, Ghassan Allihyani, Haitham Felemban, Hamed Alghamdi, Hani Alghamdi, Khaled Alotaibi, Khalifa Elgosbi, Majid Almalki, Majid Showdari, Mansour Alzahrani, Mohamad Rozi, Mohammed Abahussain, Mosa Almalki, Motaz Maghrabi, Mubarak Alzahrani, Naif Jabli, Omar Fallatah, Osama Sulaihem, Rami Alghamdi, Saif Al-Zahrani, Tariq Kariri, Thamer Allihyani, Thamer Asswat, Thamer Al-Zubaidi, Yousef Alshrari, Yousef Guzaiz and many more.

All in all, I sincerely thank my parents, family, siblings, professors, colleagues, students, and last but not least, greatest friends in the world. This could not be possible without all of you your love, support, and prayers. Thank you from the bottom of my heart and I will forever be indebted. And to you, the reader, thank you very much!
DEDICATION

With great honor and immense gratitude, I dedicate this dissertation to my father for his endless support and unyielding inspiration. You have always been a believer in everything I do and you never hesitated to guide me to better myself or guide me to wise decisions throughout the way. You have brought me up to always have passion for knowledge, sharing, collaboration, cooperation, hard work and positivity. Cooperation, wisdom, kindness and patience are just a few of your traits that I hope to embrace more and more. I can never pay you back for all that you did for me and I hope you forgive for all the years that you have been waiting for this moment. Thank you for being there and I whole-heartedly dedicate this milestone to you!

It is with great honor that I dedicate this dissertation to my mother for her continuous love, caring, kindness and prayers. Despite the distance, you have been an incredible and great supporter all these years. You taught me the sense of collaboration, sharing and to always be passionate about what I do. You have kept me in your prayers for as much as I can, and cannot, remember. Through all these years, you have always been patient and passionate about this very moment. As I know that I can never pay you back for everything you did, and still gracefully do for me, I dedicate this dissertation to you as a small drop in your ocean!

I also dedicate this dissertation to my wife, the love of my life, for standing by my side and taking care of my children while I was working on this project. Your commitment to generously provide me with great support, love, caring, and prayers through tough times and pressuring nights towards the completion of this work is truly beyond description. Your
kindness, wisdom, friendship, love, personality and devotion helped me tremendously. For all of that and much more, I dedicate this dissertation to you.

Finally, I dedicate my dissertation to my two lovely kids, Bara and Kinan, for their patience and for the times I could not be with them as I should have while I was working on this dissertation. They taught me that there was always hope and their innocence inspired me to walk the extra mile towards achieving this work. Now, I am finally home and I dedicate this to you.
# TABLE OF CONTENT

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIST OF TABLES</td>
<td>x</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>xi</td>
</tr>
<tr>
<td>LIST OF APPENDICES</td>
<td>xii</td>
</tr>
<tr>
<td>1. INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Significance of the Study</td>
<td>2</td>
</tr>
<tr>
<td>Research Questions</td>
<td>4</td>
</tr>
<tr>
<td>Theoretical Framework/Constructs</td>
<td>5</td>
</tr>
<tr>
<td>Definitions</td>
<td>7</td>
</tr>
<tr>
<td>2. REVIEW OF THE LITERATURE</td>
<td>10</td>
</tr>
<tr>
<td>Mobile-Assisted Language Learning</td>
<td>10</td>
</tr>
<tr>
<td>MALL Historical Development</td>
<td>11</td>
</tr>
<tr>
<td>Facilitating Learning</td>
<td>13</td>
</tr>
<tr>
<td>MALL Resources Abundance</td>
<td>14</td>
</tr>
<tr>
<td>Social Constructivism</td>
<td>15</td>
</tr>
<tr>
<td>Collaborative Learning</td>
<td>19</td>
</tr>
<tr>
<td>Advantages and Features of Mobile Devices</td>
<td>21</td>
</tr>
<tr>
<td>3. METHODOLOGY</td>
<td>23</td>
</tr>
<tr>
<td>Design of the Study</td>
<td>23</td>
</tr>
<tr>
<td>Ethical Principles/ Human Subject Compliance</td>
<td>24</td>
</tr>
<tr>
<td>Research Questions</td>
<td>24</td>
</tr>
<tr>
<td>Sample Selection</td>
<td>24</td>
</tr>
<tr>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Setting</td>
<td>25</td>
</tr>
<tr>
<td>Participants</td>
<td>26</td>
</tr>
<tr>
<td>Instrumentation and Data Sources</td>
<td>27</td>
</tr>
<tr>
<td>Design of the Mobile-Assisted Learning Environment</td>
<td>27</td>
</tr>
<tr>
<td>Researcher’s Role and Biases</td>
<td>30</td>
</tr>
<tr>
<td>Data Collection</td>
<td>30</td>
</tr>
<tr>
<td>Data Analysis Procedures</td>
<td>33</td>
</tr>
<tr>
<td>Trustworthiness</td>
<td>34</td>
</tr>
<tr>
<td>4. RESULTS</td>
<td>36</td>
</tr>
<tr>
<td>Overview</td>
<td>36</td>
</tr>
<tr>
<td>Demographics and Background Findings</td>
<td>37</td>
</tr>
<tr>
<td>Descriptive Findings</td>
<td>39</td>
</tr>
<tr>
<td>Current Uses of Smartphones</td>
<td>48</td>
</tr>
<tr>
<td>Benefits and Features of Smartphones</td>
<td>59</td>
</tr>
<tr>
<td>Drawbacks and Obstacles of Using Smartphones</td>
<td>62</td>
</tr>
<tr>
<td>Exploring the MALL Environment: WhatsApp</td>
<td>64</td>
</tr>
<tr>
<td>Chapter Summary</td>
<td>77</td>
</tr>
<tr>
<td>5. DISCUSSION</td>
<td>79</td>
</tr>
<tr>
<td>Research Question 1</td>
<td>80</td>
</tr>
<tr>
<td>Research Question 2</td>
<td>82</td>
</tr>
<tr>
<td>Implications for Instructional Practice</td>
<td>85</td>
</tr>
<tr>
<td>Implications for Students</td>
<td>86</td>
</tr>
<tr>
<td>Implications for Teachers</td>
<td>86</td>
</tr>
<tr>
<td>Implications for Teachers and Administrators</td>
<td>87</td>
</tr>
<tr>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Recommendations</td>
<td>88</td>
</tr>
<tr>
<td>Limitations of the Study</td>
<td>93</td>
</tr>
<tr>
<td>Chapter Summary</td>
<td>94</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>95</td>
</tr>
<tr>
<td>APPENDICES</td>
<td>105</td>
</tr>
</tbody>
</table>
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. New Learning and Technology Terms</td>
<td>8</td>
</tr>
<tr>
<td>2. Learning and Instructional Activities in CLEs</td>
<td>18</td>
</tr>
<tr>
<td>3. Data Collection Summary</td>
<td>32</td>
</tr>
<tr>
<td>4. Demographic and Background Variable Distribution (N = 9)</td>
<td>38</td>
</tr>
<tr>
<td>5. Distribution of Participants’ Responses (N = 9)</td>
<td>40</td>
</tr>
<tr>
<td>5. Demographic and Background Variable Distribution (N = 9)</td>
<td>43</td>
</tr>
<tr>
<td>6. Interviewees’ Background Information</td>
<td>44</td>
</tr>
<tr>
<td>7. Coding Table</td>
<td>45</td>
</tr>
<tr>
<td>8. Mobile Applications Used by Participants</td>
<td>76</td>
</tr>
<tr>
<td>Figure</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1</td>
<td>Conceptual framework for next generation designs for mobile-supported language learning in informal settings</td>
</tr>
<tr>
<td>2</td>
<td>Model for designing CLEs</td>
</tr>
<tr>
<td>3</td>
<td>Word cloud of the word like</td>
</tr>
<tr>
<td>4</td>
<td>nVivo-generated word frequency query.</td>
</tr>
<tr>
<td>5</td>
<td>Top 20 frequent words</td>
</tr>
<tr>
<td>6</td>
<td>Visual meaning cluster of possibilities of the meaning of the word like</td>
</tr>
<tr>
<td>7</td>
<td>The most common words used in the WhatsApp group</td>
</tr>
<tr>
<td>8</td>
<td>Forvo website screenshot</td>
</tr>
<tr>
<td>9</td>
<td>Instructions on how to record audio in WhatsApp</td>
</tr>
<tr>
<td>10</td>
<td>A screenshot of a WhatsApp shared mini lesson</td>
</tr>
<tr>
<td>11</td>
<td>WhatsApp instructional tutorial in multiple screenshots</td>
</tr>
<tr>
<td>12</td>
<td>Two examples of WhatsApp linguistic knowledge sharing</td>
</tr>
<tr>
<td>13</td>
<td>Support and feedback provided by multiple WhatsApp participants</td>
</tr>
<tr>
<td>14</td>
<td>Time adults spend communicating</td>
</tr>
<tr>
<td>15</td>
<td>Suggested elements of mobile technology integration</td>
</tr>
</tbody>
</table>
# LIST OF APPENDICES

<table>
<thead>
<tr>
<th>Appendix</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. SURVEY RESPONSES</td>
<td>106</td>
</tr>
<tr>
<td>B. CONSENT FORM</td>
<td>115</td>
</tr>
<tr>
<td>C. INSTRUMENTATION USAGE PERMISSION</td>
<td>118</td>
</tr>
<tr>
<td>D. INTERVIEW TRANSCRIPTION SAMPLE</td>
<td>120</td>
</tr>
<tr>
<td>E. IRB APPROVAL</td>
<td>122</td>
</tr>
</tbody>
</table>
CHAPTER 1

INTRODUCTION

The concept of mobile entertains the fact of knowledge availability “anywhere and anytime” (Geddes, 2004, p. 214), which suggests that the future will witness multiple changes in the continuum of education in general, and specifically in its mobile format. Mobile-Assisted Language Learning (MALL) facilitates the process of learning via mobile devices. It wins an advantage over Computer Assisted Language Learning (CALL) because it extends into everyday activities. Thus, it provides practical solutions to gradually move from traditional face-to-face learning settings to mobile learning ones using hand-held devices. The ever-growing and rapidly changing pace of technology imposes the need for integrating new emerging technologies into education such as mobile learning technologies. Jee (2011) contends that as mobile technology develops, it affords second or foreign language learners and teachers ever greater opportunities to practice the target language regardless of location or time.

This research study explored the role of collaboration among English language learners’ listening and speaking skills in MALL environments and how mobile applications can be used in language learning classrooms as methods to vary course activities beyond the face-to-face ones. Therefore, examining the views of English learners who are studying English as a second or foreign language was my main focus of the study. The universality of the English language is a major reason why it was selected among other languages.
A topic of interest emerged that addresses MALL and the emerging need for its integration into a collaborative world. The topic is a case study of participants’ collaboration and the effectiveness of MALL. The topic explores the role of collaboration in MALL environments. In other words, the objective of the study was targeting how learners generally view and perceive the process of incorporating mobile technological applications and tools into the learning process, especially in the content of language learning – in this case English.

Significance of the Study

In the intertwined areas of mobile learning and language learning, MALL finds its promising, new spot on the surface of emerging technologies in education. Although there are promising opportunities, there are also research gaps in the domain of MALL, which is one of the justifications for conducting this study. “mLearning has attracted a great deal of attention from researchers in different disciplines who have realized the potential to apply mobile technologies to enhance learning” (Keskin & Metcalf, 2011, p. 1). MALL is one of the trends that seeks to take advantage of the language learning and mobile learning alliance.

According to Kukulska-Hulme and Shield (2009), the majority of studies within MALL focus on asynchronous speaking and listening activities. On the other hand, the synchronous studies reported in the literature are either text-based (Samuels, Ogata & Yano, 2003) or were abandoned due to technical and scheduling difficulties (Tomorrow’s Professor Listserv, 2002). Therefore, and since the listening and speaking skills involve timeliness, promptness and immediacy as opposed to reading and writing, the current research problem explored how English language learners might enhance their listening and speaking skills via collaboration within MALL environments. Pursuing this study within MALL using a popular application
(WhatsApp) that has a great potential to improve language learning skills (listening and speaking) for all English language learners in and outside the classroom was based on an effort to close the gap in the literature in the area of synchronous m-Learning.

In both the K-12 and higher education domains, future generations are more likely to own and be closely attached to mobile technologies than ever before. A study in higher education in the United States (Kvavik, 2005) found that 82% of students owned cell phones. Therefore, the potential of mobile learning makes it a powerful tool to be integrated into the learning process. Such advantages include, but are not limited to, portability, ease-of-access, platform compatibility, affordability (especially vs. PCs), and availability. According to the Speak Up (2010) survey, students are already using a variety of technologies as part of their school day or to complete their homework assignments. The use of mobile technology is a logical next step for them. Consequently, the researcher believes that as a future educational technologist, designer and teacher, he would like to be part of that change by pursuing studies that tackle these topics.

A case study of the role of collaboration on students’ listening and speaking skills in a mobile learning environment could contribute to the body of knowledge in the field of instructional technology and specifically to the field of mobile learning. This study could also inform scholars and teachers who are looking for more practical and effective ways to use mobile technologies inside and outside of their classrooms.

The purpose of this study was to explore the role of learners’ collaboration via MALL in and outside the classroom. With the rapid growth of mobile technology, it is possible to diversify educational strategies in the future. The researcher believes that if educators do not stay up-to-date with rapidly emerging technologies, it might be difficult to catch up with and accommodate how students digitally learn and exchange information. Similarly, and to back up that argument
from the literature, Franklin (2011) warns that our education system is obsolete and that educators will become obsolete if they do not realize that they must embrace the changes that are upon us in how, where, and why students learn. Therefore, preparing students for unknown new learning environments, such as mobile learning environments, is an ongoing obligation. Moreover, educators currently “have competition in the form of devices that can deliver content quickly, access experts, and connect to anyone, anywhere” (p. 266). This could encourage the integration of such mobile devices to reap great results and make learning happen. Therefore, when observing the current trend as depicted in the literature, the researcher believes that sooner or later teachers might have to deal with mobile technology integration recommendations from administrations and management across most academic institutions, which could be one of the justifications of pursuing this study.

Research Questions

One of the primary research areas the researcher investigated was the possible ways of integrating MALL applications into the listening and speaking classroom while at the same time facilitating the process of learning by integrating the possible ways mobile devices, such as smartphones, could help make the student a collaborative learner, critical thinker, and problem solver, and eventually less dependent on his/her teacher. Precisely, the research questions that guided the research are:

1. How mobile devices, such as smartphones, are used for learning English?
2. What elements of the mobile-assisted language learning environment, if any, were identified as being most useful or distracting in enhancing listening and speaking skills?
Theoretical Framework/Constructs

Kukulska-Hulme (2012) designed a framework for time and place-based language learning. This framework guided the study because it addresses language learning, mobile learning, informal learning and listening and speaking activities in mobile-assisted language learning environments.

Based on this framework (Figure 1), students can learn English in class via different activities or informally outside of class at their leisure time. It fits well with the environment, both in the mobile environment that the researcher created for his students (WhatsApp) and in the classroom environment. Based on this framework, students can learn English in class via different activities or informally outside of class at their leisure time.

The application of the framework is an attempt to know if and how MALL supported collaboration benefits learning, specifically learning English. Whether students learn in class or outside of class, formally or informally, elements like time, place and activity play major roles in mobile-assisted language learning.

The researcher focused on collaborative learning elements such as communication among peers via mobile devices, active participation, and social context. Also, the researcher used social constructivist elements such as collaboration in mobile learning environments as well as collaboration and interaction among students communicating via mobile devices.
In the context of mobile-assisted language learning (MALL), a collaborative student may afford the creation of “dynamic, collaborative learning environments where learning happens through open discussion and exchange of ideas and opinions, collaborative construction and sharing of knowledge, and active participation” (Su & Beaumont, 2010, pp. 417-418). Moreover, according to Driscoll (2005), an advantage of collaborative technologies that are web-based is that they can provide problem scaffolding in the form of virtual access to knowledge experts and online support to make thinking visible.

In collaborative online discussions using mobile devices, when a more knowledgeable person (e.g., a professor) joins online discussions, students positively engage in the learning
process. Likewise, Vygotsky (1978) articulated the concept of a More Knowledgeable Other (MKO), who is a person with more highly developed abilities or a greater level of understanding. A study by Hill, Song, and West (2009) has found that when there is a strong example, or model, of how to reflectively interact with others in web-based learning environments (e.g., discussion board), then the class engages in the learning more effectively.

Definitions

According to Kukulska-Hulme and Shield (2009), MALL is in its infancy; until relatively recently, MALL activities mirrored early computer-assisted language learning (CALL) activities in which electronic quizzes, grammar drills and vocabulary lists dominated. Chen (2013) defines MALL as the formal or informal learning of a foreign language with the assistance of mobile devices.

While in the past mobile learning has often been defined in terms of its use of mobile technologies, more recent thinking has placed the mobility of the learner in the foreground (Sharples, 2006). Often the informal aspects of m-learning are also emphasized (Masahita, 2003; Fallakhair et al, 2007; etc.). Trifanova et al. (2004) define mobile devices as “any device that is small, autonomous and unobtrusive enough to accompany us in every moment”. Typically, m-learning is identified both by being available “anywhere, anytime” (Geddes, 2004, p. 214) and by the tools used. Taxler (2005) explained that mobile learning can perhaps be defined as “any educational provision where the sole or dominant technologies are handheld or palmtop devices”.

Sharples et al. (2007) extended the mLearning definition to be a “process of coming to know through conversations across multiple contexts among people and personal interactive
technologies” (p. 225). Viberg and Grönlund (2012) argue that despite the fact that a number of authors attempt to define and use the concept of MALL as an independent scientific field, language learning with the support of mobile devices is often seen as a part of CALL (Chang & Hsu, 2011; Sandberg et al., 2011; etc.), mobile-assisted learning (Hsu et al., 2008; de Jong et al., 2010). While definitions differ, it is obvious that not only technology, but also people, can be mobile (Viberg & Grönlund, 2012).

Although the common terms among MALL and mLearning overlap and mostly represent a unified term or meaning of a term, it shows they are related and that the relationship between learning and technology may be represented by the following terms (Sharples, Taylor, & Vavoula, 2005, p. 3):

Table 1

<table>
<thead>
<tr>
<th>New Learning</th>
<th>New Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personalized</td>
<td>Personal</td>
</tr>
<tr>
<td>Learner-centered</td>
<td>User-centered</td>
</tr>
<tr>
<td>Situated</td>
<td>Mobile</td>
</tr>
<tr>
<td>Collaborative</td>
<td>Networked</td>
</tr>
<tr>
<td>Ubiquitous</td>
<td>Ubiquitous</td>
</tr>
<tr>
<td>Lifelong</td>
<td>Durable</td>
</tr>
</tbody>
</table>

In conclusion, as language learning and mobile learning are combined, a new trend has surfaced Mobile-Assisted Language Learning. Therefore, in an effort to diversify educational strategies and learning activities, this study explored the role of collaboration among English language learners’ listening and speaking skills in MALL environments. The focus on English is because it is one of the dominant languages in the world today. In the same line, the focus on the listening and speaking skills is because they both involve timeliness, promptness, and immediacy.
as opposed to reading and writing where there are possibilities for slow-paced responses and interactions.
CHAPTER 2

REVIEW OF THE LITERATURE

Mobile-Assisted Language Learning

Mobile-assisted language learning (MALL) is a relatively new research area (Vavoula & Sharples, 2008) despite the fact that people have now been using personal portable devices for some time. According to Viberg and Grönlund (2012), MALL is a sub-area of the growing field of mobile learning (mLearning) research that is increasingly attracting the attention of scholars. The major distinguishing characteristics of MALL from traditional language learning are the mobility the former affords and the possibilities of spatial and time shifts, yielding increased learning opportunities (Kukulska-Hulme, 2009).

Although mobile technologies attract new users with their sophisticated use and increased capacities, they also enable new contexts for learning (Pachler et al., 2010). Yet there are also obvious disadvantages and shortcomings of mobile technologies and devices, such as small screen size, limited presentation of graphics (Albers & Kim, 2001), and dependence on networks that may not always provide very high transmission capacity and may be subject to disturbances of many kinds (Viberg & Grönlund, 2012). However, and despite such shortcomings, Thornton and Houser (2005) show that mobile devices can indeed be effective tools for delivering language learning materials to the students. Kukulsak-Hulme and Shield (2008) stated that the current widespread ownership of mobile and wireless devices means that learners are increasingly in a position to take the lead and engage in activities motivated by their personal needs and circumstances of use, including those arising from greater mobility and travel. Some
researchers classify MALL as a subset of mobile learning, whereas others classify it as a branch of the CALL field. As the name of mobile-assisted language learning signifies, mobility makes MALL extend the CALL domain into everyday activities (Joseph & Uther, 2009). On the other hand, Viberg and Grönlund (2012) stated that MALL is a sub-area of the growing field of mobile learning (mLearning) research.

Not only do the definition of the MALL trend, history and terms overlap, but it is also in an emerging phase when it comes to research and theories. It is still under development and in need of more solid empirical evidence to underpin theoretical conclusions about how mobile technologies can assist language learning and to build theoretical models that are specific to this scientific field (Viberg & Grönlund, 2012).

MALL Historical Development

Salaberry (2001) stated that the espousal of audiolingual theory in the 1950s brought about the widespread use of the language laboratory in educational settings. After that, and along the technological development line, Chinnery (2006) added that the lab, which was influenced by behaviorism, was progressively replaced in the 1960s by drill-based computer-assisted instruction, which decades later was itself surpassed by a more intelligent, interactive and multimedia computer-assisted language learning. During the 1990s, Chinnery (2006) stipulated that the popular acceptance of the Internet advanced the development of computer-mediated communications (CMCs). That is when smaller technologies with larger capabilities started to emerge. These emerging technologies are signified by their mobility, portability, ease-of-access, and availability, and that is why they are mobile at present.
Throughout the history of educational technology, there have been trends addressing size and capabilities of technologies that support instruction in the classroom. Therefore, such small devices are capable of doing as much as, and sometimes more than, larger desktop machines. These features have facilitated the development of mobile language learning tools, approaches and integration in education starting from recent history to the unlimited opportunities that could take place in the future.

Recently, Franklin (2011) established important definitions of mobile learning, mobile devices, learners, social networks, apps, and the tipping point. She defined the tipping point as the best way to understand the emergence of fashion trends, the ebb and flow of stardom, the rise of teenage smoking, and the emergence of the cell phone as the communication device of choice by most of the world. Being mobile is an epidemic, i.e. ideas, products, messages and behaviors spread like viruses. Mobile technologies appear and disappear daily from our lives.

There has been a misconception that mobile technologies or devices are only associated with cell phones. Franklin (2011) refuted such a claim and categorized devices viewed under the umbrella of mobile technology into three categories. The first category includes highly mobile devices such as cell-phones. The second category is very mobile devices such as pads and netbooks. Finally, the third category is mobile devices such as laptops. However, some scholars argue that laptops are not considered mobile, although they are to some extent. Ogata et al. (2010) state: “computer assisted mobile learning uses lightweight devices such as personal digital assistant (PDA), cellular mobile phones, and so on” (p. 8). The researcher thinks that such an example of disagreement regarding categorizing a device (i.e., a laptop) as mobile or not mobile adds to the complexity and, at the same time, maturity of this field. The researcher also
believes that such an extended domain increases the possibilities of investigating and including many more devices and technologies that could further research studies and future applications of the trend.

In addition to aligning mobile learning to the E’s for education: enabling, engaging and empowering, researchers also addressed, and elaborated on, the way mobile learning impacts digital citizenship, how 21st Century learning skills go mobile, how pedagogy affects learners, the role of the educator in the future, and faculty and students concerns in developing mobile learning (Franklin, 2011). These concerns underlie the significance of this topic. Similarly, when it comes to the larger context of mobile learning, Traxler (2007) emphasizes that we have to recognize that mobile, personal, and wireless devices are now radically transforming societal notions of discourse and knowledge, and are responsible for new forms of art, employment, language, commerce, deprivation, and crime, as well as learning. With increased popular access to information and knowledge anywhere, anytime, the role of education, perhaps especially formal education, is challenged and the relationships between education, society, and technology are now more dynamic than ever. (p.10)

Facilitating Learning

The aspects of the definition of educational technology from which the trend (i.e., MALL) emerged are facilitating learning and resources. As the name of the trend or concept signifies, mobile assisted language learning is a domain that invites facilitating the process of learning instead of controlling it. That is what the typical role of technology must be in its broader sense, which is to assist, or facilitate, learning instead of controlling it.

The researcher believes that learning a language via mobile-assisted technologies would provide learners with the freedom to control their own learning and help their teachers facilitate
Mobile devices and mobile technologies could greatly and typically facilitate learning in various domains due to the advantageous features that mobile learning provides. The main characteristics of mobile learning are permanency, accessibility, immediacy, interactivity, and situating of instructional activities (Ogata & Yano, 2005).

MALL Resources Abundance

Similar to the vast and rich resources the Internet and libraries provide, MALL entertains the element of accessibility to resources that make knowledge available anytime and anywhere. There is a great potential by which MALL could design new resources or utilize pre-existing resources. To explain the types of resources available to help facilitate learning, the authors of the 1972 Definition Statement (AECT) made a useful distinction between resources by design and resources by utilization:

Some resources can be used to facilitate learning because they are specifically designed for learning purposes. These are usually called “instructional materials or resources.” Other resources exist as part of the normal, everyday world, but can be discovered, applied, and used for learning purposes. These are sometimes called “real-world resources.” Thus, some resources become learning resources by design and others become learning resources by utilization. This distinction is important because it makes clear the position of “noninstructional, real-world” resources as well as designed resources as an area of concern for educational technology. (p. 38)

Mobile media was also addressed in the latest definition of AECT under the resources aspect. Betrus (2008) emphasizes that while the majority of Internet access is achieved through the Internet-ready desktop computer, there has been a trend toward accessing the Internet
through smaller, portable devices such as digital phones, watches, laptop computers, compact computers, handheld computers, and personal digital assistants (PDAs).

These resources, along with other mobile technology such as game devices and MP3 players, are becoming more and more the norm and may someday supplant the desktop computer as the primary way in which information on the Internet (e.g., email, discussion forums, blogs, wikis, and other applications) is accessed and interacted with.

According to the current status of research in the literature, MALL research often employs learning theories in which mediation is an issue, including Situated Learning Theory (Hsieh et al., 2010; Hwang & Chen, 2011), collaborative learning (Chang & Hsu, 2011; Lan et al., 2007), self-paced learning (Oberg & Daniels, 2012), and seamless learning integrating formal and informal ways and contexts of learning (Wong et al., 2010; Wong & Looi, 2010). The researchers also stated that theories and models applied in the MALL reviewed literature most often originated from previously established theories of learning, such as constructivism and situated learning theory.

Since the researcher’s future research study interest is robustly connected to instruction, defining a learning theory and formulating its concept is a key factor for understanding learning and progress within the teaching and learning framework. As stated by Driscoll (2005), learning comes about as a consequence of “the learner’s experience and interaction with the world” (p. 37). As for the theories that could underpin my research pursuit, they embody an eclectic approach that branches out into (and links to) different, yet overlapping, theories. Hence, among those theories, the researcher selected social constructivism and collaborative learning.

Social Constructivism
Learning is a social process that occurs through interpersonal interaction within a cooperative context. Individuals, working together, construct shared understandings and knowledge. (Johnson, Johnson, & Smith, 1991, p. 11)

Students are the creators and consumers of knowledge. This notion goes side by side with the constructivist perspective in which students form their own knowledge and the relationship between knowledge and reality (Bredo, 2000). To establish constructivism in knowledge building and creation, Joseph and Uther (2009) stated that the constructivist tradition argues that a learner actively constructs new ideas based around their existing knowledge. In addition, constructivism emphasizes the importance of collaboration in learning, or knowledge construction as a social process. Arguably the mobile context has much to offer in the way of supporting learner interaction, collaboration, and the co-construction of knowledge. However, as is generally the case with most computer-based systems, it is all too easy for the designer of a mobile language learning application. (p. 9)

Social constructivism, based on Vygotsky’s (1978) sociocultural theory, is a psychological term used to describe the learning processes that occur as a result of students analyzing and interpreting data, their encounters, and knowledge as a form of learning. To further elaborate, (Brown, 2007) claimed that perhaps the single most important component of constructivist learning theory is that “learning happens best when students are active – not merely taking notes in lecture halls but writing, thinking, experimenting, creating, and devising” (p. 8). Similarly, Kukulska-Hulme and Shield (2008) note that the mobile device is integral, adding an extra dimension to the learning experience by allowing learners to identify, edit, and share their own materials in a way analogous to Schneiderman’s (1998) “relate” (identify), “create” (edit), and “donate” (share) philosophy.

According to Hunter et al. (2005), curriculum writers have moved language arts pedagogy from behavioral and cognitive foundations with an almost exclusive focus on literacy
(reading and writing) toward a social constructivist approach that encompasses all communicative modes.

Since social constructivism is an important element in the study, the following framework serves to explore whether a participant's group-based effort enhances listening and speaking skills and produces meaningful and effective learning using mobile technology in relation to the MALL environment: WhatsApp.

![Figure 2. Model for designing CLEs. (Adopted from Jonassen, 1999 p. 219)](image)

Aligning with WhatsApp, the constructivist learning environment in this study, Jonassen’s Model for Designing Constructivist Learning Environments (CLEs) detailed several elements that are under social constructivism. In terms of pedagogy and social constructivism, exploring collaboration, support, feedback and interaction in WhatsApp could also be done by implementing the following instructional strategies in CLEs (Jonassen, 1999):
Table 2

Learning and Instructional Activities in CLEs

<table>
<thead>
<tr>
<th>Learning Activities</th>
<th>Instructional Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exploration</td>
<td>Modeling</td>
</tr>
<tr>
<td>Articulation</td>
<td>Coaching</td>
</tr>
<tr>
<td>Reflection</td>
<td>Scaffolding</td>
</tr>
</tbody>
</table>

(Adopted from Jonassen, 1999, p. 231)

1. Modeling: an activity that focuses on the expert’s performance when providing an activity that encourages the concept of how to do the task.

2. Coaching: an activity that focuses on the learner’s performance when providing prompts, encouraging reflection and monitoring the learner’s performance.

3. Scaffolding: an approach to support the learner in different areas of the learning environment

Similar to CLEs, the notion of scaffolding goes side by side with modeling coaching in constructivist MALL environments. According to Wilson (1996), a constructivist classroom is “a place where learners may work together and support each other as they use a variety of tools and information resources in their guided pursuits of learning goals and problem-solving activities” (p. 5). Therefore, within mobile-assisted language learning environments, students are able to learn collaboratively using mobile devices.

Mobile learning devices allow learners to learn wherever they are located and in their personal context so that the learning is meaningful (Sharples, 2000). Coming from a higher education teaching background and pursuing mobile technology integration processes in that realm, Franklin and Van Harmelen (2007) claimed that there was a relatively experimental and descriptive piece of evidence that shows the effect of Web 2.0 for learners and teachers in formal, informal, work-based, and lifelong education. This shows that students can also use and
interact with Web 2.0 tools via their mobile devices. They also investigated how universities and the corporate world both make the best use of Web 2.0 tools to enhance the learning process and to make businesses more professional and much more productive too. Based on a social constructivist approach, this notion is supported by Hall (2009), who stated that learners have control over their own learning progress. Therefore, there are many ways in which learning, along with communication, can take place in the cyberspace world.

Collaborative Learning

According to Tu (2004), collaborative learning engages learners in knowledge sharing, inspiring each other, depending upon each other, and applying active social interaction within a small group. Students are most likely to be encouraged to engage in student-centered activities that can improve their learning. Jukes, McCain, and Crockett (2011) assert that learners need encouragement and timely nonjudgmental feedback. They must be given opportunities to make mistakes, authentic audiences for presentations and a wide variety of contexts and audiences to demonstrate their learning. They need to be encouraged that for some problems – there is no one ‘right’ way and that exploration of the mobile devices, mobile environments and techniques will improve their learning and understanding of the world in which they live. (p. 21)

One central part of mobile learning that cannot be overlooked is learner-learner interaction across multiple contexts. The three areas that the researcher plans to address in his future study are technology integration, student and teacher perceptions of mobile technology integration, and MALL. Therefore, the literature shows that contextual knowledge can play a role in collaborative learning.

Because context is integral to how cognition facilitates understanding (Brown, Collins, & Duguid, 1989), human interactions within web-based learning environments help to initiate,
sustain, and support associated social learning processes. Subsequently, knowledge is
constructed while individuals are engaging in activities, receiving feedback, and participating in
other forms of human interaction in public human contexts (Henning, 2004).

Feedback from peers and instructors in collaborative learning settings is a feature that has
been supported by research in face-to-face settings (e.g., Bandura, 1977). Collaborative online
discussions using mobile devices stand as a good example in this regard. For instance, when a
more knowledgeable person (e.g., a professor) joins online discussions, students positively
engage in the learning process.

Similarly, when addressing technology, Vygotsky (1978) articulated the concept of a
“More Knowledgeable Other” (MKO), who is a person with more highly developed abilities or a
greater level of understanding. That can be noticeable in most mentor-mentee relationships,
especially if applied to Mobile Web 2.0 tools. To explain this dynamic when relating it to web-
based learning, studies (Hill, Song, & West, 2009; etc.) have found that when there is a strong
example, or model, of how to reflectively interact with others in web-based learning
environments (e.g., discussion board), then the class engages in the learning more effectively.

Within the context of social learning theory, mobile technology integration applications
are strongly linked to the following three concepts: First, collaborative learning and group work
usually take place in contexts such as social networking, online learning, and virtual classrooms.
Second, the concept of modeling responses and expectations from the teacher and the student is
rather effective. For instance, as suggested by Gredler (2005), the teacher can provide feedback
through the use of the tracking and insert comments features of Microsoft Word to edit a student
paper. By the same token, the researcher argues that the concept can also be completed using a mobile device via mobile applications.

Examples of studies that have used mobile applications for language learning can be found in the works of Godwin-Jones (2011); Chang and Hsu (2011); Chen and Chung (2008); Chen and Li (2010); Fallahkhair et al. (2007); Huang et al. (2012); Liu (2009); Petersen and Markiewicz (2008); Petersen et al. (2011); Sandberg et al. (2011); Stockwell (2007, 2008, 2010); and Huang et al. (2012). Third, students can observe experts in action in such contexts as demonstrated through tutorials or experiments using mobile devices that are, for example, camera-supported and location-aware.

Advantages and Features of Mobile Devices

Portability and access are two significant and advantageous factors that mobile devices entertain and mobile learning, as a whole, greatly signifies. As stated by Jee (2011), portability and easy access to mobile Web 2.0 tools such as blogs or wikis through mobile devices enable learners to be exposed to second or foreign language resources anytime and anywhere. Not only that, but these factors also increase students’ motivation to learn and engage in learning activities. Ally (2004) stated that mobile devices can be used to increase cognitive growth at the individual level, and an individual’s motivation is enhanced when he or she is able to develop based on needs and context. Knowledge is information in context, and knowledge creation is location-dependent and situation-dependent.

Finally, to support this viewpoint and the effectiveness of this theory, Robinson, Molenda and Rezabek (2008) found that collaborative learning would “improve communication skills,
problem solving and creative thinking skills, and cooperation and team learning abilities in students” (p. 36). Keskin and Metcalf (2011) stated that collaboration and interaction between students have been the focus of constructive learning. They asserted that MALL and mobile computer supported collaborative learning (MCSCCL) are prominent examples of collaborative learning in which active participation in a social context and communication between peers via mobile phones take place (p. 204). Tetard et al. (2008) suggest that an example is a system in which learners interact remotely in groups and have to answer questions. Ng’ambi and Knaggs (2008) demonstrate a system through which students can prepare their exams with SMS technology. The mobile Digital Narrative Tool enables students to collaboratively engage in the creation of a collective digital narrative (Arnedillo-Sánchez, 2008). Thus, reflecting on the researcher’s past learning experience through collaboration and reflecting on the aforementioned arguments, the researcher finds the area of MALL a worthwhile domain to investigate and apply throughout his current research interest and future research studies.
CHAPTER 3

METHODOLOGY

Design of the Study

The nature of a research problem, along with the available resources for investigation of the topic, should determine the choice of research approach (Gall, Gall, & Borg, 2003). Although some researchers identify case as an object of study (e.g., Stake, 1995), others consider it to be a procedure of inquiry (e.g., Merriam, 1998). A case study is an in-depth exploration of a bounded system (e.g., activity, event, process, or individuals) based on extensive data collection (Creswell, 2007). Stake (1998) points out that the methods of investigation are not crucial to case study research, but that the object of study is a case; “as a form of research, case study is defined by interest in individual cases, not by the methods of inquiry used”.

According to Stake (1995), the case study researcher may be somewhat of a biographer focused on a phase or segment of the life of an individual. Because my study is an exploratory case study, I used a qualitative study design to explore how mobile apps could be used to supplement activities outside the classroom and diversify the ones in traditional, face-to-face classrooms as well as to identify the role of collaboration in MALL environments.
Ethical Principles/ Human Subject Compliance

After completing the ethics courses required prior to submitting the IRB application, I obtained approval from the university’s Institutional Review Board. Participation in the study was voluntary. I asked each participant who agreed to participate in my study to sign an informed consent form that follows the guidelines for conducting research at the Midwestern University that is the location of my research study. A script was also used to recruit students and to inform them of the study and its purpose.

Research Questions

The following two research questions were used to guide the research study:
1. How are mobile devices, such as smartphones, used for learning English?
2. What elements of the mobile-assisted language learning (MALL) environment, if any, were identified as being most useful or distracting in enhancing listening and speaking skills?

Sample Selection

The participants in my study were English language learners at a language learning institute at a university in the Midwest. It was a purposive sampling strategy within the language learning institute. Maxfield and Babbie (2001) define purposive sampling as selecting a sample based on our knowledge of the population, its elements, and the nature of the research aims (p. 222).
The criterion in my study sample selection was to make sure that the students could express themselves freely and confidently without worrying about the language barrier. To assure this condition was met, I selected participants who were at the intermediate to high level and who also had at least one mobile device (e.g., cell phone, iPad, iPod, e-reader, tablet, laptop, etc.).

The first step was taken to ensure that I could obtain data from students whose language proficiency was adequate to participate in the study. The second condition was to make sure that students could use their mobile devices to participate in the mobile-assisted language learning environment: WhatsApp.

For part of my sampling process, I wanted to have each participant represent one unique cultural background. I planned to gather as diverse a sample as possible as related to country of origin. For example, I wanted to recruit one participant from each continent. I chose this selection process because I wanted to explore students’ technology literacy backgrounds away from language learning because they are learning English in one location but are from different countries and/or nationalities. Such a process could be an indicator, as results could emerge that cultural background and technological skills could play a role in the interaction among the participants whether in the classroom or in the MALL environment. The way students utilize technology in their own learning could be of interest because, throughout the study, I found some indications that their cultural background played a role in their interaction with mobile technologies.

Setting
The study was conducted at a language learning institute located in a public university in the Midwest. This language institute offers 12 sessions, after which a student is eligible to have a certificate that qualifies him or her to study at any college-level institute. The program has levels from Level 101 to Level 112 after which the program is completed.

I approached the gatekeeper (i.e., the director of the institute) and had some appointments with him regarding my study. He welcomed me and thought it would be a good advancement for my study and possibly for the institute’s program in the future. Based on that, I obtained a permission from the institute welcoming me to conduct my study at its location.

Participants

The initial number of participants in the study was 10 English language learners. One student from Level 109, seven students from Level 110, and two students from Level 112 participated in the study. Four of the participants were from one section, and the other six students were from another section. The total number of participants who participated in the online survey was nine participants. The total number of students who volunteered to conduct an interview was five participants.

The overall number of participants in the mobile-assisted language learning environment, the WhatsApp group, was 10. Out of the 10 participants, eight participants actively participated in the group at least once, but two did not participate at all. The two participants in the study who did not engage in the WhatsApp group could have been shy, busy, unfamiliar with the environment, bystanders, or changed the mobile phone numbers they had when they first joined the group and it appeared that they were still present in the group.
Instrumentation and Data Sources

The instruments I utilized were interviews, surveys, and observational field notes. They were the main data sources for my study in addition to the WhatsApp group chat logs.

I obtained approval and gained permission from Messinger (2011) for the survey (Appendix A) and interview questions (Appendix D). I modified the instruments to make sure that multiple questions could lead to answering my research questions. During the process, I selected the relevant items that addressed mobile learning and how it is used in and out of the classroom.

In addition to the ones selected, I added new items to help answer my research questions, especially when it came to the area of MALL. First, I included the definition of MALL before the survey so participants would have a better understanding of the topic of the study. Second, I added items 5, 6, 7 and 8 in the interview. Third, for the same said reason, I added items 17, 18, 19 and 20 in the survey.

Messinger (2011) stated that the validity of the instrument had already been confirmed by a team of expert reviewers and had been determined by the participation of a usability group of students and teachers with whom the principal investigator was very familiar. He also confirmed that the surveys had been examined by an expert review panel in the field of educational technology to strengthen the validity of the instrument.

Design of the Mobile-Assisted Learning Environment

I created a mobile-assisted language learning community in which the participants could collaborate and interact with each other. This reservoir and learning community platform was a
mobile application called WhatsApp. In WhatsApp, participants could exchange their listening and speaking learning experiences outside the classroom and throughout their everyday activities. They could also collaborate with each other, share knowledge, and ask questions related to their language learning. Most of the activities were documents written as chat logs and audio-based activities.

I used the WhatsApp chat logs as one of the data sources, in addition to the interviews, surveys and observational field notes. These chat logs were generated from the said application to gather data that included language learning discussions, listening and speaking activities, students’ experiences with mobile devices, etc. To conduct those activities, I created one group in WhatsApp (i.e., the learning community) and then facilitated the information exchange in that MALL environment.

I created role-play and scenario-based learning activities for the participants to practice. The following is an example of an activity I used in both the classroom and in the MALL environment that included all the participants (i.e., one WhatsApp group) as the main difference:

- **Activity: (Pick up the Phone!):** Participants participate in short phone conversations related to immediate needs (e.g., calling in sick, emergencies)

- **Objective:** Participants will be able to pronounce words and sentences and create diverse scenarios using the cell phones for specific information needed.

- **Skills emphasized:**
  
  - Speaking: Context-oriented vocabulary needed in emergencies and/or to make travel arrangements or appointments
○ Listening Participants will be able to listen to WH and yes/no questions, modals, present and future tenses, reported speech, verb + infinitive.

- Materials needed: Cell phones.

- Description: A collaborative tryout example was done in class, students originated, simulated and role played real-life scenarios in which they called each other to have a job interview, order from a restaurant, pay a utility bill, call 911, book a plane ticket and a hotel room, or just simply call an old friend. The same activities were conducted in WhatsApp afterwards. Students did the same activities they did in class and conducted them in the WhatsApp group. For example, a student called 911, and another student role played and answered their call. So, they practiced segments of speaking patterns and the rest practiced listening to those conversations and eventually exchanged roles.

The participants interacted and collaborated with each other within those activities, and I observed how they learned from each other, exchanged feedback, and collaborated with each other in those MALL environments. Feedback was also part of the learning environment from students who were listening to those activities by commenting on the content; providing listening, speaking and pronunciation tips; and suggesting ways to improve speaking and listening comprehension in these role-play activities. Comments and feedback were also provided by me in case they needed assistance or clarification.

However, it may be worth mentioning that everyone participated in the activity when it was conducted in the classroom, but only one participant indicated his willingness to participate
in the same activity in the WhatsApp group when everyone was asked to do the activity on this platform.

Researcher’s Role and Biases

I am an English language instructor and a technology enthusiast. I work as a lecturer and I teach English language courses at the college level in an industrial college. I am looking forward to integrating technology in and outside of the boundaries of the classroom. Throughout the research process, I consider myself a participant observer because I participated with the students by providing feedback and acting as part of the collaboration as well as observing.

As far as the gatekeepers, I know the director of the center personally and professionally as we have cooperated in several meetings and workshops concerning the progress and development of most of the students who are enrolled in the English learning programs offered by the institution. Therefore, I assumed that I had an advantage in entering the site to facilitate and conduct my research interviews and classroom observations.

Data Collection

Confidentiality of all students was maintained throughout the research study, whether they agree to participate in the study or not. The data collection instruments were interviews, surveys, field note observations, and chat logs. The way that I observed was to take notes in the classroom environment. I observed students in the classroom, but did not interact with them in the face-to-face setting except for the listening and speaking activities when needed. I utilized data collected in both face-to-face and MALL settings afterwards. As for the observation protocol, I used a protocol that included the following:
- Event and activity of observation
- Site and address
- Name of the observer
- Role of the observer
- Date and time of the observation
- Length of observation

For observation, I attended two separate classes for a one month period; as an observer, I took notes while students were working face-to-face on their listening and speaking activities, among other activities. Students were studying listening and speaking in the classroom an average of two hours a day. However, listening and speaking were intermingled among other learning skills/activities during the academic session. Therefore, I attended a class with the first group for one hour and another class with the other group for another hour. The observation of the two groups and two classes lasted the duration of the instructional session, which was one month. On the other hand, the information exchange in WhatsApp was available for me to monitor and access 24/7, so I could access the group anytime.

Observation is useful in identifying complex interactions among participants. Hence, and stemming from the observation process by Creswell (2012), I aligned my observation protocol with the following steps:

1. Select a site to be observed that can help best understand the central phenomenon.
2. Ease into the site slowly by looking around, getting a general sense of the site, and taking limited notes, at least initially.
3. At the site, identify who, what, when, and how long to observe
4. Determine my role
5. Conduct multiple observations over time to obtain the best understanding of the site and the individuals.
6. Design some means of recording notes during observation.
7. Consider what information I will record during an observation.
8. Record descriptive and reflective field notes.
9. Make myself known, but remain unobtrusive.
10. After observing, slowly withdraw from the site.
I conducted the survey with my participants in the first week of the four-week session in the mobile-assisted language learning environment (WhatsApp). I posted the WhatsApp group in the MALL environment by the aid of Google forms and gave the participants the link to complete it within the application. During the last week of the session, the interviews were conducted. I was a participant observer in the MALL environment and checked the group every day, as it was available for me 24/7.

The interviews were recorded and then transcribed including all the pauses, blanks, emotions, etc. The transcription, which includes the pseudonyms of the participants, is time stamped. Every quotation and piece of data from the interview is written with the name of the participant along with the specific time in the interview at which it was mentioned.

Below is the timeline of each data collection method and the number of participants who volunteered to participate in each method.

Table 2
Data Collection Summary

<table>
<thead>
<tr>
<th>Time/Date</th>
<th>Method</th>
<th>Participants</th>
<th>More context</th>
</tr>
</thead>
<tbody>
<tr>
<td>August</td>
<td>Survey</td>
<td>Nine</td>
<td>Using Google Forms and was sent via WhatsApp</td>
</tr>
<tr>
<td>September</td>
<td>Observation</td>
<td>Ten</td>
<td>Two upper-level classes</td>
</tr>
<tr>
<td>August, September and October</td>
<td>WhatsApp Chat Log</td>
<td>Ten</td>
<td>Available on iTunes, Blackberry, Windows Phones and Android</td>
</tr>
<tr>
<td>October</td>
<td>Interview</td>
<td>Five</td>
<td>Semi-structured interviews</td>
</tr>
</tbody>
</table>
Surveys helped me gather demographic, contextual and perceptual information to assist in answering my research questions. Interviews helped me foster interactivity with the participants, elicit in-depth context-rich perspectives, collect data in the participants’ chosen settings, and explain and describe complex interactions or processes.

Data Analysis Procedures

According to Creswell (2012), analyzing qualitative data requires “understanding of how to make sense of text and images so that the researchers can form answers to their research questions” (p. 236). I had an open coding process. I analyzed the emerging codes and categorized them into new emerging themes. The coding should be accurate enough that any person outside the study who looks at the raw data could arrive at the same conclusions as the principal investigator (Rudestam & Newton, 2001); therefore, to do analysis of the interviews, surveys and chat logs, I took the following steps:

1) Step One:
   a. As a whole, quickly browse through all the transcripts
   b. Make notes about first impressions
   c. Read the transcripts again one by one with a more careful reading approach.

2) Step Two:
   a. Label relevant pieces (i.e., words, phrases, sections, etc.)

3) Step Three:
   a. Decide which codes are most important and create categories by bringing several codes together
b. Go through all the codes created

c. Create new codes by combining two or more codes

d. Create categories – that I will call themes afterwards

4) Step Four:

a. Label categories and decide which are the most relevant and how they are connected to each other

b. Describe the connections between the categories

c. Verify that these categories and connections will be the main result of my study

5) Step Five:

a. Decide if there is a hierarchy among the categories (themes) and whether one category is more important than the other.

6) Step Six:

a. Write up the results in a separate chapter

b. Describe the results, with a neutral voice and without interpreting them.

c. Write up my discussion in a separate chapter

d. Spell out my interpretations and discuss my results in light of previous work in the literature

Trustworthiness

A triangulation process was done to ensure trustworthiness. Creswell (2012) defined triangulation as “the process of corroborating evidence from different individuals, methods of data collection in description of themes” (p. 259).
Thematic data analysis was applied to find themes across the following data sources: interviews, WhatsApp chat logs, and surveys. The data sources were used to triangulate the evidence obtained through the different means.

I also utilized peer debriefing to have an outsider’s perspective to make sense of the data I obtained. Bloomberg and Vlope (2012) define peer debriefing as the process that involves asking a colleague to examine the researcher’s field notes and then asking him/her questions that help the researcher examine his/her assumptions or consider alternative ways of looking at the data.

I also used a “member checking” technique to make sure that data the participants provided were accurate. Creswell (2012) defines member checking as the process in which the researcher asks one or more participants in the study to check the accuracy of the account (p. 259).
CHAPTER 4

RESULTS

The purpose of this research study was to explore the role of learners’ collaboration via Mobile-Assisted Language Learning (MALL) in and outside of the classroom to improve their listening and speaking skills and to explore the useful elements that could enhance these two learning skills. The qualitative data from an online survey, interviews, and a WhatsApp group chat log were used to address the following two research questions:

1. How are mobile devices, such as smartphones, used for learning English?
2. What elements of the mobile-assisted language learning (MALL) environment, if any, were identified as being most useful or distracting in enhancing listening and speaking skills?

Overview

The first phase of data collection was an online survey. It was the first data pool to collect data from. Then it was followed by the second phase, which consisted of interviews, WhatsApp group chat log, and classroom observations. The number of the participants in the WhatsApp group was 10 participants. The number of participants in the classroom observation was also 10 participants. However, the number of responses of those who participated in the online survey was nine, and the number of participants who participated in the interview was five participants.
The survey responses were used to explore the demographics of the participants, their knowledge sharing, collaboration, comfort level with technology, the devices that are mostly used to learn English in general and listening and speaking in specific, students’ and teacher’s role and engagement in the learning process by using mobile technologies, and the usage of mobile devices to improve the listening and speaking skills in and outside the classroom. The following are demographic, background and descriptive findings of the participants’ online survey responses:

Demographics and Background Findings

A third of the participants in the study 33% were Asian, 44% were Middle Eastern, and 22% were from other nationalities. All the participants were male. The favorite subject of one-third (33%) of the participants was English, whereas 11% selected history/social science, mathematics, computers/vocational education, physical education. Of the participants, 22% selected other favorite subjects. As for the comfort level with technology, the majority of the participants (56%) were able to work independently and could usually figure out technology problems out on their own, whereas 22% were okay but often asked for assistance, and 22% said they could get by and rarely asked for assistance.

In regard to using mobile technologies, all the participants owned and used smartphones. After the smartphones, the majority of the participants (78%) used laptops, whereas more than a half (56%) use tablets such as iPads. Less than half of the participants (44%) used Mp3 players, such as iPods, while 11% used e-book readers. While approximately one-third (33%) of the participants owned Mp3 players, such as iPods, 33% owned tablets, such as iPads, the majority of the participants 78% owned laptops (see Table 3).
Table 3
Demographic and Background Variable Distribution (N = 9)

<table>
<thead>
<tr>
<th>Favorite subject:</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>33%</td>
</tr>
<tr>
<td>History/social science</td>
<td>11%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>11%</td>
</tr>
<tr>
<td>Science/health</td>
<td>0%</td>
</tr>
<tr>
<td>Computers/vocational education</td>
<td>11%</td>
</tr>
<tr>
<td>Fine/performing arts</td>
<td>0%</td>
</tr>
<tr>
<td>Physical education</td>
<td>11%</td>
</tr>
<tr>
<td>Other</td>
<td>22%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nationality:</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American</td>
<td>0%</td>
</tr>
<tr>
<td>Asian</td>
<td>33%</td>
</tr>
<tr>
<td>Caucasian/White</td>
<td>0%</td>
</tr>
<tr>
<td>Filipino/Pacific Islander</td>
<td>0%</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>0%</td>
</tr>
<tr>
<td>Middle Eastern</td>
<td>44%</td>
</tr>
<tr>
<td>Other</td>
<td>22%</td>
</tr>
<tr>
<td>Decline to state</td>
<td>0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender:</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>0%</td>
</tr>
<tr>
<td>Male</td>
<td>100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Comfort level with technology:</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>If you give me instructions, I am still unable to figure it out</td>
<td>0%</td>
</tr>
<tr>
<td>I am okay, but often ask for assistance</td>
<td>22%</td>
</tr>
<tr>
<td>I can get by and rarely ask for assistance</td>
<td>22%</td>
</tr>
<tr>
<td>I am able to work independently and can usually figure problems out on my own</td>
<td>56%</td>
</tr>
<tr>
<td>I am very proficient, so much so that others often seek my advice</td>
<td>0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Using mobile technologies:</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell phone or Smartphone</td>
<td>100%</td>
</tr>
<tr>
<td>Mp3 player (including an iPod)</td>
<td>44%</td>
</tr>
<tr>
<td>PDA</td>
<td>0%</td>
</tr>
<tr>
<td>E-book reader</td>
<td>11%</td>
</tr>
<tr>
<td>Laptop computer</td>
<td>78%</td>
</tr>
<tr>
<td>Tablet PC (including an iPad or XOOM)</td>
<td>56%</td>
</tr>
<tr>
<td>None of the above</td>
<td>0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I own the following mobile technologies:</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell phone or Smartphone</td>
<td>100%</td>
</tr>
<tr>
<td>Mp3 player (including an iPod)</td>
<td>33%</td>
</tr>
<tr>
<td>PDA</td>
<td>0%</td>
</tr>
<tr>
<td>E-book reader</td>
<td>0%</td>
</tr>
<tr>
<td>Laptop computer</td>
<td>78%</td>
</tr>
<tr>
<td>Tablet PC (including an iPad or XOOM)</td>
<td>33%</td>
</tr>
<tr>
<td>None of the above</td>
<td>0%</td>
</tr>
</tbody>
</table>
Table 4 summarizes the percentage distribution of participants’ responses to each item. 44% of the participants often and another 44% sometimes engage in learning activities that involve the use of mobile devices to solve real-world problems or issues in some of their classes. Although 11% of the participants never used mobile technologies in the classroom and/or to study classroom content, an equal percentage of the remaining participants (22%) stated that they seldom, sometimes, often, or almost daily use their mobile technologies for the said purposes. An equal percentage of the participants (33%) stated that almost daily, or often (33%), mobile technologies were used only by them (the students) but not by their teachers in some of their classes, while 11% said they often used it and 22% said they sometimes did.

The majority of the participants (44%) stated that they often frequently use mobile devices for research purposes that require investigating problems, taking a position, making decisions, and/or seeking a solution, whereas 22% said almost daily, 22% said sometimes, and 11% said they seldom did so for research purposes. Whereas 33% said sometimes and 22% said often, 44% of the participants stated that students are seldom permitted to use their mobile devices in their classes.

While a small percentage (11%) said seldom and 22% said often, an equal percentage of participants were likely to sometimes (33%) or almost daily (33%) use mobile devices when they were outside the classroom to a) collaborate with others, b) communicate with others, and/or c) research problems of personal interest that address specific content areas.
**Table 4**

**Distribution of Participants’ Responses (N = 9)**

<table>
<thead>
<tr>
<th>Response</th>
<th>N</th>
<th>SL</th>
<th>SM</th>
<th>O</th>
<th>AD</th>
</tr>
</thead>
<tbody>
<tr>
<td>In some of my classes, I engage in learning activities that involve the use of mobile devices to solve real-world problems or issues.</td>
<td>0%</td>
<td>11%</td>
<td>44%</td>
<td>44%</td>
<td>0%</td>
</tr>
<tr>
<td>I use mobile technologies in the classroom and/or to study classroom content.</td>
<td>11%</td>
<td>22%</td>
<td>22%</td>
<td>22%</td>
<td>22%</td>
</tr>
<tr>
<td>In some of my classes mobile technologies are used only by me (the student) and not by my teachers.</td>
<td>0%</td>
<td>33%</td>
<td>22%</td>
<td>11%</td>
<td>33%</td>
</tr>
<tr>
<td>I frequently use mobile devices for research purposes that require investigating problems, taking a position, making decisions, and/or seeking a solution.</td>
<td>0%</td>
<td>11%</td>
<td>22%</td>
<td>44%</td>
<td>22%</td>
</tr>
<tr>
<td>In my classes, students are permitted to use their mobile devices.</td>
<td>0%</td>
<td>44%</td>
<td>33%</td>
<td>22%</td>
<td>0%</td>
</tr>
<tr>
<td>I am likely to use mobile devices when I am outside the classroom to (a) collaborate with others, (b) communicate with others, and/or (c) research problems of personal interest that address specific content areas.</td>
<td>0%</td>
<td>11%</td>
<td>33%</td>
<td>22%</td>
<td>33%</td>
</tr>
<tr>
<td>My teachers promote, monitor, and model the ethical use of mobile technologies in their classrooms.</td>
<td>11%</td>
<td>44%</td>
<td>11%</td>
<td>33%</td>
<td>0%</td>
</tr>
<tr>
<td>My teachers encourage me to use mobile devices while in the classroom to learn and to spark my creativity.</td>
<td>44%</td>
<td>56%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>I use mobile devices outside the classroom to learn and to spark my own creativity.</td>
<td>0%</td>
<td>22%</td>
<td>22%</td>
<td>44%</td>
<td>11%</td>
</tr>
<tr>
<td>I use many forms of mobile technologies (e.g., iPods, iPads, e-book readers) to engage in collaborative problem-solving opportunities either inside or outside the classroom.</td>
<td>0%</td>
<td>22%</td>
<td>44%</td>
<td>22%</td>
<td>11%</td>
</tr>
<tr>
<td>I like to share knowledge with others using my mobile device.</td>
<td>0%</td>
<td>0%</td>
<td>33%</td>
<td>22%</td>
<td>44%</td>
</tr>
<tr>
<td>I like to collaborate with others using my mobile device.</td>
<td>0%</td>
<td>22%</td>
<td>22%</td>
<td>33%</td>
<td>22%</td>
</tr>
<tr>
<td>I make an effort to improve my listening skill using mobile devices.</td>
<td>0%</td>
<td>0%</td>
<td>33%</td>
<td>11%</td>
<td>56%</td>
</tr>
<tr>
<td>I make an effort to improve my speaking skill using mobile devices.</td>
<td>11%</td>
<td>22%</td>
<td>11%</td>
<td>22%</td>
<td>33%</td>
</tr>
</tbody>
</table>

Notes: N= Never, SL= Seldom, SM= Sometimes, O= Often, AD= Almost Daily

A small percentage of participants (11%) stated that their teachers never promoted, monitored, and/or modeled the ethical use of mobile technologies in their classrooms, while the
same percentage (11%) stated that sometimes teachers do so. For the same item, the majority of
the participants (44%) stated that their teachers seldom, while 33% said they often promoted,
monitored, and modeled the ethical use of mobile technologies in their classrooms. More than
half of the participants said that their teachers seldom encourage them to use mobile devices
while in the classroom to learn and to spark their creativity, while less than half of the
participants (44%) said that their teachers never encouraged them.

The majority of participants (44%) often use their mobile devices outside the classroom
to learn and to spark their own creativity, whereas 22% said seldom, 22% said sometimes, and
11% said they used their mobile devices almost daily for the said purposes. In regard to using
different forms of mobile technologies, less than a half of the participants (44%) used many
forms of mobile technologies (e.g., iPods, iPads, e-book readers) to engage in collaborative
problem-solving opportunities either inside or outside of the classroom, while 22% said seldom,
22% said often, and 11% said they used different forms almost daily.

When it comes to sharing knowledge with others using mobile devices, the majority of
the participants (44%) liked to share knowledge with others using mobile devices almost daily,
whereas 33% said sometimes and 22% said they often like to share knowledge with others using
mobile devices. Similarly, 33% of the participants like to collaborate with others using their
mobile devices, while an equal percentage of the participants seldom (22%), sometimes (22%),
and often (22%) liked to collaborate with others using their mobile devices.

In regard to language learning skills, the majority of the participants (56%) stated that
they made almost daily efforts to improve their listening skill using mobile devices, while 33% 
sometimes and 11% often made such efforts. Contrary to the listening skill, the participants’
responses were different when it came to speaking. Although a large percentage of the
participants (33%) made efforts to improve their speaking skills using mobile devices, others said they often (22%), sometimes (11%), seldom (22%), and never (11%) made such efforts to improve their speaking skill using mobile devices. The second phase consisted of data collected from the interviews and the WhatsApp group chat log. Similar to the survey, the following table (Table 5) shows the background of the participants in the interviews.

The interviews were conducted with the five participants who volunteered; each participant was interviewed for 15 to 22 minutes. However, since only five participants of the total number of participants (i.e., 9) volunteered to conduct interviews, I was able to obtain additional background information (see Table 6) about them, which included each participant’s age, major, degree level, length of stay in the United States, length of study at a language school, length of the interview.

The first participant, Adam, was a 31 year old graduate student whose major was physics. At the time of the study, he was at the advanced level of 110; the language learning institute has a total of 12 levels starting from 101 to 112. Adam has been in the United States for one and a half years, and he is now pursuing a Master’s in Physics and planning to obtain his doctorate degree afterward. Adam completed his English language studies a few months ago, during which he studied at the language learning school for one year and three months.

The second participant, Fadi, was 27 years old. He was an undergraduate in the Computer Science program. Fadi’s language skills are advanced, and he was also in Level 110. He has been in the United States for 11 months and has studied English at the language institute for 7 months. He also studied English in his home country for 14 months prior to coming to the USA.
Table 5
Demographic and Background Variable Distribution (N = 9)

<table>
<thead>
<tr>
<th>Favorite subject</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>33%</td>
</tr>
<tr>
<td>History/social science</td>
<td>11%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>11%</td>
</tr>
<tr>
<td>Science/health</td>
<td>0%</td>
</tr>
<tr>
<td>Computers/vocational education</td>
<td>11%</td>
</tr>
<tr>
<td>Fine/performing arts</td>
<td>0%</td>
</tr>
<tr>
<td>Physical education</td>
<td>11%</td>
</tr>
<tr>
<td>Other</td>
<td>22%</td>
</tr>
<tr>
<td>Nationality</td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>0%</td>
</tr>
<tr>
<td>Asian</td>
<td>33%</td>
</tr>
<tr>
<td>Caucasian/White</td>
<td>0%</td>
</tr>
<tr>
<td>Filipino/Pacific Islander</td>
<td>0%</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>0%</td>
</tr>
<tr>
<td>Middle Eastern</td>
<td>44%</td>
</tr>
<tr>
<td>Other</td>
<td>22%</td>
</tr>
<tr>
<td>Decline to state</td>
<td>0%</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>0%</td>
</tr>
<tr>
<td>Male</td>
<td>100%</td>
</tr>
<tr>
<td>Comfort level with technology</td>
<td></td>
</tr>
<tr>
<td>If you give me instructions, I am still unable to figure it out</td>
<td>0%</td>
</tr>
<tr>
<td>I am okay, but often ask for assistance</td>
<td>22%</td>
</tr>
<tr>
<td>I can get by and rarely ask for assistance</td>
<td>22%</td>
</tr>
<tr>
<td>I am able to work independently and can usually figure problems out on my own</td>
<td>56%</td>
</tr>
<tr>
<td>I am very proficient, so much so that others often seek my advice</td>
<td>0%</td>
</tr>
<tr>
<td>Using mobile technologies</td>
<td></td>
</tr>
<tr>
<td>Cell phone or Smartphone</td>
<td>100%</td>
</tr>
<tr>
<td>Mp3 player (including an iPod)</td>
<td>44%</td>
</tr>
<tr>
<td>PDA</td>
<td>0%</td>
</tr>
<tr>
<td>E-book reader</td>
<td>11%</td>
</tr>
<tr>
<td>Laptop computer</td>
<td>78%</td>
</tr>
<tr>
<td>Tablet PC (including an iPad or XOOM)</td>
<td>56%</td>
</tr>
<tr>
<td>None of the above</td>
<td>0%</td>
</tr>
</tbody>
</table>

I own the following mobile technologies:

| Cell phone or Smartphone                                | 100%|
| Mp3 player (including an iPod)                          | 33%|
| PDA                                                    | 0% |
| E-book reader                                          | 0% |
| Laptop computer                                         | 78%|
| Tablet PC (including an iPad or XOOM)                  | 33%|
| None of the above                                       | 0% |
The third participant, Jacob, was a graduate student in the Master’s of Business Administration (MBA) program. He was 25 years old. He was in Level 112 at the time of the study, which is called the exit level after which a student graduates and obtains a certificate.

The fourth participant, Kyle, was a 20 year old student. He was an undergraduate majoring in mechanical engineering. Kyle had been in the United States for 15 months, and he has studied at the language learning school for 11 months. Like Jacob, Kyle was in Level 112, and they both graduated at the same time.

The fifth participant, Sammie, was 19 years old. He was an undergraduate in the Business Administration Finance program. He has been in the United States for one year and five months. Like Adam and Fadi, Sammie was in Level 110 at the time of the study. He had studied English at the language learning institute for 11 months.
Both data from the WhatsApp group chat log and interviews were differentiated. For instance, the data from the interview is time stamped as [00:09:53.28] where time is shown. On the other hand, data from the WhatsApp group chat log were time stamped where the date and time of the excerpt were shown in the application (e.g., Aug 28, 11:35 pm).

Table 7

Coding Table

<table>
<thead>
<tr>
<th>Theme</th>
<th>Sample Phrases</th>
<th>Key words / Key terms</th>
</tr>
</thead>
</table>
| **Smartphones were used as a reference tool to support learning** | - I think after the practice with the people, the native speakers, the first thing that benefitted us is the mobile phone. (Kyle - interview)  
- Basically, mobile devices consider outside supporter or teacher. (Fadi - interview)  
- When I have free time or while I walk to my school I usually make a conversation with Siri. (Fadi - interview)  
- Sometime in weekends I open the voice chat and start conversation with the native speakers. (Fadi - interview)  
- Most of the time I use mobile devices to practice my pronunciation.  
- Someday I forget my phone or my phone is dead, like, if I didn't know a word I wouldn't like understand the lesson. (Kyle)  
- I listened to the radio every morning when I walked to school until I reached (name of language school) so that will improve my listening. (Kyle)  
- During [class] break, you can use your mobile to improve your skills and to talk with another man. (Adam)  
- If I don't have a native speaker like around me, I will go to my phone and write the word and listen to it. (Kyle)  
- I go to library and study, so I like to use my mobile phone as I search for some information. (Jacob)  
- I really depend on mobile devices in order to know the word that I got in school. (Fadi - interview) | Practice, conversation, free time, understanding, learning support, assistance, listening to the radio, chatting, communication, native speaker, phone, computer, laptop, mobile phone (smartphone) |
| **Current uses of mobile devices to enhance the listening and speaking skills in and outside the classroom** |  |
| **Smartphones vs. other technologies and alternatives** |  |
| **Smartphones were beneficial as a learning tool** | - It is comfortable for me to use anywhere and anytime. (Jacob - interview)  
- Accuracy in pronunciation. (Fadi - log)  
- Getting the information quickly. (Fadi - log)  
- Auto correction in regards to spelling. (Fadi - log)  
- Saving time. (Fadi - log)  
- Extracting the synonyms of the word are more and more easy in mobile phones. (Fadi - log)  
- By using the feature of "Voice Recognition System” or "Siri” in some modern phones helps us to enhance two of the main skills in learning another language which are: A- Speaking B- Listening. (Fadi - log)  
- Mobile phones help us to find our needed data in many sources instead of one like book. "Variety is the spice of life." [wink] | Anytime, anywhere, comfort, convenience, helps, easiest way, enhance, speed, freedom, accuracy, generating ideas, teacher role, homework support, |
Table 7. Continued

<table>
<thead>
<tr>
<th>There are challenges for using smartphones</th>
<th>Drawbacks and obstacles to using mobile devices in class</th>
<th>Restrictions</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Mobile devices might interrupt my concentration. (Jacob)</td>
<td>- I think we usually use the iPhone for the entertainment. (Jacob)</td>
<td>- Mobile devices might interrupt my concentration. (Jacob)</td>
</tr>
<tr>
<td>- I think we usually use the iPhone for the entertainment. (Jacob)</td>
<td>- I think we usually use the iPhone for the entertainment. (Jacob)</td>
<td>- I think we usually use the iPhone for the entertainment. (Jacob)</td>
</tr>
<tr>
<td>- …the signal, the network signal. (Sammie)</td>
<td>- …the signal, the network signal. (Sammie)</td>
<td>- …the signal, the network signal. (Sammie)</td>
</tr>
<tr>
<td>- I have a good and bad experience from this, the good experience, yea I can use anywhere, only if I have the internet, I mean 3 to 4Gs. (Jacob-interview)</td>
<td>- I have a good and bad experience from this, the good experience, yea I can use anywhere, only if I have the internet, I mean 3 to 4Gs. (Jacob-interview)</td>
<td>- I have a good and bad experience from this, the good experience, yea I can use anywhere, only if I have the internet, I mean 3 to 4Gs. (Jacob-interview)</td>
</tr>
<tr>
<td>- I think not all the teachers will allow you to use your phone. (Sammie-interview)</td>
<td>- I think not all the teachers will allow you to use your phone. (Sammie-interview)</td>
<td>- I think not all the teachers will allow you to use your phone. (Sammie-interview)</td>
</tr>
<tr>
<td>- You run out of plan or money, so it's a bad thing for you. (James-interview)</td>
<td>- You run out of plan or money, so it's a bad thing for you. (James-interview)</td>
<td>- You run out of plan or money, so it's a bad thing for you. (James-interview)</td>
</tr>
<tr>
<td>- It distract me during the lesson, but after the teacher finishes his teaching or after he gives us like a ten minute break, I can use it during this time. (Kyle-interview)</td>
<td>- It distract me during the lesson, but after the teacher finishes his teaching or after he gives us like a ten minute break, I can use it during this time. (Kyle-interview)</td>
<td>- It distract me during the lesson, but after the teacher finishes his teaching or after he gives us like a ten minute break, I can use it during this time. (Kyle-interview)</td>
</tr>
<tr>
<td>- Many teachers not allow me to use mobile devices in the classroom. (Jacob-interview)</td>
<td>- Many teachers not allow me to use mobile devices in the classroom. (Jacob-interview)</td>
<td>- Many teachers not allow me to use mobile devices in the classroom. (Jacob-interview)</td>
</tr>
<tr>
<td>- Sometimes teachers not allow use that (Fadi-interview)</td>
<td>- Sometimes teachers not allow use that (Fadi-interview)</td>
<td>- Sometimes teachers not allow use that (Fadi-interview)</td>
</tr>
<tr>
<td>- I prefer to use slang in WhatsApp or any application. (Jacob-interview)</td>
<td>- I prefer to use slang in WhatsApp or any application. (Jacob-interview)</td>
<td>- I prefer to use slang in WhatsApp or any application. (Jacob-interview)</td>
</tr>
</tbody>
</table>

Exploring the MALL environment (WhatsApp) as a learning community

- I get many benefits from this group because I know many programs I didn't know before. (Adam-interview)
- Everyone in this group want to learn. (Kyle-interview)
- I'm not like obliged or ashamed to go to this group and ask questions. (Kyle-interview)
- It's the first way to get the information easily. (Kyle-interview)

- Mobile phone will help the student to dispense some of the heavy books by adopting the concept of the E-Book. (Fadi-log)
- Sharing the word, data or the result of the search through the email or social media applications is one of the benefits by using the technology in learning. (Fadi-log)
- After companies provide mobile by data, mobile [phones] become vital because you can look up any information rapidly, wherever, and whenever. (Adam-log)
- It’s easy to carry with you, so you don't have to get a bag or something. (Fadi-interview)
- If you want to listen or to get the pronunciation of any word, you'll get it in the same moment. (Fadi-interview)
- Type whatever you want instead of pen and notebook. (Fadi-interview)
- It is pretty good for me to use mobile device to help me do homework. (Jacob-interview)
- That really helps me to get the information that I am looking for in easiest way. (Fadi-interview)
- Mobile device to me is like the private teacher, so it decides whether my pronunciation is good or not. (Fadi-interview)
- Mobile device helps a lot by giving me an idea. (Fadi-interview)

Data plan, internet availability, entertainment, cost, distraction, slang, school rules, teacher permission

Motivation to learn, benefits, mobile application, event planning, going out, talking about daily activities,
<table>
<thead>
<tr>
<th>Collaboration and resource/knowledge sharing</th>
<th>Mobile applications (apps) that help improve listening and speaking</th>
</tr>
</thead>
<tbody>
<tr>
<td>- [in] WhatsApp, you can write by English and you can speak and you can send video for your classmate or previous classmate and they go out, they go home, like this. (Adam-interview)</td>
<td>- easy and quick access to information, friend, assistance, support, sharing experiences, knowledge and interests, YouTube, Ginger, ABC7 Chicago, Web2go, Fox Chicago News, TED, Urban Dictionary, NPR, Google (Translate), Siri, Skype, WhatsApp, Line, Facebook, Oxford 3000, Audible, CNBC, BBC</td>
</tr>
<tr>
<td>- If I have a small question, like a personal question, I can ask my friend who want to share that answer. (Jacob-interview)</td>
<td>- I used Google translator for the above mission [pronunciation]. I also use Ginger App. to correct my writing. (Fadi-interview)</td>
</tr>
<tr>
<td>- It [WhatsApp] let me know different point of views from other countries. (Fadi-interview)</td>
<td>- Because my major is Computer Science, I'm in the process to create an application on iPhone or IOS. Then, I'll publicize it to my friends and classmates. (Fadi-interview)</td>
</tr>
<tr>
<td>- It helps us to share information and experience. (Kyle-interview)</td>
<td>- It’s [smartphone] all about apps, you know, what you download on your phone. (Sammie-interview)</td>
</tr>
<tr>
<td>- In regard to the studying, I have a lot of interests I want to share it with my friends on that application. (Fadi-interview)</td>
<td>- -</td>
</tr>
<tr>
<td>- Sharing the useful websites. (Kyle-interview)</td>
<td>- -</td>
</tr>
<tr>
<td>- If you want to send, for your teacher, some notes just record it and send it through WhatsApp and they will give you their feedback in WhatsApp. (Fadi-interview)</td>
<td>- -</td>
</tr>
<tr>
<td>- I’m as a student, I'm interested to learn English, so I downloads apps that give me a lot of benefits in English. (Sammie-interview)</td>
<td>- -</td>
</tr>
<tr>
<td>- I get the benefit from Ginger seriously. I get the benefit from Ginger a lot, I'm not dependent on that a hundred percent but sometimes it corrects my mistakes. (Fadi-interview)</td>
<td>- -</td>
</tr>
<tr>
<td>- Facebook for reading, YouTube for watching and listening, and Line is what I use for writing. (Jacob-interview)</td>
<td>- -</td>
</tr>
<tr>
<td>- I am using Siri function in my Apple products more than 20 times every day. (Fadi-interview)</td>
<td>- -</td>
</tr>
<tr>
<td>- In this [referring to TED], we practice our listening after we practice our speaking skills. (Sammie-interview)</td>
<td>- -</td>
</tr>
<tr>
<td>- I am also interested to listen to Ted Talks on YouTube. (Fadi-interview)</td>
<td>- -</td>
</tr>
<tr>
<td>- I think my listening is better than conversation and better than writing, cause it [mobile listening application] helped me a lot. (Sammie-interview)</td>
<td>- -</td>
</tr>
<tr>
<td>- I used Google translator for the above mission [pronunciation]. I also use Ginger App. to correct my writing. (Fadi-interview)</td>
<td>- -</td>
</tr>
<tr>
<td>- Because my major is Computer Science, I'm in the process to create an application on iPhone or IOS. Then, I'll publicize it to my friends and classmates. (Fadi-interview)</td>
<td>- -</td>
</tr>
<tr>
<td>- It’s [smartphone] all about apps, you know, what you download on your phone. (Sammie-interview)</td>
<td>- -</td>
</tr>
</tbody>
</table>

The themes in Table 7 were extracted from the transcription of the interviews and the WhatsApp group chat log. Thematic data analysis was applied to find themes across the following data sources: interviews, the WhatsApp chat log, and surveys. The data sources were used to corroborate the evidence obtained via different means. Similar codes were grouped into
similar categories that created emerging themes. Hence, the themes emerged and coding of the data were data driven and they are categorized into the following primary themes.

Current Uses of Smartphones

One of the core themes that helped answer how mobile devices, such as smartphones, are used for learning English. Participants in the study mentioned several ways in which they are currently using their mobile devices to learn English and to improve their listening and speaking skills, specifically, and language learning in general. Results show that the current uses of mobile devices among participants were enhancing pronunciation, translation, and practicing grammar to write essays using Ginger, which is a mobile application. During the interview with Kyle, who is one of the participants, he talked about the current uses of his mobile device saying that

I think after the practice with the people, the native speakers, the first thing that benefitted us is the mobile phone, because I can find like definition, pronunciation, listening, even in writing, I can find different writing, I can find different people, I can take some advice from them. I think, that's what helped me. (Kyle- 00:13:47.15)

Regarding classroom activity, results show that participants currently use their mobile devices to support classroom activities such as doing homework, preparing for presentations, building sentence structures, practicing pronunciation, and giving and receiving feedback. For instance, Fadi described the following listening and speaking techniques in one on the interviews:

For speaking, I am using Siri function in my apple products more than 20 times every day, and it depends on the purpose whether for study purposes like testing pronunciation or for other purposes like guidance or seeking for a particular information. For listening, I really good listener for English music and also, for beneficial lectures on English, especially in my path. As you looking for good pronunciation you need to listen carefully in order to get word correctly. (Fadi- 00:06:43.14)
Further analysis of the data revealed that the majority of participants (44%) often used their mobile devices for learning and research purposes outside of the classroom. In the same line with the previous claim, Kyle stresses on the importance of using his smartphone on a daily basis to help him learn and understand the lessons given in the classroom. In the following interview excerpt, he emphasizes the use of smartphones in the advanced levels based on his own current experience by saying that

in the advanced level, they do have to use the technology, because if they want to translate a word or to know something or to listen to pronunciation, like uh, for example, me, someday I forget my phone or my phone is dead, like, if I didn't know a word I wouldn't like understand the lesson. (Kyle- 00:00:55.06)

One of the current uses of smartphones in language learning is to help complete classroom activities and homework. Not only that, but it can also be used for searching for information. Jacob stated such practices in the following interview excerpt:

it is pretty good for me to use mobile device to help me do homework. For example, I go to library and study, so I like to use my mobile phone as I search for some information, I don't have to carry a big laptop, so it's very heavy for me, so it's like I said it's comfortable for me, to carry a small thing, even if I have a small question, like a personal question I can ask my friend, who want to share that answer. (Jacob- 00:03:59.19)

Similarly, when it comes to supporting classroom activities, searching for information from the internet via mobile technologies was one of the ways in which participants utilized their smartphones. Like Jacob, Fadi expressed a similar experience in regard to using smartphones for searching:

For searching, this session I have the research paper project MLA, so I need to explore the internet and search for a specific information in order to include it in my research, and that usually easy, because there are an approach from many organization to upload the books online as PDF. That really helps me to get the information that I am looking for in easiest way. (Fadi- 00:06:43.14)

Showing that smartphones are the preferable mobile device to use in learning English, several participants mentioned how they currently use their smartphones to help them improve
their learning process. While watching movies on his mobile phone, a participant could listen to
the words, read the subtitles of the movie, and take pictures and screenshots while the movie is
playing, as noted by Kyle:

usually I watch movies in my phone, like Netflix or something, ya I don’t, how can I say,
I didn't want to see it in my laptop or in the TV because if I see it in my phone, I listen to
the words and read the subtitles, I usually take picture, yea a screen shot, like ten or
fifteen, in one film, and then after I finish it, I go back to this picture and I write down the
word, or the sentence, if I see like the perfect sentence or something. (Kyle- 00:04:30.26)

From this anecdote, we see that during the process of watching movies on his mobile phone,

Kyle stated that he did the following tasks to try to maximize his learning experience:

a. Take 10 to 15 screenshots from the movie that is playing on his mobile phone screen,
b. Check them after the movie is over, and
c. Write down the new words or sentences that he learned from the movie.

Results showed that participants not only used mobile devices for practicing

pronunciation, grammar, and vocabulary but also to access and learn from social networking

sites on-the-go, such as Facebook. Jacob, one of the participants, mentioned a language learning

experience in which he learns English from social networking websites on-the-go, stating the

following experience:

…I like go to the Facebook you know, it is like a famous application and I like to read,
not the whole book, some article, and I have like a many page share and I have a good
article about yea about English, like a one page, English for fun, is on front page.
“English for Fun”, I think it's funny yea, they change the English from the difficult way,
you see the easy way, funny way, like some easy word, people don't know so I did a
share of this and have some quotations from the famous people, famous person, and
some, uh, today I learned something, ‘everyday’ and ‘every day’ you know, I learned this
from this English for fun, they are different, I just learned it, so it surprised me… I
learned through my cell phone while I waiting for you I just look at and found it and just
read it. (Jacob- 00:07:39.23)

Similar the on-to-go learning experiences by other participants, smartphone uses were

also mentioned. First, whether watching or listening to videos while waiting, Jacob described his
engagement with his smartphone in the interview by saying,
I think our life depend on this phone, uh, when I walk from my school to my house or my house to my school I listen to, actually, a small story on YouTube by my device, at morning and at night when I get back to my home. If I walk in safe place I can show what I turn on…during breaks sometimes I get in YouTube and write the lessons that I took before and uh, listen more clearly. (Adam- 00:09:04.03)

Likewise, another participant addressed the on-the-go use of mobile devices to improve his listening and speaking skills by listening to the radio from the beginning of his enrollment in the language learning institute until he reached level 106 (which is the intermediate level). Kyle described one of his techniques to improve listening through the use of mobile devices:

in my first five months here, I learned how to improve my listening. I listened to the radio every morning when I walked to school until I reached [name of language school] so that will improve my listening. (Kyle- 00:07:46.19)

Third, smartphone on-the-go learning was also evident through chatting with other people, mobile applications, and personal digital assistants, such as Siri that is designed by Apple. Fadi talked about his experience in learning via smartphones by stating that

When I have free time or while I walk to my school I usually make a conversation with Siri. Sometime in weekends I open the voice chat and start conversation with the native speakers. (Fadi- 00:07:36.27)

Results also showed that participants read eBooks, especially if viewed on a smartphone with a larger screen size, as Adam stated: “I always use my phone, smart phone, yes, smart phone, and now I plan to get a phone bigger than with me now because I can see, I can read eBook from my device.” (00:07:15.14)

Results showed that participants used mobile devices in the classroom to translate words from English into their first languages and vice versa. Moreover, while in the translation process, smartphones helped them pronounce various vocabulary that they have learned and have known the meaning of through clicking the voice feature and listening to the word in mobile apps, such as Google Translate. The previous uses of smartphones are explained in the following interview passage:
If you translate any word, in your phone and you can take picture from this and translate and keep it in your mobile, in your phone. yes, like this [moving hands above screen], I think in galaxy phone just pass your hand, on screen and you'll save this picture in your memory and after this you can in the night or before you sleep you can click it and look and review the new word with translate, it's good idea. Sometimes you face one word you haven't faced before and this activity you can memorize this word immediately and more fast than you bring some card to write it may be you don't have pen or you bring laptop and turn it on will take more time for that, but if you use your phone it’s good and review it before you go to sleep it's good. (Adam- 00:04:45.10)

When it comes to using mobile devices outside the classroom, a participant mentioned that he could easily communicate with other international friends and classmates to practice writing, speaking, and listening easily. Jacob stated that “I use my cell phone to communicate with my international friends in order to practice my writing skills. I use, such as Line, WhatsApp, or Skype” (00:21:36.12).

While Sammie was watching a video clip on Ted Talk (a YouTube Channel) with his classmates in the language learning school computer lab, they sat down at the table and discussed it. During that process, the participants practiced their listening and speaking while exchanging conversation and discussion in hand. The following is the anecdote he mentioned in the interview:

I have, Ted Talk, you know they have apps, it's a good chance to practice because when you like listen to the lecture or like listen to the video you see it, you see the subtitles also, so this help you listening and reading and after like you can discuss, you and your friend, or you watch this video to your friends in a group that you hope to learn English and after that you told them, okay tomorrow we'll discuss this video, like we did today, me and Ali and our friends, we saw a video in LTC (Language Technology Center), Ted Talks, and after that we sat at the table and we discussed it. And in this we practice our listening after that we practice our conversation, you know. (Sammie- 00:07:37.29)

To support classroom activities or seek help and assistance, participants often utilized the break between classes by using their smartphones. Adam stated that students might feel embarrassed to ask questions or they even find it difficult to interrupt the teacher at the time of the instruction, as he stated:
in class, sometimes you can't or more difficult to stop the teacher, or maybe you feel embarrassed in front of your classmates, but if you get back out or during break, you can use your mobile to improve your skills and to talk with another man. (Adam-00:16:04.25)

Although the use of smartphones was noticeable in the study, other alternatives to mobile technologies and other technologies were also compared to smartphones. In one of the interviews, Kyle said that he preferred watching movies on smartphones rather than on the TV screen or laptops saying that

my phone will be close to me and I will hear and read the word at the same time. Also, if you like to observe this word also just take the photo shot... I go back to it and write it down.” (00:05:57.20)

The reasons for his smartphones preferences over other mobile devices were that he could do the following while watching: 1) listen to the words, 2) read the subtitles of the movie, and 3) take pictures and screenshots while the movie was playing. Kyle explained his mobile phone preference over other mobile devices: a) the mobile phone is closer to him and handier so he can use it faster, b) he can listen to and read the words at the same time, c) he can take screenshots, and d) he can go back to the new content he learned and listened to a reference anytime and write it down.

As participants learn English skills and learn from native English language speakers, they tried to make use of the technology and the people who could in turn facilitate the learning process, especially when it comes to enhancing the language learning skills, including listening and speaking. One of the participants addressed this concept while emphasizing the concept of immersion in the language learning process as much as possible, talking about his learning experience in this regard:

Make the English surround you. Like if you want to use the phone try to use it in English, and if you want to text someone just text in English. Also the technology is like a big plus in writing, when I want to write something, I have to use the grammar. Also, the
pronunciation, if I want to listen to the pronunciation if I don't have a native speaker like around me, I will go to my phone and write the word and listen to it. (Kyle- 00:02:49.15)

One of the participants stated there were chances to learn more from mobile devices than the teacher; however, he mentioned that he usually downloads content and checks it with the teacher. From a language learner’s perspective, one of the participants stated the following:

If I were a teacher, I was against [using smartphones in class] because I would like my student to pay attention to me. [It] is bad, I feel bad when I go to present and my friend don't listen to me. They are just talking about what they're going to do, they like, I mean at least they have to make eye contact at me, even if you pretend that you listen to me, okay that's good. (Jacob- 00:09:59.02)

Filitation and support from the teacher, however, was mentioned in one of the experiences when one of the participants was checking his pronunciation and getting feedback from his teacher:

For example, when I was learning the word (Exaggeration), it was difficult for me to pronounce. So, every time I thought it got it I record my pronunciation and send it to my teacher who was with us in WhatsApp group to tell me whether good or not. (Fadi- 00:08:48.22)

Further analysis of the data showed that the most repeated, and frequent, word in all five interviews, approximately 771 words, was the word *like*, as shown in the following word cloud (Figure 3), word frequency query (Figure 4.), and pie chart with the top 20 frequent words (Figure 5), which are all followed by a visual cluster of possibilities (Figure 6) the participants could have meant when they used it.
Figure 3: Word cloud of the word like.
Figure 4: nVivo-generated word frequency query.
Figure 5: Top 20 frequent words.
Figure 6: Visual meaning cluster of possibilities of the meaning of the word like.
Different smartphones have different features, at least indirectly, as they were invented for many purposes. Language learning is one of them. Generally speaking, participants in the study expressed that they found mobile devices helpful and beneficial throughout their language learning journey, especially when it comes to enhancing the listening and speaking skills in the most part. Results showed that some of the benefits of smartphones in improving listening and speaking among the participants in the study were translations, availability of applications that offer a variety of topics for different interests, and listening to FM radio applications because of their clarity, good content, and diversity of topics. Kyle, one of the participants in the WhatsApp group, mentioned the benefits of smartphones:

First of all it's [smartphone] useful to find the definition and examples in a short time. Second, we can use the phone wherever we are so that makes it easy for us when we want to learn some word or sentence that will help us to sail through some situation. Third, today we don't have to attend classes in order to learn English language. We can download some apps that are really useful. I think there are lots of benefits of using phones to learn English. (Kyle- Aug 28, 11:35 pm)

One of the benefits mentioned in the results was multi-tasking. For instance, Adam mentioned that he could call, use data to access the internet, connect with other people regardless of their location, and listen to lectures all at the same time, which was detailed in the following excerpt:

I think in future mobile uh, I can't say mobile will be everything and we will ignore laptop and iPod an iPad, like this, but mobile will take big area in learning or in education because it's very easy to use and many benefits, you can call and at the same time you can use data and at the same time you can connect with your friend from another country and listen to lecture and yea, I don't know, but I can't describe because it is amazing and now we, anything get in your mind you will find it in your mobile and you can't imagine what is the future of this. (Adam - 00:19:59.23)
The availability of mobile devices to utilize and from which to learn anytime and anywhere was one of the aspects the participants mentioned. In one of the interviews, Jacob addressed features like mobility and ease of access by stating that smartphones are comfortable for me to use anywhere and anytime. It's like a dictionary I don't have to carry a big dictionary, yea I have that phone, I think like a word so I can search and it's good for me, and everywhere, every time. (Jacob- 00:01:53.06)

Convenience of when and where to use mobile devices was also one of the benefits found in the results. This benefit was addressed by one of the participants in the interview when talking about radio applications that could help enhance listening and speaking:

If you, every day listen to these channels and download programs from Google play or Apple store, and it will, or they will improve your listening and uh, speaking in English because you can pause it. What time do you need, and you can complete, any time. (Adam- 00:15:12.26)

Kyle mentioned that he uses mobile devices to literally “improve his listening and speaking skills” [00:09:53.28]. In the same interview, Kyle emphasized the importance of surrounding himself with English language exposure as much as possible when addressing several advantages, such as text messaging, listening, speaking, pronunciation checking, calling, chatting with other people, etc.:

make the English surround you, like if you want to use the phone try to use it in English, and if you want to text someone just text in English uh, also the technology is like a big plus in writing, when I want to write something, I have to use the grammar, also the pronunciation, if I want to listen to the pronunciation if I don't have a native speaker like around me, I will go to my phone and write the word and listen to it. (Kyle- 00:02:49.15)

In the same line, Fadi, one of the participants in the WhatsApp group, stated that some of the benefits of using smartphones to learn English in general and to improve listening and speaking, specifically. According to Fadi, in the following WhatsApp group chat log excerpt addressing his own experience, the benefits of using smartphones to learn English are:
Accuracy in pronunciation.
Getting the information quickly.
Auto correction in regards to spelling.
Saving time.
Extracting the synonyms of the word are more and more easy in mobile phones.
By using the feature of "Voice Recognition System" or "Siri" in some modern phones helps us to enhance two of the main skills in learning another language which are: A- Speaking B- Listening.
Mobile phones help us to find our needed data in many sources instead of one like book. "Variety is the spice of life." [wink]
Some of the useful applications are free of charge. Therefore, I believe this will save our money as well.
Mobile phone will help the student to dispense some of the heavy books by adopting the concept of the E-Book.
Sharing the word, data or the result of the search through the email or social media applications is one of the benefits by using the technology in learning.
(Fadi-Aug 28, 11:38 PM)

Some of the features of mobile devices in improving listening and speaking were, but not limited to, portability, quick translation, quick access to information, and interaction with other people or applications. In one of the interviews, Adam addressed such features when talking about his current use of his mobile devices to improve the listening and speaking skills:

I'll be honest with you, I don't use my laptop I have two laptops and one note, galaxy note, I didn't use anything except my mobile, in my house, and in my class and when I get in restaurant and talk with the waitress or waiter and if I face some word I didn't knew it I use my phone. And in my house, I didn't use anything except my phone because it is easy, easier than anything, and at the same time, laptop take big area in my office, my desk, cause I have a small desk not a big desk, but mobile doesn't have any area, just bring out from my pocket and uh, translate immediately. (Adam- 00:02:48.06)

Recording was one of the features mentioned across the WhatsApp group chat log and the interviews. For instance, Fadi recorded his pronunciation and then sent it to his teacher; then he received feedback afterwards. He explained how features such as recording and portability could contribute to the language learning process that he is going through via using smartphone, as shown in the following interview excerpt:

the benefits of mobile devices, I'm saying this because it's easy, it's easy to carry with you, so you don't have to get a bag or something, if you want to listen or to get the
pronunciation of any word, you'll get it in the same moment, so you type whatever you want instead of pen and notebook, for the speaking, Siri is one of these also, sometimes, if you want to send for your teacher, some notes just record it and send it through WhatsApp and they will give you their feedback in WhatsApp and I remember when I pronounce this word whether it's good or not. For example, when I was learning the word (Exaggeration), it was difficult for me to pronounce, so every time I thought it got it I record my pronunciation and send it to my teacher who was with us in WhatsApp group to tell me whether good or not. (Fadi- 00:08:48.22)

Similarly, when it comes to speed, timeliness, and location, one of the participants in the WhatsApp group stated that “mobile become vital because you can look up any information rapidly, wherever, and whenever” (Adam- Aug 28, 11:45 PM).

Correspondingly, and in addition to the aforementioned recording feature, participants mentioned that they exchanged audio via mobile applications such as WhatsApp along with taking notes via smartphones instead of using a pen a paper. Taking pictures and screenshots were also one of the features they entertained. Sammie addressed such features

I think you can like take the phone and record what the teacher said and replay it in your home, take notes, you can take picture of something or you can record all the class, you know, and take picture of it, uh, you can like memorize things in your note page on your mobile so that you can review again and again and do like a lot of things on the phone and I think it's fun. (Sammie- 00:02:24.29)

In a similar fashion, another participant identified the most useful elements he thought would enhance his listening and speaking skills. Fadi identified the elements as “two way conversation, auto writing correction, many accents, and some application gives the different in accents like UK or US differences in regard to writing or speaking” (00:14:15.07).

Drawbacks and Obstacles of Using Smartphones

Results showed that some participants addressed barriers that could hinder them from using mobile devices to improve their listening and speaking skills inside and outside of the classroom. Jacob stated that data plans could be costly and that if the data plans are handy at the time of instruction, network signals could be an obstacle to utilizing the devices in the classroom.
Although one of the participants stated that he had bad experiences with accessing the internet via his mobile device, he mentioned that it is a good experience to use the same device anywhere.

Participants expressed that teachers sometimes do not allow the use of mobile devices in the classroom that could be an obstacle for accessing the information they are looking for at the time of the instruction. Jacob stated that “usually, many teachers do not allow me to use mobile devices in the classroom, so I don't have many experiences about using cell phone in the classroom” (00:08:24.12).

Further analysis of the data reveal that more than half of the participants (56%) said that their teachers seldom encourage them to use mobile devices to learn and to spark their creativity, while in the classroom less than half of the participants (44%) said their teachers never encouraged them.

In the same way, a participant believed that teachers’ attitudes toward technology could be an obstacle to the use of mobile devices in the classroom. For example, according to a participant, younger teachers are more likely to allow the use of smartphones in the classroom than other teachers: “I think not all the teachers will allow you to use your phone, especially the old doctors, you know, their relationship with the new things are not as good as like young doctors are” (Sammie- 00:00:34.09).

Interestingly enough, a third participant did not agree with the previous two claims and classified the teachers not allowing the use of smartphones in class as a restriction rather than an obstacle. Fadi said that “I think there are no obstacles, but there are some restrictions; sometimes teachers not allow use that” (00:00:53.01).

A participant feared that students may depend on technology more than textbooks. Fadi thinks that “with regard to the obstacles I think depending on technology more than the books is
good for people in general, but not every time because as student you need to touch the book” (00:00:53.01).

Further analysis of the data reveals that when it comes to the comfort level with technology, the majority of the participants were able to work independently and could usually figure out technology problems out on their own (56%), whereas 22% were okay but often asked for assistance, and 22% could get by and rarely asked for assistance.

Similarly, a participant thought it would be distracting to use mobile devices in the classroom during the lesson. Kyle stated the same idea, saying that a mobile device is considered a source of distraction inside the classroom: “it distract me during the lesson, but after the teacher finishes his teaching or after he gives us like a ten minute break, I can use it during this time” (00:02:16.00). By the same token, another participant stated that it is an obstacle to learning that mobile devices are usually used for entertainment purposes and not for learning purposes. In his initial experience with smartphones, Jacob stated his claim:

I think we usually use the iPhone for the entertainment myself, I mean for me, I never use for learning English or just help me study, never, I usually [use] either my notebook, not like a mobile device like this. At first I think it's a good idea for using mobile device for learning English, but after I used it and I have a good and bad experience from this, the good experience, yea I can use anywhere, only if I have the internet, I mean 3 to 4Gs.” (Jacob- 00:00:54.19)

However, Fadi suggested that for the purposes of seating in the classroom, students who have issue with their vision or usually sit in the back of the class would find it helpful to display information on their mobile devices.

Exploring the MALL Environment: WhatsApp

The most common words used in the WhatsApp group chat log are represented in the following word cloud showing the words that were repeated at least once (i.e., minimum word
count is two) while excluding the names of the participants, months (e.g., Aug, Sep, Oct, etc.), prepositions (e.g., on, under, etc.), pronouns (e.g., his, your, etc.), punctuation characters (e.g., 1, 2, 3, “,”, etc.), and articles (e.g., a, an, the, etc.).

Figure 7: The most common words used in the WhatsApp group.

When asked about comparing the classroom environment and the MALL environment (WhatsApp), Sammie stated that he preferred the classroom over WhatsApp because of factors such body language when the teacher and other classmates interact with other. Also facial expressions and hand gestures were factors that the participant preferred in the classroom environment to improve listening and speaking over WhatsApp. On the other hand, he thought that WhatsApp was helpful when it came to recording and sending an audio or video file to other classmates or teachers. Also flexibility of meeting time and place was an advantage that
WhatsApp entertains, according to him, more than the classroom. All those data were expressed by Sammie as shown in the following interview excerpt:

> when you work in a group in WhatsApp it's great but I don't think it's as great as when you work with a group and make like, in a class, face to face, meeting face to face, cause I can see your reaction I can see you describe it with your hands you know, still I can learn it more effectively, but I think now in groups, you can also record it and send it to your friend, you can like record a video and send it to your friend, but like above all, I'll be honest with you I think I prefer to meet people face to face, but I think the opportunity to meet people face to face is less planned like talk to them and, uhm, in WhatsApp, so I think WhatsApp is better in this case, you know, cause you can ask your friend when you are home, when you are like, you have more flexible time, you can't just meet your friend to ask him, what do you think of this, you know.” (00:11:48.04)

Since most of the participants were in the upper levels in the language learning institute and their courses and requirements were demanding at the time of the study, it was difficult to participate all the time. Although Adam benefited from being a participant in the MALL environment, the WhatsApp group, when asked in an interview about the learning experience while interacting and learning from other members, he stated: “I get many benefits from this group because I know many programs I didn't know before and maybe I didn't try to say some word and send it for this program because I was busy with the research paper but my friends were more active than me” (Adam- 00:18:49.00).

When asked about the overall experience of being a part of the research study, using the smartphone and experiencing the learning process in the MALL environment; the WhatsApp group, Sammie stated:

> I never thought that I will get this experience even though I know that in the university I will use these things you know, but I haven't known that I will use it now, you know, because people now use computers for research. In the past it was using like books to search, people now use computers to search, especially in the libraries and it's fascinating! I think the next few years, people will use phones, even phones in the home, they will search in their homes, so I think the idea about facilitating things, to people, this is the idea, for technology and developed things, it is to facilitate things and make things easier to people. (00:14:35.20)
A participant in the study chose the approach of interacting with his classmates who are English language learners but from a different nationality than his own. Adam that it was helpful for him as one way of practicing English in this MALL environment by stating:

I have uh, many friend[s], from another country and we talk by WhatsApp, yeah, we talk together and you know, [in] WhatsApp, you can write by English and you can speak and you can send video for your classmate or previous classmate and they go out, they go home, like this. (Adam- 00:17:01.26)

One of the findings that participants addressed in regard to the WhatsApp group learning environment was how beneficial and stress-free the experience was. After the following screenshot was shared in the WhatsApp group, Kyle said:

I have benefitted from this group if I want to ask anything I want to learn the pronunciation of any word, like the first thing I used in this group, because everyone in this group want to learn so I’m not like obliged or ashamed to go to this group and ask questions. (Kyle- 00:10:54.14)

Forvo is the largest pronunciation guide in the world, the place where you’ll find millions of words pronounced in their original languages (http://www.forvo.com/about). After I suggested Forvo to the participants in the WhatsApp group (Figure 8.), I gave them instructions on how to practice pronunciation and record audio files in WhatsApp (Figure 9.). After that Sullivan, one of the participants in the WhatsApp group, recorded the word “Fantastic!” (August 27, 7:07 PM) and sent it in the group for everyone in it to hear.

Figure 8: Forvo website screenshot.
Figure 9: Instructions on how to record audio in WhatsApp.

Participants in the study expressed the advantageous and disadvantageous traits that were found during their experience in the MALL environment in the study: WhatsApp. One of the advantages of using WhatsApp was recording audio files, sending them to the teacher, and then getting feedback. For example, Fadi stated that in his WhatsApp learning experience: “I record my pronunciation and send it to my teacher who was with us in WhatsApp group to tell me whether good or not” (00:08:48.22).

Expressing and exchanging different points of view, having the presence of the more knowledgeable other, learning about new mobile applications in general, learning about new mobile applications that specifically help improve listening and speaking, learning about new information, competition in participation in the WhatsApp group, entertaining the concept of “sharing is caring” with other participants in the group:

I would capitalize this idea [WhatsApp experience] because first it let me know different point of views from other countries. Also, you highlighted many helpful information by sharing any helpful link. I specially learned a new technic on Ginger Application I got know it in WhatsApp group. Also sometimes there are a positive competition to answer, we are in a hurry to answer: Who will answer with a good answer? uh, I think these are the most, and I would conclude this, sharing is caring, like what Jacob shared with us at that moment it was perfect, he shared with us another way to say nice to meet you, it’s a picture, but is has many information. (Fadi-00:10:31.03)
The following image that Jacob shared with his peers in the WhatsApp group was the one that Fadi was referring to in the above quote. It represents a mini lesson on how to communicate better with other people in English, providing other ways to say: nice to meet you, let me know, keep up the good work and just kidding.

![OTHER WAYS TO SAY](image)

Figure 10: A screenshot of a WhatsApp shared mini lesson.

On the other hand, two participants, James and Adam, thought that the WhatsApp group learning environment had some disadvantages, despite the aforementioned advantages. Adam said:

I get many benefits from this group because I know many program, I didn't know it before and I, maybe I don't try because I didn't try to say some word and send it for this program because I was busy with the research paper but my friends were more active than me. (Adam-00:18:49.00)

Similarly, Jacob thought that first-time users could face problems by being overwhelmed and surprised by the environment and the interaction. Also some participants could use it at different times throughout the day, which could be annoying for those who sleep early and forget to mute their smartphones. According to him, Jacob expressed such concerns:
what's bad for me; I don't like, is like WhatsApp, so the first time I do this, like a many people, like oh surprise, like few could use it but they don't know what time it is so I usually go to bed like at ten or eleven o'clock, and so people keep talking and I got tired so it bothered me in that time… it's still like alarm me like [message beep sound] yea, so noisy” (Jacob-00:01:53.06)

When it comes to resource and knowledge sharing, results show that one of the participants was planning to create an application in his current city for other students to use to collaborate with each other and to share knowledge based on the notion of collaboration found in the MALL environment: WhatsApp. Fadi explained his passion with collaboration in the following interview passage:

Because my major is computer science, I'm in the process to create an application on iPhone or IOS, then I'll publicize it to my friends and classmates, this is another part of the question, but in regard to the studying I have a lot of interests I want to share it with my friends on that application, I would use this technology to let them know where am I, what are the obstacles that I met when I was English school student, and recommendation for the beginners. I will also put in my application an advice from our center’s teachers to them because they have a great experience with the international students.” (Fadi-00:03:33.28)

Some of the advantages mentioned regarding such collaboration in the WhatsApp group were to ask friends and to learn from each other. For instance, in the interview, Kyle stated that “I am not being obliged or ashamed to go to this group and ask questions” (00:10:54.14). Also the same participant found it more flexible than other classic, one-way mobile applications because of the knowledge sharing feature that they entertain. Sammie supported the aforementioned advantages in the following interview excerpt:

As you did with us like you create a group, you know, like your friend. It's a good idea, you know, to do, to like, to ask your friend especially like if you are a close friend it's a good idea to learn from them cause you will be more flexible then like a normal apps, like a classic app they will like may be tell you about a lot of things that you will never even, not have the chance to learn it before, they told you, so I think, they might like give you the information easier and a classic thing like book or like audio lecture and laptop also. (Sammie- 00:03:56.04)
Collaboration between the teacher and the student in the WhatsApp group was mentioned by one of the participants in that whenever he wanted to get some feedback on pronouncing new words he has learned, he would ask his teacher electronically via the MALL environment. Fadi provided an example of the support and feedback he gets from his teacher via WhatsApp in the following interview quotation:

For example, when I was learning the word *Exaggeration*, it was difficult for me to pronounce. So, every time I thought it got it I record my pronunciation and send it to my teacher who was with us in WhatsApp group to tell me whether good or not. (Fadi-00:08:48.22)

Another story mentioned was while students were watching a video clip on Ted Talks in the language learning school computer lab, they sat down at the table and discussed it. During that process, students practiced their listening and speaking while exchanging the conversation and discussion in hand.

Another example of collaboration was a short tutorial by one of the participants in the WhatsApp group when he introduced a mobile app to his classmates by taking screenshots from his phone and sharing them with everyone in the group. Adam sent the following screenshots from his smartphones and shared them with his peers in the WhatsApp group to learn and listen to Phrase of the Day:
Figure 11:  WhatsApp instructional tutorial in multiple screenshots.

Based on the previous instructional screenshots from the WhatsApp group chat, further analysis of the data revealed consistency with the nine participants’ responses on the survey. To further explain, when it came to sharing knowledge with others using mobile devices, the majority of the participants (44%) liked to share knowledge with others using mobile devices almost daily, whereas 33% said they sometimes and 22% said they often liked to share knowledge with others using mobile devices. Similarly, 33% of the participants liked to collaborate with others using their mobile devices, while an equal percentage of the participants liked to seldom (22%), sometimes (22%), or often (22%) collaborate with others using their mobile devices.

When it came to the ways of communication and collaboration via mobile-assisted language learning apps, one of the participants showed concerns related to typing difficulties,
which resulted in him in typing in slang where letters were abbreviated to forms usually used in text messaging and chatting platforms:

I think is difficult when I type on my phone. It's difficult, like usually I use, “how R U?” not “How are you?” I got used to do that so it is difficult to change from this to writing like a paper... I prefer to use slang in WhatsApp or any application. (Jacob- 00:13:22.18)

Participants exchanged helpful and informative pieces of information in the WhatsApp group (Figure 12.), which shows the participant’s knowledge sharing and aligns with what further analysis revealed: the majority of the participants (44%) liked to share knowledge with others using mobile devices. For example, Jacob sent the following two images to other group members, and Adam gave him the thumbs-up and appreciated his knowledge sharing via sending them to the group members:

Figure 12: Two examples of WhatsApp linguistic knowledge sharing.
Along the lines of support, assistance, and sharing experiences, in the following chat log screenshot, a participant was seeking help, another participant responded, and a third one shared a website, which shows how considerate and supportive communication among the WhatsApp group members can be. The following is what Sammie, Kyle, and Jacob exchanged:

Figure 13: Support and feedback provided by multiple WhatsApp participants.

There were a number of mobile applications mentioned, addressed, and shared in the study. The most frequently used applications among the participants were TED Talks, Ginger, Google Translate, and YouTube through which they could practice their listening skill, listen to lectures, watch presentations, read subtitles, and discuss videos after watching them as a group. The following table displays a variety of mobile applications that were used and recommended by the participants in the study:
Table 8
Mobile Applications Used by Participants

<table>
<thead>
<tr>
<th>Participant</th>
<th>Mobile Applications Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adam</td>
<td>YouTube, Ginger, ABC7 Chicago, Web2go, Fox Chicago News, TED, Urban Dictionary, NPR</td>
</tr>
<tr>
<td>Fadi</td>
<td>YouTube, Google (e.g., Google Translate), TED, Siri (PDA)</td>
</tr>
<tr>
<td>Jacob</td>
<td>Skype, WhatsApp (for writing), Line (for writing), YouTube (for watching and listening), Facebook (for reading), Google Translate</td>
</tr>
<tr>
<td>Kyle</td>
<td>Oxford 3000, YouTube, Audible, TED</td>
</tr>
<tr>
<td>Sammie</td>
<td>CNBC, TED, BBC</td>
</tr>
</tbody>
</table>

In one of the interview responses, Sammie thought that smartphones are all about the apps, depending on the interest of the user, the purpose of the application, and the goal that the user is trying to achieve after downloading and using the application. This claim is explained in the following interview passage:

I think when you like, there is FM on your phone, you can download and it's all about apps, you know what you download on your phone because like, some people are interested in health, some people are interested in business, I’m as a student, I'm interested to learn English, so I downloads apps that like, give me a lot of benefits in English. (Sammie- 00:08:48.10)

Also, Kyle stated that it is a good way to improve his fluency when he uses apps that he can read and listen to at the same time by stating, “I think it’s a good way to improve the fluency.” (Aug 27 7:20 pm). Similarly, audiobooks were used to improve the listening skills among some of the participants, and the following is a learning experience that one of the participants mentioned when he used audiobooks. He addressed his feelings regarding the speakers he was listening to:
for listening, I used to use audio books, you know, but at that time, it was difficult for me. They speak very fast, and I didn't understand what it says, but now it’s okay. I listen almost every day, and from the easy like story, like a horror story, or any story, I mean, I copy the voice or the feelings, emotions when they're speaking, like “One day…”, their emotions. (Jacob- 00:11:44.08)

Clarity of the application content, appropriateness, and conversation style were among the features that Sammie enjoyed when he addressed his experience in improving his listening skills through mobile applications:

There is a lot of a bunch of apps like, to care about listening and speaking or like apps for FM like, BBC, CNBC all about listening, listen to debate, conversations about the news for the society, you listen to it and it's good because it's a clear English, you know, without slangs without anything, you know, so I think this will help you a lot, and I used to use this because and this way I think my listening is better than conversation and better than writing, cause it helped me a lot. (00:08:48.10)

Participants mentioned that they learned to improve their language learning skills from the TED mobile application. Sammie mentioned the following experience:

I have, Ted Talk, you know they have apps, it's a good chance to practice because when you like listen to the lecture or like listen to the video you see it, you see the subtitles also, so this help you listening and reading and after like you can discuss, you and your friend, or you watch this video to your friends in a group that you hope to learn English and after that you told them, okay tomorrow we'll discuss this video. (00:07:37.29)

The participants found that the above applications were helpful for improving their learning skills: listening, speaking, reading and writing; however, Adam thought that learning from Ted Talks was a barrier because of the level of complexity of the vocabulary used by the speakers. He mentioned in the interview that “I have, uh, one experience with TED, but TED, you know, they use high vocab”. (00:11:42:09)

Chapter Summary

To sum up, exploring the role of collaboration in the mobile-assisted language learning (MALL) environment, WhatsApp, showed that it was one of the useful elements for enhancing listening and speaking skills. Hence, based on the findings in this chapter, the first research
question answer is part of the second research question findings that are related to the elements that were most useful in enhancing the listening and speaking skills the mobile-assisted language learning (MALL) environment in this study: the WhatsApp group.
CHAPTER 5

DISCUSSION

The purpose of this chapter is to discuss the findings of this research study and the recommendations based on the research findings. This chapter also discusses links between the findings of the study and the literature on mobile-assisted language learning (MALL) and technology integration of mobile technologies into language learning. Furthermore, this chapter also provides implications for instructional practice and suggestions for future research and discusses possible advantages of integrating mobile devices in language learning. For the sake of organization, this chapter includes the following sections: discussion, implications, recommendations for future research, limitations of the study, and a chapter summary.

This study was conducted to explore the role of English language learners’ collaboration via MALL inside and outside of the classroom to improve their listening and speaking skills and to explore the useful elements that could enhance language learning skills, in general, and listening and speaking, specifically. A total of ten participants from different backgrounds participated in this study. Across different contexts in language learning and several domains within mobile learning, the participants displayed a variety of uses of mobile technologies, specifically smartphones, to assist them in learning English. Both research questions yielded answers that are related to the uses, benefits, and drawbacks of smartphones along with exploring the MALL environment (i.e., WhatsApp) when it comes to learning English in the setting of this study. The discussion in this chapter is centered on the two research questions:
Research Question 1

How are mobile devices, such as smartphones, used for learning English?

Mobile technologies have rapidly become an integral part of language learning over the past three-decades (Ally, 2009; Dias, 2002; Dickey, 2001; Green, Collier, & Evans, 2001; Twarog & Pereszlenyi-Pinter, 1988). More specifically, mobile technology has many substantial advantages for second language learning (Ally, 2004; Sharples, 2002). Based on that, participants in this research study were interested in being part of the study and learning some new ways to use mobile devices in their English language learning journey.

Such interest could stem from the mere desire to explore new technologies as a tool to help learn English outside of traditional classroom settings. It could also be the advancements and availability of new technologies, such as smartphones, that made learners intrigued to try out different techniques to enhance their language learning.

Using smartphones for educational purposes has been the subject of various studies in recent years (Keskin, & Metcalf, 2011; Pietryk, et al., 2011; Saran, Cagiltay & Seferoglu, 2008; Scott et al., 2010). Studies by Gromik (2012), Nah et al. (2008); and Fallahkhair et al. (2007) showed that learning with a smartphone was one of the features that smartphones facilitated. Likewise, learners in this study learned different skills from their peers and from the mobile applications, fostering the language learning process that these mobile technologies provide.

The participants in this study used smartphones to learn in English in different ways. First and foremost, most participants used their smartphones to translate words, idioms, phrases and expressions from and into English. This aligns with many studies that examined the effect of electronic dictionaries on learner attitudes toward reading in a foreign language and found that
learners strongly prefer using electronic dictionaries over paper dictionaries and have a more positive attitude and willingness to read in a foreign language when using electronic dictionaries (Aust et al., 1993; Laufer & Levitsky-Aviad, 2006; Liou, 2000; Loucky, 2005).

The findings align with Kukulska-Hulme’s (2009) claim that mobile learning technology is more useful for doing activities outside of the classroom. Students, for example, can use their mobile device to read, explore the Internet, organize data, and share information with peers; students can also learn independently or cooperate with other students and teachers (Liu, et al., 2003).

Additionally, the findings showed that the participants enjoyed the availability and variety of mobile applications to help them learn English. Moreover, the results showed that listening to FM radio applications, audiobooks, and various news outlets was one of the uses of smartphones to help participants learn English, specifically listening. Similarly, participants utilized watching YouTube videos while multitasking other tasks such as taking screenshots, reading captions, etc. The participants used their smartphones as well to check their pronunciation and spelling. Connecting with other people and chatting were one of the uses that dominated the results of the study. Using smartphones for reading as an alternative for books was also one of the findings of the study.

As multiple evidence in the study indicated, the listening skill, followed by speaking, stood out in frequency among the major learning skills. For instance, the majority of the participants (56%) in the survey stated that they almost daily made efforts to improve their listening skill using mobile devices. The words listen (3%) and listening (3%) in Figure 5. were among the top 20 most frequently used words by the interviewees. Therefore, the reasons
students used mobile applications showed they were trying to improve their listening skills, sometimes in an effort to replace the native speaker in case none was available. This aligns with previous research as shown by Figure 14 cited from the SkillsYouNeed website.

Figure 14: Time adults spend communicating.

As adults spend an average of 70% of their time engaged in some sort of communication, an average of 45% of the time is spent listening compared to speaking (30%), reading (16%) and writing (9%) (Adler et al. 2001). Therefore, unlike reading and writing, the oral skills, represented in listening and speaking, involve timeliness, promptness, and immediacy. This was not only one of the reasons to focus on oral and aural skills in this study (i.e., listening and speaking), but also shows that students make an effort to try to enhance their language learning skills, especially listening and speaking, via mobile devices, mainly smartphones.

Research Question 2

What elements of the mobile-assisted language learning (MALL) environment, if any, were identified as being most useful or distracting in enhancing listening and speaking skills?

Research showed that the mobile technology has many significant advantages for second language learning (Ally, 2004; Holliday, 1999; Roschelle, 2003; Sharples, 2002; Sharples,
Taylor, & Vavoula, 2010). Similarly, there are some benefits and advantages of smartphones in this study. One of the assertions that emerged, among other benefits, showed that smartphones help support learning inside and outside of the classroom and help enhance listening and speaking skills. According to Viberg and Grönlund (2012), such an assertion aligns with multiple studies that found language learning benefits in the use of MALL, such as

integrating the mobile technology in both formal and informal contexts; the ‘fun’ moment when engaging learners in authentic learning contexts; the learners’ contribution to the creation of the learning content; the use of mobile devices to support the practice of achieving listening and speaking skills effectively etc. (p.7)

Similarly, for instance, Miangah and Nezarat, (2012) state that among all modern communication devices, mobile phones are the most powerful communication medium, even richer than email or chat, as it can act as a learning device despite its technical limitations. This agrees with participants who preferred smartphones over laptops and translation mobile applications over traditional dictionaries that are in textbook forms.

The findings of the study showed how learners found smartphones useful and easy to use when it came to language learning, which aligns with the research on this aspect in studies by Huang et al. (2012), Chen and Li (2010), Cheng et al. (2010), and Chang and Hsu (2011). The same concept applies to ubiquitous learning, which is one of the features of mobile-assisted language learning mentioned in studies like Huang et al. (2012), Liu (2009), Chen and Li (2010), Cheng et al. (2010), and Fallahkhair et al. (2007). Participants found this feature helpful when it came to learning on-the-go.

Not only do smartphones facilitate sharing educational materials and support collaborative learning (Hayes et al., 2004), they also bring new channels for interaction between learners and teachers and among learners themselves (Pietrzyk et al., 2011). As smartphones are
portable in nature, students carry them everywhere allowing learning to occur anytime (Houser et al. 2002; Zurita & Nussbaum, 2004).

Similar to any other technology, smartphones have limitations (Al-khamaysah et al., 2007; Corlett et al., 2005; Dyson et al., 2009; Hammer et al., 2010; Houser et al., 2002; Keegan, 2002; Kukulska-Hulme et al., 2007; McGreen & Arnedillo Sanchez, 2005; Popat & Stead, 2005; Roschelle, 2003; Wentzel et al., 2006). Not only do smartphones have limitations, but so do mobile applications that are used within smartphones. Such limitations can be looked at as drawbacks, obstacles, challenges or disadvantages. Therefore, the WhatsApp is no exception.

Distraction was one of the drawbacks of smartphones that participants mentioned in this study. Research shows that students lacked focus inside the classroom with the presence and use of their smartphones (McGreen & Arnedillo Sanchez, 2005). In the same fashion, Hammer et al. (2010) found that most students use their smartphones and their laptops for non-academic purposes during the lectures; they chat with their friends, play games, and browse the Internet during lecture time. Moreover, the ringing of smartphones in classrooms has been seen as an irritation and distraction (Pietrzyk et al., 2011). The same concept applies to the findings of the study in which participants found the ringing of smartphones and the different times of communication disturbing.

The MALL environment in this study, WhatsApp, is a mobile application that can be utilized for language learning. Just like mobile applications for language learning support and enhance language learning, Godwin-Jones (2011); Chang and Hsu (2011); Chen and Chung (2008); Chen and Li (2010); Fallahkhair et al. (2007); Huang et al. (2012); Liu (2009); Petersen and Markiewicz (2008); Petersen et al. (2011); Sandberg et al.(2011); Stockwell (2007, 2008,
Huang et al. (2012), the MALL environment that was the pool for meeting to learn English collaboratively, share knowledge and resources, ask questions, receive support, etc., was a also mobile application called: WhatsApp. The findings showed that the participants found the on-the-go WhatsApp group learning experience helpful.

Jones et al. (2006) identified six reasons why mobile-assisted language learning is a source of motivation for the learners: control over goals, ownership, the fun factor, communication, learning-in-context, continuity between contexts. The findings of this study showed that participants also expressed these reasons in their pursuit of language learning via mobile devices.

When it comes to language learning skills, especially listening and speaking, several studies found the development of oral proficiency of students who practiced with written chat improved more than groups who practiced with face-to-face discussion (Blake, 2009; Payne & Ross, 2005; Payne & Whitney, 2002). In addition to mobile radio applications, the use of audio books helped the students in the current study improve their listening and speaking skills, aligning with the aforementioned research studies.

Studies showed that collaborative learning was present in mobile-assisted language learning environments (Cheng et al., 2010; Liu, 2009) and also via mobile-device supported peer-assisted learning (Lan et al., 2007). Findings of the current study also showed that students collaborated with each other, shared resources and mobile applications, and gave feedback to each other, gave instructions on how to download applications, learn vocabulary, etc.

Implications for Instructional Practice
Implications for Students

Students could utilize smartphones for note taking instead of pen and paper. They could either take notes by typing or by voice commands on their smartphones or other mobile devices such as iPads. The same principle applied to students who utilized translation applications for word meaning and word pronunciation.

Students who did not participate in the WhatsApp could have been shy, concerned about making mistakes, not ready to adjust to the new environment, or just watched and did not participate, which could relate to the Bystander Effect. Therefore, teachers could motivate such students by giving them extra credit for participation, collaboration, and active engagements with their peers in the MALL environment.

Implications for Teachers

Incorporating mobile applications, such as WhatsApp, in the language-learning classroom could be helpful if they are implemented with extracurricular activities. For example, in courses that address a language learning skill such as speaking, a WhatsApp group could be created for teachers and students to exchange resources on pronunciation, speeches, etc. The same approach applies to other language learning areas and skills. Moreover, introducing mobile applications to students based on their interests can be effective. For example, students can use mobile applications that provide health content or business topics along with language learning activities and topics.

Incorporating instructional YouTube videos in the language learning classroom through which students can enhance several language skills such as grammar, writing, listening,
speaking, reading (captions), etc. would be useful to foster language learning skills such as listening, speaking and reading (in the case of captions being activated on displayed videos). In addition to that, providing supplemental activities via smartphones and mobile applications to support classroom activities could ensure language learning outside classroom boundaries.

Furthermore, teachers could encourage the use of smartphones by providing activities that utilize smartphones, such as searching for a word’s meaning, listening to authentic radio application content, listening to audio books, etc. Finally, since informal English can be present in most chatting applications, teachers could encourage the use of proper spelling, language, usage, etc. via interaction with their students in a language learning environment, such as WhatsApp.

Implications for Teachers and Administrators

It could be effective to encourage teachers to create and join WhatsApp groups to exchange ideas on how to collaborate and foster learning activities in their classrooms. Allowing teachers and students to interact with each other in mobile-assisted language learning environments, such as WhatsApp, for extra support, assistance, consultations, etc., could be very instrumental to the language learning process. In addition to email, students could reach their teachers via mobile applications, such as WhatsApp, for instant feedback, assistance, etc., whether in groups or individually. Likewise, using mobile applications to project and display immediate feedback in the classroom can be effective. For example, students could rate their classmates on their presentation performances using applications such as PollEverywhere.com.

As we should not be immediately dragged in by the hype of any technology, we should focus on the language learner before the technology itself. Mobile technologies, including
smartphones, are only instructional tools; they are not instructors. So implementing smartphones in the extracurricular activities could encourage students who would like to have more access to materials and extra points, and improve their language learning skills.

Recommendations

This research study was an attempt to explore integrating mobile technology in an academic setting, so suggestions mainly focus on implementing more practical ways to integrate mobile-assisted language learning techniques into language learning classrooms. Because several studies align with the advantages of using mobile devices such as smartphones for enhancing listening and speaking skills, along with other language learning skills, I suggest incorporating mobile device use in the language learning curriculum.

On the other hand, several factors can play a role in implementing practical steps for incorporating mobile devices, such as smartphones, in the instructional learning environment. Therefore, implementing the use of mobile devices should vary depending on students’ backgrounds, the size of the sample, data collection time, etc.

Also, from a linguistic perspective, it could be helpful to focus on one language learning skill at a time instead of combining all language skills together in one short period of time.

Moreover, from a technological perspective, I suggest that the focus must be on one single device during a course instead of all mobile devices combined. Students need to be familiar with the technology in a slow-but-sure type of instruction instead of overwhelming them with variety of mobile devices and technologies.
In the same way, I suggest focusing on one, or only a few, mobile applications to be incorporated into a curriculum or instruction. That would ensure the students would be familiar with one single application instead of several that could distract from the purpose of the lesson that they are receiving in the classroom.

From a global perspective, I recommend different sampling strategies. Various representations of cultures, nationalities, and cultural background could provide more insight of mobile learning perceptions among learners from various backgrounds, cultures, or nationalities. Such a strategy could help future researchers see patterns emerge in their studies.

Similarly, future research could use a sampling strategy that could recruit female participants in their study. Such sampling strategies could help future researchers and participants further understand mobile learning as well as along with language learning.

In the same line, different cultures could have different uses or perceptions of mobile learning and MALL environments. Future research could consider expanding culture, gender, and nationality differences in relation to future MALL research and mobile learning in general.

I recommend establishing a MALL Center to explore multiple and various mobile-assisted language learning environments. This research study was such an attempt to explore technology integration in one MALL environment. I also suggest alternative informal learning scenarios for implementing (mobile) technology integration plans. For instance, instead of implementing a plan individually via a mobile application such as WhatsApp, the whole class can be split into two or four teams. Each team can represent and address an individual language learning skill. Then the whole class can exchange knowledge with each other in their MALL group discussions.
Another suggested mobile technology integration scenario is for students to be divided into various teams depending on their interest and background, especially if some of them are working in the business/training fields that the corporate domain may require for training purposes. For example, one team could be English for Special Purposes (ESP) and another team could be English for Academic Purposes (EAP), and so on.

Such collaborative work on such a big project could involve multiple thoughts and several ideas from all the team members or students who are working on the specified content area. I believe that might bring about different results from different schools of thought. One of my teaching philosophy principles is to try different settings and different teaching methods every semester or after every short program so that there is an ongoing, cyclical process of getting feedback and implementing corrective actions as necessary.

This research helped me explore new technology-oriented implications and applications in the field. Moreover, this study provided me with several recommendations and considerations that need to be taken when considering setting a MALL center:

1. Proposing justified rationales to support why a specific piece of hardware or software (or application) is to be used in a language learning class. It would support the implementation of mobile technology integration to present a rationale for every single device or application selected.

2. Money is not like mobile technologies, available anytime and anywhere. Cost-effectiveness is encouraged. So selecting the right budget can be one of the main objectives throughout the implementation of the instruction.
3. In relation to the previous point, MALL resources and mobile applications can help make learning happen since most of the mobile applications along with Wikis, Blogs, and social networking sites are free. They can immensely serve, especially if they are tailored in guided instruction forms as a supporting substitute for traditional teacher carry-on materials that are taken to the classroom every day.

4. Based on informed research, learning theories, and assessment and standards, several mobile technology scenario designs could be recommended by teams of content experts and instructional designers.

5. As the nature of it all is mobile, minimal furniture could be needed for the classroom or specific seating arrangements during the MALL instruction.

6. Exploring new and emergent mobile technologies for students with disabilities could align with the Universal Design for Learning (UDL) by Rose & Meyer (2002).

7. Research showed that collaboration and team work could foster learning. Therefore, along with teacher training, a plan of integrating mobile technology in the classroom curriculum could help teachers keep up with the culture of current and emergent mobile technologies, which could ultimately help achieve the objective of any implemented instruction.

8. Instructional strategies and tactics that support integrating mobile technology plans are useful when approaching stakeholders and decision makers in the pursuit of integrating (mobile) technology in the language learning process.
9. This study sheds some light on current 21st Century digital learners. Therefore, learning more about the needs of such learners and the availability and affordances of mobile technologies could help them in their language learning process.

10. Moreover, some distinguished parts of my learning experience in this research are the exposure to MALL abundant online resources such as

- Open Source
- Mobile Web 2.0 tools and mobile applications
- TED’s creative ideas
- Facilitated learning for learners with disabilities
- Mobile-friendly language learning websites

The Figure 15 shows most of the elements I recommend should be incorporated when integrating mobile technology in a language learning classroom.
Figure 15: Suggested elements of mobile technology integration.

Limitations of the Study

Although this study reached its goal, there were some inescapable limitations. First, the study was limited by its sample size. The study was conducted on a population of 10 students across three different language levels out of twelve levels in a language learning institute in the Midwest. Therefore, because this is a qualitative case study and the study was conducted in one language institute, there is obviously a lack of generalization. Similarly, no female participants volunteered to join the study. Results and findings of the study could be different if there had been some female participants.
Moreover, the students who were selected to participate in the study were from one Midwestern language learning institute. Hence, their language learning experience might be very similar due to the curriculum and the type of instruction they received in their everyday classrooms. Additionally, the workload, assignments, homework, and exercises they received on a daily basis affected their participation in the mobile-assisted language learning environment: the WhatsApp group.

Another limitation of the study is that the participants in the study met face to face in their language learning classrooms and also met in the MALL environment: that WhatsApp group. That might affect the data based on their social interaction in person or in the MALL environment. In addition to that, the researcher was the single coder in the study. Finally, the experiences and attitudes of participants in the study could only be related to the time the research would take place. In other words, if the time of the study had been longer, there could have been more data-driven findings, along with more emerging themes.

Chapter Summary

The purpose of this chapter was to discuss the findings of this study as well as the recommendations. This chapter discussed links between the findings of the study and the literature on MALL and technology integration of mobile technologies into language learning. In addition to that, the limitations of the study were addressed. Furthermore, this chapter provided implications for instructional practice along with suggestions and recommendations that discussed possible advantages of integrating mobile devices in language learning.
REFERENCES


Kukulska-Hulme, A., & Shield, L. (2008). An overview of mobile assisted language learning: From content delivery to supported collaboration and interaction. ReCALL, 20(3), 271-289.


http://www.skillsyouneed.com/ips/listening-skills.html


APPENDIX A

SURVEY RESPONSES
1. Which is your favorite subject? (Mark only one)
   a. English  3  33%
   b. History/social science  1  11%
   c. Mathematics  1  11%
   d. Science/health  0  0%
   e. Computers/vocational education  1  11%
   f. Fine/performing arts  0  0%
   g. Physical education  1  11%
   h. Other  2  22%

2. Which best describes your nationality?
   a. African American  0  0%
   b. Asian  3  33%
   c. Caucasian/White  0  0%
   d. Filipino/Pacific Islander  0  0%
   e. Hispanic/Latino  0  0%
   f. Middle Eastern  4  44%
   g. Other  2  22%
   h. Decline to state  0  0%

3. What is your gender?
   a. Male  9  100%
   b. Female  0  0%

4. Please rate your overall comfort level with technology.
a. If you give me instructions, I am still unable to figure it out. 0 0%
b. I am okay, but often ask for assistance. 2 22%
c. I can get by and rarely ask for assistance. 2 22%
d. I am able to work independently and can usually figure problems out on my own. 5 56%
e. I am very proficient, so much so that others often seek my advice. 0 0%

5. I have used (more than once) the following mobile technologies (mark all that apply).

a. Cell phone or Smartphone 9 100%
b. mp3 player (including an iPod) 4 44%
c. PDA 0 0%
d. e-book reader 1 11%
e. Laptop computer 7 78%
f. Tablet PC (including an iPad or XOOM) 5 56%
g. None of the above 0 0%

6. I own the following mobile technologies (mark all that apply).

a. Cell phone or Smartphone 9 100%
b. mp3 player (including an iPod) 3 33%
c. PDA 0 0%
d. e-book reader 0 0%
e. Laptop computer 7 78%
f. Tablet PC (including an iPad or XOOM) 3 33%
g. None of the above 0 0%

7. In some of my classes, I engage in learning activities that involve the use of mobile devices to solve real-world problems or issues.
8. I use mobile technologies in the classroom and/or to study classroom content.

9. In some of my classes mobile technologies are used only by me (the student) and not by my teachers.
10. I frequently use mobile devices for research purposes that require investigating problems, taking a position, making decisions, and/or seeking a solution.

- a. Never 0 0%
- b. Seldom 1 11%
- c. Sometimes 2 22%
- d. Often 4 44%
- e. Almost daily 2 22%

11. In my classes, students are permitted to use their mobile devices.

- a. Never 0 0%
- b. Seldom 4 44%
- c. Sometimes 3 33%
- d. Often 2 22%
- e. Almost daily 0 0%

12. I am likely to use mobile devices when I am outside the classroom to (a) collaborate with others, (b) communicate with others, and/or (c) research problems of personal interest that address specific content areas.
13. My teachers promote, monitor, and model the ethical use of mobile technologies in their classrooms.

- a. Never: 0 (0%)
- b. Seldom: 1 (11%)
- c. Sometimes: 3 (33%)
- d. Often: 2 (22%)
- e. Almost daily: 3 (33%)

14. My teachers encourage me to use mobile devices while in the classroom to learn and to spark my creativity.

- a. Never: 4 (44%)
- b. Seldom: 5 (56%)
c. Sometimes 0 0%

15. I use mobile devices outside the classroom to learn and to spark my own creativity.

d. Often 0 0%
e. Almost daily 0 0%

16. I use many forms of mobile technologies (e.g., iPods, iPads, e-book readers) to engage in collaborative problem-solving opportunities either inside or outside the classroom.

d. Often [4]
e. Almost daily [1]
c. Sometimes [2]
b. Seldom [2]
a. Never [0]

a. Never 0 0%
b. Seldom 2 22%
c. Sometimes 2 22%
d. Often 4 44%
e. Almost daily 1 11%

17. I like to share knowledge with others using my mobile device
18. I like to collaborate with others using my mobile device

- a. Never: 0 (0%)
- b. Seldom: 2 (22%)
- c. Sometimes: 2 (22%)
- d. Often: 3 (33%)
- e. Almost daily: 2 (22%)

19. I make an effort to improve my listening skill using mobile devices

- a. Never: 0 (0%)
- b. Seldom: 0 (0%)
- c. Sometimes: 3 (33%)
- d. Often: 1 (11%)
- e. Almost daily: 1 (11%)
20. I make an effort to improve my speaking skill using mobile devices

- a. Never 1 11%
- b. Seldom 2 22%
- c. Sometimes 1 11%
- d. Often 2 22%
- e. Almost daily 3 33%
APPENDIX B

CONSENT FORM
Appendix B
CONSENT FORM

I agree to participate in the research project titled (Mobile Learning Impact on English Language Learners’ Speaking and Listening Skills: A Case Study on Collaboration in Mobile-Assisted Language Learning Environments) being conducted by Anwer Al-Zahrani, a doctoral candidate at Northern Illinois University. I have been informed that the purpose of the study is to explore the role of collaboration among English language learners’ listening and speaking skills in Mobile-Assisted Language Learning (MALL) environments, in an effort to diversify educational strategies and learning activities. The focus is on the listening and speaking skills because they both involve timeliness, promptness and immediacy as opposed to reading and writing where there are open possibilities for slow-paced responses and interactions.

I understand that if I agree to participate in this study, I will be asked to do the following: complete surveys and interviews and participate in a mobile app learning environment. I understand that the researcher plans to attend classes, over a one month period, as an observer and take notes while students are working face-to-face on the listening and speaking activities. I understand that the researcher will attend 20 classes in total, 4 days a week. Students will be taking an average of two hours studying listening and speaking every day. The survey will be conducted during the first week and will last 10 minutes. The interview will be conducted during the fourth week and will last 20 minutes. Both the survey and the interview will be conducted in the WhatsApp application by submitting questions to elicit answers through the text and audio features. The interview questions will be about: the current use of mobile technologies, the challenges students face using mobile devices in and outside the classrooms, and the advantages of sharing knowledge and collaboration via mobile devices to improve language learning. Therefore, the researcher will attend with the students during the duration of the instructional session that lasts for a month. On the other hand, the information exchange in WhatsApp will be available for the researcher to monitor and access 24/7 as he can go back to the learning activities anytime.
I am aware that my participation is voluntary and may be withdrawn at any time without penalty or prejudice, and that if I have any additional questions concerning this study, I may contact Anwar Al-Zahrani at 571-265-6377 or his Advisor Dr. Wei-Chen Hung at 815-753-8175. I understand that if I wish further information regarding my rights as a research subject, I may contact the Office of Research Compliance at Northern Illinois University at (815) 753-8588.

I understand that the intended benefits of this study include ways I can improve my listening and speaking skills via mobile learning experiences.

I have been informed that there are no potential risks and/or discomforts I could experience during this study. I understand that all information gathered during this experiment will be kept confidential by the researcher. I understand the researcher will keep the information in a separate hard drive in a locked room, and will upload a copy of it on his password-protected Google Drive that is stripped of any potentially identifying information. The researcher will be the only person who have access to the data.

I understand that my consent to participate in this project does not constitute a waiver of any legal rights or redress I might have as a result of my participation, and I acknowledge that I have received a copy of this consent form.

Signature of Subject

Date

I understand that during the study my speech may be recorded at two points during the study: 1) in the interview and 2) via the WhatsApp application that has an audio recording feature. I understand that I can enable the audio transfer feature in the application from my end. I understand that the application is available in my mobile device and that I can use it to participate in the activities and when I want to record my speech and speaking activities.

Signature of Subject

Date

APPROVED
JUL 24 2014
BY NIU I.R.B.
VOID ONE YEAR
FROM ABOVE DATE
APPENDIX C

INSTRUMENTATION USAGE PERMISSION
Dissertation Instruments

Jason Messinger <jason.messinger@simivalleysusd.org>                                      Thu, Oct 24, 2013 at 8:26 PM
To: Anwer Al-Zahrani <aalzahrani@niu.edu>

Anwer,

Please feel free to use and/or adapt any of the instruments used in my dissertation in your pursuit to complete your dissertation. Best of luck to you. Please contact me if you have any questions.

Jason Messinger, Ed.D.
Common Core Mathematics
Simi Valley Unified School District

From: "Anwer Al-Zahrani" <aalzahrani@niu.edu>
To: "Jason Messinger" <jason.messinger@simivalleysusd.org>
Cc: jsmessin@pepperdine.edu
Sent: Thursday, October 24, 2013 2:17:40 PM
Subject: Dissertation Instruments

Dear Dr. Jason Messinger,

Greetings!

My name is Anwer Al-Zahrani, and I am a doctoral candidate in the Instructional Technology Program at Northern Illinois University (NIU). My research study topic is very similar to yours with a focus on mobile-assisted language learning (MALL). Could I possibly use and modify your instruments to gather data in my study? After reading your dissertation and learning a great deal from it, I thought I would ask you for permission to use and modify the instruments you used in your study.

Hope this finds you well!

Thanking you in advance with my best wishes,
Anwer Al-Zahrani

Anwer Al-Zahrani
Instructional Technology, Ed.D. Candidate
aalzahrani@niu.edu
APPENDIX D

INTERVIEW TRANSCRIPTION SAMPLE
Interviewer: The next question is: what are some of the apps or the applications that you use to help you improve your listening and speaking skills?

Interviewee: Uh, I have, Ted Talk, you know they have apps, it’s a good chance to practice because when you like listen to the lecture or like listen to the video you see it, you see the subtitles also. So this help your listening and reading and after like you can discuss, you and your friend, or you watch this video to your friends in a group that you hope to learn English and after that you told them, okay tomorrow we’ll discuss this video, like we did today, me and Adam and our friends, we saw a video in [name of the language school computer lab], Ted Talks, and after that we sat at the table and we discussed it. And in this we practice our listening after that we practice our conversation, you know.

Interviewer: Excellent, so is it like hitting two birds with one stone?

Interviewee: Yeah, of course.

Interviewer: Question number seven is, uhm, what are the benefits of mobile devices when it comes to improving listening and speaking skills?

Interviewee: I think when you like, there is FM on your phone, you can download and it’s all about apps, you know what you download on your phone because like, some people are interested in health, some people are interested in business. I’m as a student, I'm interested to learn English, so I download apps that like, give me a lot of benefits in English so there is a lot of a bunch of apps like, to care about listening and speaking or like apps for FM like, BBC, CNBC all about listening, listen to debate, conversations about the news for the society, you listen to it and it's good because it's a clear English, you know, without slangs without anything, you know. So I think this will help you a lot, and I used to use this because and this way I think my listening is better than conversation and better than writing because it helped me a lot.

Interviewer: Okay, great, the next question is, uhm, what do you think about the WhatsApp group experience, during the period that you used it?

Interviewee: As I told you, it was like spectacular, because I didn't thought that we, I didn't thought like ever I will have group like this to just learn to just like have a good experience and to have help from your friend is much flexible and much better than have it in mobile and like computer, cause friend well, like, you have the flexibility to ask whatever you want and he will still understand you like ask him about what do you think of this app, it's good or not, I will ask him about [it] and he will respond immediately and he will tell you about his experience with this, and you learn about it. To everything pros and cons, so this is the benefit and I think the consequence is that we are not available all the time you know, at three in the morning, two in the morning, I think this is the disadvantage for this, but above all it's great. It's very great.
APPENDIX E

IRB APPROVAL
24-Jul-2014

TO: Anwer Al-Zarani  
Educational Technology, Research, and Assessment

RE: Protocol # HS14-0225 “Mobile learning impact on English language learners speaking and listening skills: A case study on collaboration in mobile-assisted language learning environments”

Your Initial Review submission was reviewed and approved under Expedited procedures by Institutional Review Board #1 on 24-Jul-2014. Please note the following information about your approved research protocol:


If your project will continue beyond that date, or if you intend to make modifications to the study, you will need additional approval and should contact the Office of Research Compliance and Integrity for assistance. Continuing review of the project, conducted at least annually, will be necessary until you no longer retain any identifiers that could link the subjects to the data collected. Please remember to use your protocol number (HS14-0225) on any documents or correspondence with the IRB concerning your research protocol.

Please note that the IRB has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

Unless you have been approved for a waiver of the written signature of informed consent, this notice includes a date-stamped copy of the approved consent form for your use. NIU policy requires that informed consent documents given to subjects participating in non-exempt research bear the approval stamp of the NIU IRB. This stamped document is the only consent form that may be photocopied for distribution to study participants.

It is important for you to note that as a research investigator involved with human subjects, you are responsible for ensuring that this project has current IRB approval at all times, and for retaining the signed consent forms obtained from your subjects for a minimum of three years after the study is concluded. If consent for the study is being given by proxy (guardian, etc.), it is your responsibility to document the authority of that person to consent for the subject. Also, the committee recommends that you include an acknowledgment by the subject, or the subject's representative, that he or she has received a copy of the consent form. In addition, you are required to promptly report to the IRB any injuries or other unanticipated problems or risks to subjects and others. The IRB extends best wishes for success in your research endeavors.