

Georgia State University
ScholarWorks @ Georgia State University

Middle and Secondary Education Dissertations

Department of Middle and Secondary Education

Spring 5-17-2019

NAVIGATING MOBILE LEARNING:
ENGLISH LEARNERS' LANGUAGE
LEARNING AND LITERACY PRACTICES

Aram Cho

Follow this and additional works at: https://scholarworks.gsu.edu/mse_diss

Recommended Citation

Cho, Aram, "NAVIGATING MOBILE LEARNING: ENGLISH LEARNERS' LANGUAGE LEARNING AND LITERACY PRACTICES." Dissertation, Georgia State University, 2019.
https://scholarworks.gsu.edu/mse_diss/78

This Dissertation is brought to you for free and open access by the Department of Middle and Secondary Education at ScholarWorks @ Georgia State University. It has been accepted for inclusion in Middle and Secondary Education Dissertations by an authorized administrator of ScholarWorks @ Georgia State University. For more information, please contact scholarworks@gsu.edu.

ACCEPTANCE

This dissertation, NAVIGATING MOBILE LEARNING: ENGLISH LEARNERS' LANGUAGE LEARNING AND LITERACY PRACTICES, by Aram Cho, was prepared under the direction of the candidate's Dissertation Advisory Committee. It is accepted by the committee members in partial fulfillment of the requirements for the degree, Doctor of Philosophy, in the College of Education and Human Development, Georgia State University. The Dissertation Advisory Committee and the student's Department Chairperson, as representatives of the faculty, certify that this dissertation has met all standards of excellence and scholarship as determined by the faculty.

Peggy Albers, Ph.D.
Committee Chair

Diane D. Belcher, Ph.D.
Committee Member

Jayoung Choi, Ph.D.
Committee Member

Teri Holbrook, Ph.D.
Committee Member

G. Sue Kasun, Ph.D.
Committee Member

Date

Gertrude Tinker Sachs, Ph.D.
Chairperson, Department of Middle and
Secondary Education

Paul A. Alberto, Ph.D.
Dean, College of Education and
Human Development

AUTHOR'S STATEMENT

By presenting this dissertation as a partial fulfillment of the requirements for the advanced degree from Georgia State University, I agree that the library of Georgia State University shall make it available for inspection and circulation in accordance with its regulations governing materials of this type. I agree that permission to quote, to copy from, or to publish this dissertation may be granted by the professor under whose direction it was written, by the College of Education and Human Development's Director of Graduate Studies, or by me. Such quoting, copying, or publishing must be solely for scholarly purposes and will not involve potential financial gain. It is understood that any copying from or publication of this dissertation which involves potential financial gain will not be allowed without my written permission.

Aram Cho

NOTICE TO BORROWERS

All dissertations deposited in the Georgia State University library must be used in accordance with the stipulations prescribed by the author in the preceding statement. The author of this dissertation is:

Aram Cho
Middle and Secondary Education
College of Education and Human Development
Georgia State University

The director of this dissertation is:

Dr. Peggy Albers
Department of Middle and Secondary Education
College of Education and Human Development
Georgia State University
Atlanta, GA 30303

CURRICULUM VITAE

Aram Cho

ADDRESS: 10 Perimeter Summit Blvd #1408
Brookhaven, GA 30319

EDUCATION:

Ph.D.	2019	Georgia State University/ Middle and Secondary Education
Master's Degree	2011	University of Arizona/ ESL Education
Master's Degree	2010	University of Georgia/ Linguistics
Bachelor's Degree	2006	Chonbuk National University English Education/Pedagogy

PROFESSIONAL EXPERIENCE:

2012-Present	Teaching/ Research Assistantship Georgia State University
2013-2017	Instructor of Korean Emory University

PUBLICATIONS AND PRESENTATIONS:

Choi, J., Park, J., Shin, J., Cho, A., & Pang, M. (2018). [Review of the book *The Translanguaging Classroom: Leveraging Student Bilingualism for Learning*, written by Ofelia García, Susana Ibarra Johnson, and Kate Seltzer]. Accepted to *TESOL Journal*.

Choi, J., Shin, J.H., & Cho, A. (2016). Maintaining three languages: the teenage years (Parents' and teachers' guides). *International Journal of Multilingualism*, 15 (1), 113-116. DOI:10.1080/14790718.2016.1257538.

Albers, P., Angay-Crowder, T., Turnbull, S., Cho, A., Shin, J. H., Pang, M. E., ... & Jung, J. K. (2016). Learning Together in Holistic Online Critical Professional Development Spaces. *Talking Points*, 27(2), 17.

Albers, P., Turnbull, S., & Angay-Crowder, T. with Cho, A., Shin, J., Pace, C., Pang, M., Sena, M., & Jung, J. (2015). Questions of matter: Critical conversations in online spaces. *Journal of Adolescent & Adult Literacy*, 59(2), 171-181.

Albers, P., Cho, A. R., Shin, J. H., Pang, M. E., Angay-Crowder, T., Odo, D. M., ... & Turnbull, S. (2015). Critical spaces for critical times: Global conversations in literacy research as an open professional development and practices resource. *Global Education Review*, 2(3).

Choi, J., Park, J., Pang, M., Cho, A., & Shin, J. (2017, Mar) Translanguaging Practices of a Four-year-old in a Multilingual Home: Korean, Persian, and English. Presentation at the Georgia Association of Multilingual Multicultural Education (GAOME). Atlanta, GA

Shin, J., Cho, A., & Albers, P. (2016, Nov.). Examining NNES EFL teachers' professional development through online web seminars. Presentation at the Literacy Research Association Conference. Nashville, TN

Choi, J., Pang, M., Cho, A., & Shin, J. (2016, May). Teachers' perceptions about English language learners. Paper presentation at annual international conference of the Korean Association for Multicultural Education (KAME), Seoul National University., Seoul, Korea.

Choi, J., Cho, A., Shin, J., & Pang, M. (2015, Oct). High school boys (English learners) respond to multicultural literature: negotiation of religious identities and conflicting perspectives. Presentation at the Georgia Teaching English as a Second Language, Dunwoody, GA

Choi, J., Maxwell, J., Cho, A., Shin, J., & Pang, M. (2015, Mar). Rethinking Teaching multimodally in two Korean high schools. Teachers of English to Speakers of Other Languages (TESOL), Toronto, Canada

Shin, J., Cho, A., & Albers, P. (2015, Mar). A case study of two Korean EFL teachers' perceptions of web seminars as a professional development tool. Presentation at the American Association of Applied Linguistics Conference Toronto, Canada

Albers, P., Pace, C.L., Angay-Crowder, T., Shin, J., Cho, A., Pang, M.E., Turnbull, S., & Sena, M. (2015, Dec). *Online is the new face2face*. Paper presentation at the Literacy Research Association's 65th Annual Conference, Carlsbad, CA.

NAVIGATING MOBILE LEARNING: ENGLISH LEARNERS' LANGUAGE LEARNING AND LITERACY PRACTICES

by

ARAM CHO

Under the Direction of Dr. Peggy Albers

ABSTRACT

Despite the fact that the majority of teenagers and young adults use smartphones, little research has studied English Learners' (ELs') actual mobile phone language practices, specifically, how and why ELs use their smartphones as language learning assistant devices (Godwin-Jones, 2008). The primary purpose of this qualitative study was to explore ELs' perceptions of mobile-assisted language and literacy practices, and to document ELs' literacy practices through their mobile devices. Drawing from New Literacies Studies (Gee, 2004, 2010; Kress, 2003), research questions that guided this study were as follows: 1) How do participants use mobile devices in their classes, and what features of mobile devices do they find useful (e.g., recordings, video, still photo, etc.)? 2) What mobile device applications do participants find important in school and/or in their everyday lives? 3) Is there a relationship between participants' use of mobile devices and their identity in and out of school? Participants were four ELs aged from 15 to 21: Three high school students and one university student. Primary data for this study

were semi-structured interviews collected over a three-month period. Data were analyzed using constant comparison, looking across participant interviews to generate themes. Several important findings emerged. First, participants utilized various applications/features for language learning, and their mobile device practices were inextricably linked to their social practices through their use of mobile phones. Second, participants intentionally used mobile devices as tools to translate, capture class notes, and seek out auxiliary materials to support their learning in school. Third, ELs' reported that their transition from their home country to the US, resulted in a shift in their personality and identity and their mobile devices provided an emotional support. This study extends current literature and explains how mobile devices play an essential role in ELs' lives in and out of school. With increasing EL populations in US schools, this study articulates ELs' actual use of mobile devices, and how mobile devices are important to ELs' success in the classroom.

INDEX WORDS: Mobile assisted learning, English Learners, technology and language practices

NAVIGATING MOBILE LEARNING: ENGLISH LEARNERS' LANGUAGE LEARNING
AND LITERACY PRACTICES

by

Aram Cho

A Dissertation

Presented in Partial Fulfillment of Requirements for the

Degree of

Doctor of Philosophy

in

Teaching and Learning

in

the Department of Middle and Secondary Education

in

the College of Education and Human Development

Georgia State University

Atlanta, GA
2019

Copyright by
Aram Cho
2019

DEDICATION

I dedicate this dissertation to my family who made my long Ph.D. journey possible. To my beloved husband Ho Jeong who always willingly took extra work for a busy and weary wife, I truly and deeply appreciate your understanding and patience waiting for me in difficult times. Thanks for being my best company when I needed to work until late night, during the weekend, and even holidays. Without you, I would not make it to this far. Thanks for believing me, cheering me, and supporting me. My loving daughter Hannah who gave me laugh of joy and strength to start over when I had frustration. Your smile was my motivation to complete this journey.

To my loving parents, Yong Hwan Cho and Yong Mi Kim, I am eternally grateful for all the scarifies you made for me so I could be where I am today. Your countless prayers gave me strength to overcome many challenges throughout my journey. Your unlimited love and support encouraged me to believe in myself. My little sister/best friend Ayoun who shared happiest times and lowest times together. I feel so blessed to have this wonderful family, as you all are the best people I could ever ask for! Thank you and I love you all with all my heart.

ACKNOWLEDGMENTS

This dissertation would not have been possible without the support and nurturing of numerous people who helped me throughout the journey. Although it would be impossible to name every single person whom I owe much and may not describe fully my sincere and deepest appreciation, I am writing in a hope that they can feel how much I appreciate them. I would express the deepest appreciation to my committee who made this dissertation research possible.

First, I would like to express my deepest and sincerest appreciation to my advisor and dissertation committee chair, Dr. Peggy Albers. She helped shape and construct who I am today. Dr. Albers, I owe the greatest to you! You were always available when I needed you and kindly shared your time and place. I remembered our numerous meetings at the coffee shop and your place. You always listened carefully for what I wanted to study, helped me shape my research idea, directed me to move to the right path, and provided constructive comments on numerous rough drafts. Without your unrelenting support, I could not make it to this far. Just few words cannot capture the gratitude and admiration I have for you!

I would like to express my gratitude to my wonderful dissertation committee, Dr. Diane D Belcher, Dr. Teri Holbrook, and Dr. G. Sue Kasun, for their support. They generously shared their wisdom and provided encouragement all along the way. With their helps and guides, I could navigate my dissertation to a different point of view and richer description.

My special thanks to Dr. Jayoung Choi for her continuous and warm support from the early at this doctoral journey. Dr. Choi, your continued encouragement at every stage of the program made this study a worthwhile to pursue.

This Ph.D. journey would not have been possible the financial support from the department of Middle Secondary Education and the department of World Languages and Cultures. I would express my appreciation to faculty members from these departments, Dr. Omer Ari and Dr. Hakyoon Lee, who provided me an opportunity to work closely with them, to teach wonderful students, and to learn from working with them. In addition to this, I would like to express my appreciation to Emory University and Dr. Bumyong Choi for giving me a great opportunity to teach Korean and learn from them.

Many thanks to my research participants, Anna, Cindy, John, and Kaye who generously shared their time and private stories with a someone stranger. Their stories made this dissertation possible and rich. Lastly, I would like to express my deepest appreciation to my family, my parents who made my long academic journey possible, my sister, Ayoun who was my best chatting friend throughout my US life, my beloved husband Ho jeong who scarified many things for me and my loving daughter, Hannah who always provided me a motivation to finish this dissertation as soon as I can. Without all people, I would not be here where I am now.

TABLE OF CONTENT

LIST OF TABLES.....	vi
LIST OF FIGURES.....	vii
1 INTRODUCTION	1
Background	1
Understanding of the Mobile Device	3
Phenomenon to Be Studied	10
Purpose of the Study and Research Questions	11
My Interest in Mobile Devices and Language Learning	12
Theoretical Framework	15
Overview of the Study	22
Significance of the Study	23
Summary	23
Definitions of Key Terms	25
2 REVIEW OF THE LITERATURE	26
Introduction	26
Review of Theoretical Constructs Related to My Study	27
Understanding the Immerging View of Literacy	27
The New Literacy Studies and Multiliteracies	27
The New Literacies: The Focus on Digital Tools and Digital Literacies	30
Summary	34
Review of Previous Literature Related to My Study	34
E-Learning to M-Learning: The Transition	35
E-Learning and Online Literacy Studies in L1: Affordance in Literacy Practices	36
M-Learning and Online Literacy Studies in L1: mLearning vs. e-learning	39
Summary	42
E-Learning and Online literacy Studies in L2: Active Participation	43
M-Learning and Online literacy Studies in L2: Learning Tools for ELs	47
Summary	51
Conclusion	51
3 METHODOLOGY	53
Research Design	53
Theoretical Consideration of Qualitative Research and a Case Study Approach	55
Procedures of the Study	62
Participant Selection and Recruiting Procedures	62
Recruiting Procedures	63
Participants.....	66
Cindy.....	67
Anna.....	69
John.....	71
Kaye.....	72
Data Collection and Procedures	75
Pre-Survey Initial Information on Mobile Devices Participants Owned and/or Used.....	77
Semi-structured Participant Interviews	77
Participants' Journals	80

Researcher’s Journal and Fieldnotes	80
Data Analysis	82
Member/Participants Checking	85
Ethical Considerations	87
Positioning of the Researcher	87
Summary	89
4 FINDINGS	90
Finding 1	92
Participants’ Use of Smartphone.....	94
Participants’ Use of Tablets and Laptops.....	99
Benefits and Limitations of Mobile Device Use.....	106
Summary.....	110
Finding 2	112
Participants’ Use of a Recording App.....	112
Participants’ Use of the Camera Feature.....	120
Participants’ Use of Other Apps and Websites.....	124
Summary.....	133
Finding 3	134
Summary.....	139
Finding 4	140
Summary.....	164
5 DISCUSSION	167
Mobile Devices and Critical Literacy Practices.....	168
Literacy Practices of ELs and Mobile Devices	168
Critical Literacy (CL) and Mobile Devices.....	170
Implications for Practice.....	185
Rethinking EL Literacy Practices	185
Rethinking Assumptions about Mobile Devices as an Entertainment Tool.....	186
Teaching Matters	187
Integrated and Comprehensive Support System	187
Implications for Research	189
Limitations of the Study	190
Conclusion	191
REFERENCES	192
APPENDICES	213

LIST OF TABLES

Table 1 Summary of Participants and Length of Time Using Mobile Device.....	67
Table 2 Data collection and Connection to RQs adopted from Bloomberg and Volpe.....	76
Table 3 Interview Topics and Times.....	79
Table 4 Researcher’s Journal.....	82
Table 5 Descriptive Coding.....	83
Table 6 Summary of Participants.....	91
Table 7 Survey Summary.....	93

LIST OF FIGURES

Figure 1. Device ownership.....	4
Figure 2. Time spent per adult user per day with digital media.....	5
Figure 3. Number of global users of Internet devices	6
Figure 4. Asian-American and technology.....	7
Figure 5. High school cultural representation.....	100
Figure 6. Kaye’s photo of a cellphone screenshot.....	107

CHAPTER 1

INTRODUCTION

Background

In this era of advanced digital technologies, everything changes rapidly. New technologies are introduced, developed, and become outdated in the blink of an eye. Social media including Twitter, Instagram, and Facebook enable people all over the world to connect and interact. Computers, especially portable laptops, serve as a medium that makes it possible for people across the globe to connect to each other over the Internet. The computer and online technology world continue to evolve rapidly with vast improvements in new devices such as smartphones, iPads, and other tablet PCs. Social media, which was once predominantly a computer-mediated communication tool, has now moved into the realm of mobile device (and particularly mobile phone-mediated) communication (Godwin-Jones, 2008). With this change, scholarly attention to computer-mediated online learning and social interaction has now moved towards the domain of mobile phone learning (Godwin-Jones, 2008). Educators have become very interested in the learning benefits that mobile devices can bring to students in classrooms through various features (Banister, 2010; Chen & Huang, 2010). While the early development of mobile-assisted learning tended to focus on either 1) mobile devices as a tool for language learning or 2) technological perspectives using a behaviorist approach, the current focus is on its various implications for personal learning needs (Todd & Tepsuriwong, 2008). Kukulska-Hulme and Shield (2007) argued that nowadays “publications reporting mobile-assisted language learning (MALL) [are typically] undertaken to discover how far mobile devices are being used to support social contact and collaborative learning” (p. 1). Researchers like Kukulska-Hulmes and Shield (2007) argued that the biggest advantage and the most distinct feature of mobile device-

assisted learning compared to computer-based learning is its mobility. Since students can access the Internet with their mobile devices (for example, via a smartphone) without restrictions on location, such learning devices can easily meet the personal learning needs of students more than any other device, including laptops and desktops, which require a sustainable place for Internet access. It is undeniable that mobile-assisted learning is undergoing rapid development due to the ubiquitous affordability of smartphones (Godwin-Jones, 2011). Due to emerging features that enable distant access, mobile-assisted learning still has high potential for further growth and development, especially for English Learners (ELs). Mobile devices hold the capacity to transform actual language learning practices, which is what this project investigated.

Based on a review of the research, I have realized that mobile device-assisted learning tools offer the potential for people to learn beyond the borders of the traditional classroom setting. Researchers (Craig, Paraiso, & Patten, 2007; Cummins, 2000) argued that mobile technology is beneficial for students learning languages because such technology can help students engage in classroom activities. This is also true for ELs. However, oftentimes these students whose native language is not English need extra help outside of school in order to succeed in regular classrooms. These ELs often enter schools with varied levels of English and individually need different types of support, which mobile device-assisted learning may help provide.

Thus, in this study, I investigated ELs' mobile device-assisted language learning. This study examined ELs' mobile-assisted language learning and literacy practices. This project serves educators and researchers by identifying pragmatic applications of mobile-assisted learning for use in ESL classroom curricula. The central goal of this study was to guide ELs and to explore the potential benefits of these devices as a language tool.

This study is grounded in the New Literacies (Gee, 2004; Lankshear & Knobel, 2003). From my experiences of foreign language teaching, both teaching English to ELs and Korean to the US university students, I understand that learning is a social practice that involves socially and culturally engaged interactions with other learners. This interaction is vital for learning different aspects of language. These days, learners interact with others not only in their communities but also through the online world, especially by using mobile devices such as smartphones or iPads. Because mobile-assisted learning is so prevalent nowadays, and, because many ELs use mobile devices as language learning tools, I wanted to find out what intrigues ELs about this new format of learning and whether independent learning on these devices supports their learning of English.

Thus, adopting the New Literacies (Gee, 2004, 2010; Kress, 2003; Lankshear & Knobel, 2003; Street, 2003), this study investigated the various digital tools that ELs use to study English. The New Literacies also argues that technology practices always involve more than just using mobile devices. ELs gain meaning through the social, cultural, and historical practices of different groups. Users of these new technologies are interacting, contributing, consuming, and shaping information while they use these tools (Gee, 2010). The study explored ELs' mobile-assisted learning practices on their mobile devices, primarily their smartphones practices. A better understanding of ELs' mobile literacy practices offers insights to language teachers and educators about how to incorporate these new technologies in and outside of school.

Understanding the Mobile Device

Nowadays, new smartphone (iPhone or Android) users, including youth and adults, surf through thousands of applications (apps) and access the Internet on a daily basis (Pew Research Center Report, 2015). A recent report from the Pew Research Center (2015) on teens and

technology shows that 88 percent of US teens have access to a mobile phone. Of these teenagers, 73 percent use smartphones as their mobile devices through which they can go online whenever they want when they have access to Wi-Fi or have a data plan.

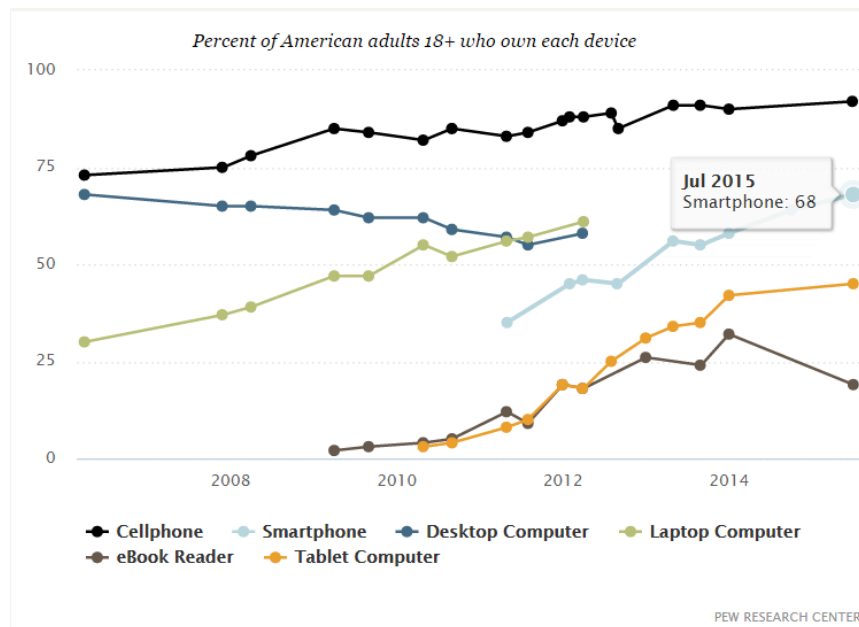


Figure 1. Device ownership, Pew Research Center Report by Anderson (2015)

In addition to teenagers in the US, the Pew Research Center Report (2015) also covers American adult ownership of digital devices. As of July 1, 2015, 92 % of American adults (ages 18 and older) own a mobile phone of some kind. While roughly nine-in-ten American adults use some kind of mobile phone in their life, 68 % of adults specifically use a smartphone. These two Pew Reports from 2015 on teenagers and adults indicate that the majority of people in the US aged 13 and older own a smartphone, and it is understood that in today's world, people—particularly younger generations—are rapidly adapting to new devices that fit their needs. This trend in smartphone ownership has led to significant changes in the way of access to the Internet.

More and more people use their mobile devices—particularly smartphones that allow faster and easier Internet access—as their primary method for daily Internet usage. According to Meeker’s (2016) report on the Internet Trends Report from KPCB (Kleiner, Perkins, Caufield & Byers), US mobile digital media usage has increased significantly over the past four years from 0.8 hours per day in 2011 to 2.8 hours per day in 2015 whereas desktop/laptop usage has slightly decreased from 2.6 hours per day to 2.4 hours per day. The following figure shows the current trends of Internet usage growth in the past 8 years from 2008 to 2015.

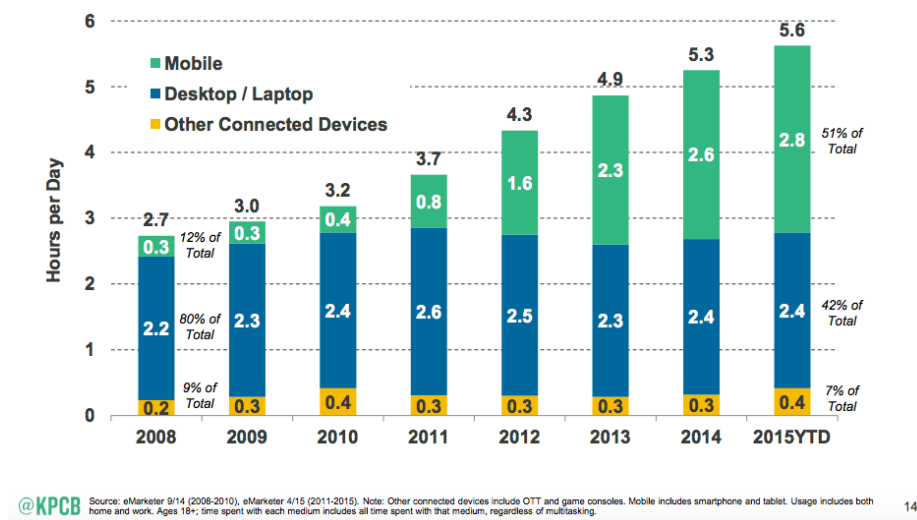


Figure 2. Time spent per adult user per day with digital media, KPCB report by Meeker (2016)

This chart shows that more and more people are sharply increasing their use of mobile devices. When people now access the Internet, 51 percent of the time they use mobile devices, and 42 percent of the time they use desktops and laptops. This rapid change indicates that educators should now take mobile devices more seriously and might consider shifting their focus on desktop computer-centric education and moving toward the world of mobile devices. In addition to this, a report by Lella and Lipsman (2014) indicates changes in the number of users of mobile devices and desktops. Figure 3 shows that in late 2013, the global number of mobile

device users surpassed the number of users of desktops. This means that more and more people have mobile devices, and they are ubiquitous in many people's lives.

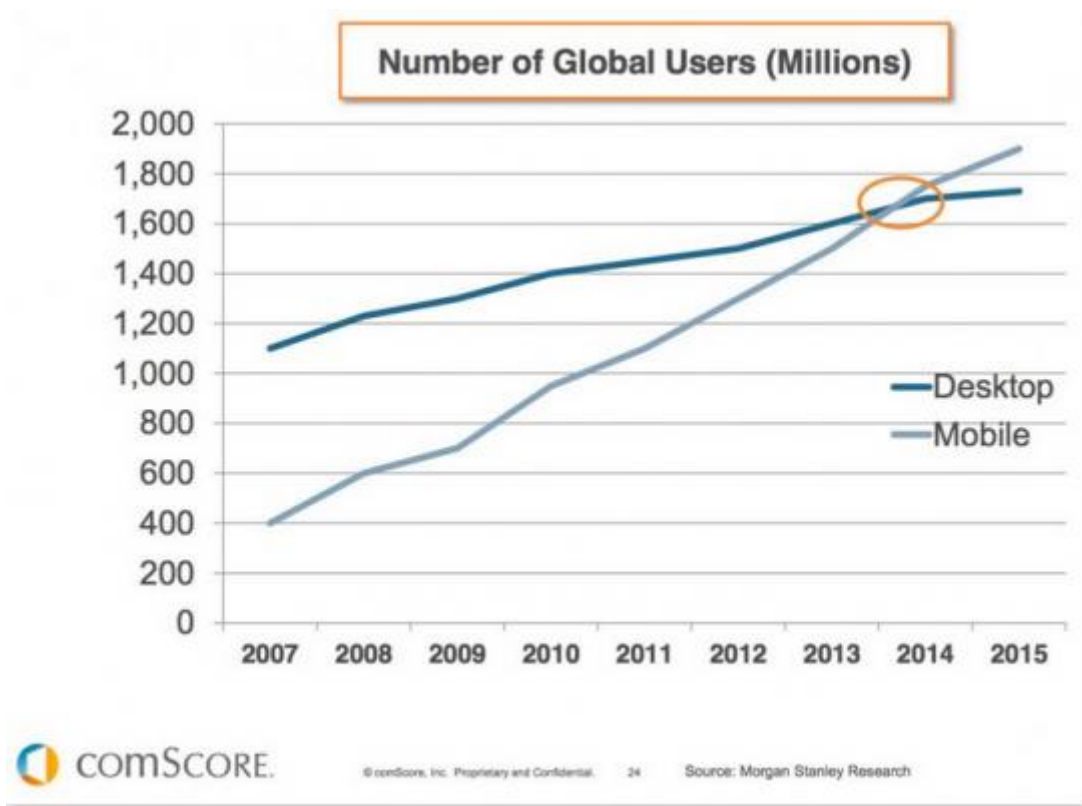
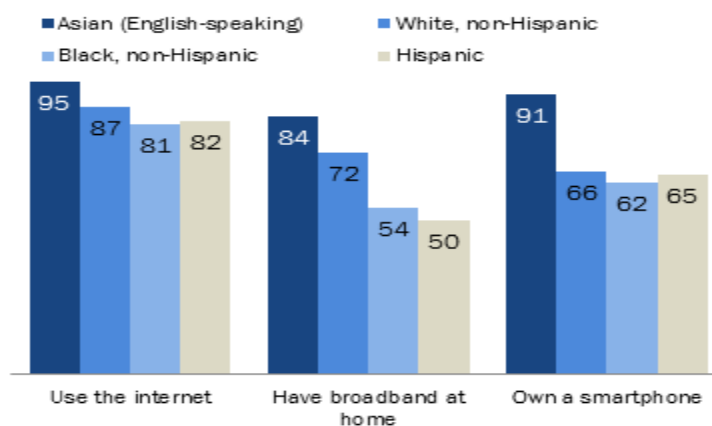


Figure 3. Number of global users of Internet devices, comScore report by Lella and Lipsman (2014)

In terms of race, it is shown that Asian Americans tend to access the Internet slightly more than other races. In 2015, the Pew Research Center examined how Asian Americans use technology. The following chart from the Pew Research Center indicates that Asian Americans show higher percentages of ownership of mobile devices and Internet connectivity compared to other races in the US.

English-speaking Asian Americans lead other racial, ethnic groups in use of several common technologies

% of U.S. adults in each group who...



Source: Surveys conducted March 17-April 12, 2015, May 28-31, 2015, June 10-July 12, 2015, and Oct. 13-Nov. 15, 2015.

Note: The results reported here on Asian Americans are limited to English speakers only; results for Hispanics are based on surveys conducted in both English and Spanish.

PEW RESEARCH CENTER

Figure 4. Asian-Americans and technology, Pew Research Center Report (2015)

All of these reports show the current trend in increased mobile device usage, which leaves the question to educators, what do mobile devices mean for education? What is it important to know about this information? How can this information help language learners? Or, in general, how can mobile devices improve literacy practices? Especially, for Asian immigrant students who show high access to Internet with mobile devices, what can be a good way to help them in practicing their English learning outside of classrooms?

Researchers have begun to adapt to this current trend and are beginning to include mobile devices in their studies of literacy and learning. Merchant (2012), for instance, investigated mobile practices in teenagers' everyday lives. He argued that as ownership and access to smartphones becomes more prevalent among teenagers, educators and institutions of formal education need to find an application for mobile devices in learning and formal education

settings. In his study, he revealed that UK teenagers tended to use mobile devices for their personal preferences and needs rather than for the purpose of being a student. Teenagers typically used mobile devices, especially smartphones, for everyday practices such as taking photos, checking information on the Web, and arranging meetings with friends. For educational purposes, they tended to photograph notes from class, video recorded their projects, and organized schedules. Not only teen but also adult mobile phone-supported learning practices have intrigued researchers. Clough, Jones, McAndrew, & Scanlon (2007) examined how adults used their own mobile devices for informal learning. Based on a survey they conducted, the researchers investigated adult users' experiences with mobile devices; the goal of the researchers was to support opportunities for learning in informal settings and to demonstrate how and which patterns of mobile use were shown. Adult users who were recruited from various web forums presented a pattern of learning. Some of them showed adaptation to typical learning by using mobile devices as they use their devices for aids of their informal learning, and some did not show adaptation. For this reason, Clough et al. (2007) argued that a more flexible mobile learning framework is needed to embrace various types of adult users. As researchers have begun to pay more attention to mobile devices and their beneficial features for individual and collaborative learning practices, Mobile learning (mLearning) has emerged and slowly taken the place where e-learning is prevalent. Researchers argued that new technologies which were introduced along with new terminology that was associated with these new technologies expedited the process of the transition from e-learning to mLearning (Laouris & Eteokleous, 2005; Nyíri, 2005; Sharma & Kitchens, 2004). The primary pedagogical differences between these two fields are considered as the focus of the mode and that the place that the instruction occurs. Sharma and Kitchens (2004) noted that where learning previous occurred such as in front of the computer laboratory,

or in the classroom, or at home now changed to places where mobile devices are fully functional. Thus, the focus on text and graphic-based instruction, which is more static, became less commonly used by educators and introduced more active instructional formats which allowed voice and animated features of mLearning.

Mobile learning (mLearning), which includes mobile-assisted language learning (MALL), has emerged and evolved in only a short period of the time. Researchers like Petrova and Li (2009) defined mLearning as a “ubiquitous learning activity supported by an appropriate mobile technology and pedagogical approach” (p. 219). The concept of mLearning is not new, but it has received special attention most recently due to its features of mobility and accessibility to the Internet through smartphones. Many researchers have worked to conceptualize mLearning and to understand what has been studied in this field so far. Petrova and Li (2009) conducted a review of the literature on different research approaches to mobile-assisted learning and found that little research had been done with pedagogy-focused perspectives of mLearning.

Most of the research (over 60%) that Petrova and Li (2009) uncovered was related to technology-focused perspectives of mLearning. In 2007, out of the 123 publications about mLearning that these researchers examined, only 42 publications (34%) were focused on pedagogical aspects of mLearning. One example of a study of a pedagogical approach to mobile learning is that of Comas-Quinn, Mardomingo, & Valentine (2009). They found that mobile blogging helped ELs to stay motivated and engaged in interactive and collaborative learning activities. Although these authors mentioned that the number of studies is continually growing, there still is room for investigation. Thus, by understanding mobile learning and what has been studied in this field, this study contributes to the conversation in the literature between technological evaluation and pedagogical application of mobile learning.

Phenomenon to Be Studied

Despite the prevalence of new technologies and online learning-related research, and, despite substantial interests for using mobile devices to support learning, little is known of English Learners' (ELs) literacy activities on mobile phones. Social networking and learning in online spaces have been a popular topic among many language and literacy educators and researchers for years (Belcher, 1999; Black, 2009; Nelson & Temple, 2011). Now, technology-mediated learning, which was once reliant on computer-assisted online spaces, is moving towards mobile phones. Language learners now interact in a mobile world by using various applications and nearly unlimited online access. Most of the studies related to mobile learning were done with technological evaluations (Petrova & Li, 2009). However, only limited research has been done on ELs' actual mobile phone language learning and literacy practices in and out of school. Rather, most of the published studies are reviews of existing tools and how they can help learners, not necessarily English learners. Godwin-Jones (2008) reviewed online writing tools to examine what features they have and how they can assist learners. His research clearly shows that emerging technologies provide an opportunity for ELs' self-development of writing skills using various tools--including Google. He argued that the new challenge for language teachers is the issue of how they can help students extend their Internet world beyond their first language and provide appropriate instruction and tools for students' self-development in that environment. Literacy practices include what students do and most importantly how they use their smartphones as language learning assisted devices. Many ELs opt to use a mobile phone, especially a smartphone, as an alternative communication tool to interact with other ELs and English native speakers outside of the classroom (Comas-Quinn, Mardomingo, & Valentine, 2009). These scholars conducted a study on Spanish language learners and their mobile-assisted

learning habits. The authors found that mobile devices such as cell phones and MP3 players were used as assisted tools for reflecting and sharing learners' cultural experiences in their second language culture, for instance, when they posted and uploaded materials to their course group blog. Findings indicated that students' use of mobile devices for the purpose of blogging provided unfamiliarity in utilizing devices at first. However, students learned by using devices, and this shifted their experiences and self-learning goals rather than traditional teacher-centered classroom where they passively received instruction from teachers. The authors, however, argued for the importance of teachers' consideration of how to teach the/these "new literacies," and argued that more research should be done with this. Thus, it is undeniable that mobile devices have become important to many ELs and that there is a need for more exploration of the new technologies in ELs' lives.

Purpose of the Study and Research Questions

The purpose of this qualitative study was to examine adolescent and young adult ELs in the US and their language practices in mobile device-assisted learning, and to understand why and how they use mobile device-assisted learning. Specifically, I was interested in investigating how adolescent and young adult ELs use mobile devices as a language learning tool and what motivates them to use or not use mobile devices.

Over time, as I observed the ubiquitous mobile device use of students and experienced how they actually applied mobile devices to their learning, I started thinking about these questions, why do educators need to think more about mobile phone language learning? and why do language learners use mobile devices? With these two overarching interests in mind, the research questions that guided this study were as follows: 1) How do participants use mobile devices in their classes, and what features of mobile devices do they find useful (e.g., recordings,

video, still photo, etc.)? 2) What mobile device applications do participants find important in school and/or in their everyday lives? and 3) Is there a relationship between participants' use of mobile devices and their identity in and out of school?

My Interest in Mobile Devices and Language Learning

I grew up as an English learner in a pre-online-assisted learning generation. This means that I did not have easy access to Internet while I was growing up. Of course, all language learning occurred in the classroom and outside of school, but I never had a chance to communicate with strangers online until I entered high school. I started learning English when I was about 13 years old. At that time, the only technology that augmented my learning was the telephone. A teacher called in every Monday morning and I had to pick up the phone and talk to the teacher in English. This was not really helpful to develop my language skills since it was too short (about 10 minutes for each conversation), and I never developed any close bond or sense of community with my teacher. The other technology I experienced while studying English was listening to audio tapes in my English class. Sometimes movies or pictures were also shown during class, and this occurred at both the elementary and high school level. After I received my master's degree in 2011 in the US, I came back to Korea and became a high school English teacher. I was stunned by the drastic changes in technology compared to what I grew up with. What I experienced in the high school was totally different from my own high school English classroom experiences. Textbooks were (and still are) designed to connect with the Internet so that students could download vocabulary lists and listening files through the textbook websites. In my class, students were very familiar with using new technologies. New technologies such as iPads or mobile tablets were now commonly used by teachers. Students also used many language applications and features on their smartphones. They started to use smartphones, iPads, and

portable tablets and began to learn English by utilizing these new devices. I was intrigued with their independence in learning a language. Now that I teach English as a Second Language and Korean as a Foreign Language to students in the US, it is natural to me that my interests continue to develop toward understanding how else I can get students to learn language outside my classes.

In addition to this, my personal experiences as a foreign language instructor lead me to the question, what does it mean to learn a language and teach it in the current era we live in? I have been teaching my native language, Korean, to university students for over seven years. I first started as a Teaching Assistant in 2007 and taught Korean for three years in that university. Back in 2007, there were not many students who had smartphones. I also did not possess a smartphone. Although I used many visual and audio materials in my class, we did not do any exercises using the Internet. When I came back to the US after teaching high school students in Korea in 2013, the situation in language classes in the American university context had shifted drastically. I vividly remember one day in 2014. I provided a verb conjugation chart using PowerPoint as usual, and one of the students asked me if he could take a photo of the chart. I asked him to do that after the class and he took a photo of the chart. The next day, we had a quiz about verb conjugation based on that chart. When I came to class a little early, I noticed that the student was studying irregular verbs using his smartphone by enlarging the photo he took the day before. I never thought about this kind of learning method before and realized that now because of highly developed technologies and the high quality of cameras on our phones, we are able to study vocabulary without bringing notes.

How handy is a smartphone? One does not need a piece of paper or a thick notebook. One does not even need a laptop. A small device, a smartphone, can take their place. When I

went back to Korea, and, likewise, when I started teaching Korean in two different universities in the US, I noticed more and more of my students using mobile devices, such as smartphones, in their language learning. What I have learned is that whenever I teach my native language, Korean, to university students, they expect me to use more advanced technologies. Whenever I introduce related online activities such as uploading their writing projects to Twitter or blogs, their participation seems to be more engaged than the regular classroom oral and written activities. Also, my students expressed that Twitter or blog activities which occur outside of the classroom seemed to create a strong language learning community which helped them establish a sense of membership in the class. Interestingly, within my years of teaching Korean, I noticed that many students used their smartphones, not their laptops, for uploading projects, interacting with other classmates, and engaging in social practices around language learning. To understand their world, I recognized that I needed to be willing to immerse myself in smartphone practices.

With my interest in technologies for language learning, I am particularly fascinated in finding out how this new present-day generation of ELs in the US negotiates literacy practices and engages in social interaction on mobile phone-assisted online applications. I focused on this generation of ELs for two reasons. First, this new generation of ELs has more access to information technologies. They can use their mobile devices such as a smartphone and various language learning applications. Yet not much literature reflects this shift in how language is learning in cyberspace, or their use of mobile assisted learning (Kukulska-Hulmes & Shield, 2007). Second, my personal experiences of teaching a foreign language have led me to the question of how I can incorporate prevalent resources and new technologies into language classrooms in order to help my EL students' language literacy practices and cultivate their motivations for more mobile and accessible practices to learn the language. To understand their

second or foreign language practices in their everyday lives, I was interested in examining ELs' closest and perhaps most important technology device, the mobile phone.

Theoretical Framework

The traditional approach to literacy views literacy practices as an individual cognition process and disregards factors such as social, educational, and cultural influences on language and literacy practices (Cook-Gumperz, 1986; Gough, 1972; LaBerge & Samuels, 1974). From this view, literacy is defined as a set of encoding and decoding skills. As the world became globalized and people from different countries began using various versions of English, it was considered more important to look at outside factors such as society or culture rather than inside the brain cognition activity of language presentation in relation to literacy practices. Within this view, literacy researchers, including the New London Group (1996), Kress and Jewitt (2003), and Kress (2003), proposed a new paradigm of viewing literacy practices against the traditional view: the New Literacy Studies (NLS). They viewed literacy as life-long social, cultural, and historical practices. The NLS researchers including the New London Group (1996), which is a group of literacy researchers who met in New London, New Hampshire (in the US), developed a new literacy pedagogy that served concerns educators faced at that time. Their main focuses were highlighted in two significant aspects of literacy: linguistic diversity and multimodal forms of literacy practices and representations.

Street (2003) argued that research in NLS challenges the view of literacy as a neutral and universal event rather than a cultural and ideological practice that occurs in multiple variations in different places. An ideological model of literacy which offers a more culturally sensitive view of literacy practices is derived from the notion of literacy as a social practice. However, Street (2003) pointed out that there is need for research that identifies what constitutes multiple

literacies from a NLS perspective. By making a distinction between literacy events and literacy practices that NLS cannot capture, Street (2003) argued that while the former refers to unattached or separate situations, the latter refers to the larger concept where multiple events are created within a community. Thus, these multiple literacy practices represent the diverse literacy activities in a society where different functions and areas of literacy are used within a society.

Various researchers conceptualized new literacies in a variety of ways but all derived from the New Literacy Studies (NLS), including New Literacies. The New Literacies is generally defined as new forms of literacy and related practices associated with digital technology developments (Coiro, 2003; Gee, 2010; Leu, 2000; Street, 2003). Scholars within New Literacies proposed the view that language learning through multimodal practices and the critical awareness of innovative and productive potentials of literacy practices using electronic devices and technologies address the need for reconceptualised literacy practices, especially those which students use in and out of school contexts (Gee, 2003; Lankshear & Knobel, 2003; Street, 2003). Recently there has been increased recognition among scholars of the existence of new digital forms of literacy practices developed through the use of tools such as blogs, wikis, and various online reading and writing resources. Within these resources, one can identify how literacy practices are made evident. This newly emerged representation of literacy has appealed to scholars interested in new technologies, including computers and other communication devices, and add to New Literacies theory.

The New Literacies theory captures literacy practices as a social involvement and practice (Street, 2003) and includes an expansion of new technologies emerging from new social practices. Although the New Literacies (with multiple literacies) is vaguely defined and confusing, it still shares a certain degree of the perspectives with the NLS. This study involved

mobile learning and, theoretically, was a strong fit with New Literacies. Several tenets of the New Literacies guided this study:

- Understands literacy as literacies, multiple practices that vary among language users (Street, 2003; 2005)
- Views learners as active meaning-makers (Knobel and Lankshear, 2014)
- Considers various digital tools as technologies for delivering, receiving, and constructing meaning, just like language, and views these practices as almost always involving more than simply using a digital tool (Gee, 2010)
- Views ‘technical stuff’ as new emerging literacies (Gee, 2010; Knobel and Lankshear, 2014)
- Understands the importance of social and cultural contexts of communication and learning of different groups of people (Street, 2003)

New Literacies understands literacy as literacies, multiple practices that vary among language users (Street, 2003; 2005). Street suggested that the notion of multiple literacies is necessary for understanding various literacy practices that occur across contexts. Thus, current literacy studies should expand the concept of “local” while keeping the original inspiration for NLS, that is literacy as a social practice. In order to engage with “both educationalists of interested in literacy acquisition and use across educational contexts, both formal and informal, and with policy makers more generally” (p.87), the concept of literacies is needed in the new digital studies.

Additionally, New Literacies views learners as active meaning makers (Knobel and Lankshear, 2014). Knobel and Lankshear argued that, specifically in the idea of New Literacies, people focus on ways in which “meaning-making practices are evolving under contemporary

conditions that include, but are in no way limited to, technological changes associated with the rise and proliferation of digital electronics” (p.97). Thus, the prolific usage of digital technologies creates a more active meaning-making process of learners as they constantly produce and reflect on their literacy practices.

Third, New Literacies considers various digital tools as technologies for delivering, receiving, and constructing meaning and, like print-based language, views these practices as almost always involving more than just the use of a digital tool (Gee, 2010). Gee (2003; 2010) showed that these various digital tools present a social practice of communication, as well. For example, a video game that connects multimodality, multiliteracies, and out-of-school literacy worlds provides and develops a social interaction between game users.

Fourth, New Literacies views ‘technical stuff’ as new emerging literacies (Lankshear and Knobel, 2003). Gee (2010) argued that the New Literacies understands the importance of tools that depends on technology, compared to the NLS, and thus studies “digital literacies” (p. 9). Knobel and Lankshear (2014) explained that New Literacies research focuses on young people and investigates what they are doing in a range of social contexts. For example, young people’s activities using technologies, such as texting and blogging, have generated a rich store of insights into how young people learn and engage with literacies using multiple technologies.

In addition to this, New Literacies allows the current digital world and its related literacy practices such as blogging, gaming, video-recording in the popular culture. For example, Larson (2009) investigated 5th-grade students and their online learning experiences of sharing and reading reflections through online journals. The results showed that students, even those who have never participated in electronically-mediated writing, all freely interact within cyberspace. This study presented a very distinctive participation in the physical classroom; only certain

students were involved in sharing their ideas and thoughts with their peers. In the virtual space, however, all of them interacted more freely and were more involved in meaning-making and communication.

Fifth, proponents of New Literacies argue for the importance of social and cultural contexts of communication and learning of different groups of people (Gee, 2010; Leu, Kinzer, Coiro, & Cammack, 2004). Leu et al. (2004) argued that the prevalent use of the Internet in the workplace, home, and school contexts is the most powerful revolution that occurred in today's social and cultural contexts. They argued that these New Literacies, such as surfing the Internet websites or participating virtual reality role play games, changes the form of communication and exchanging information as people redefine literacy practices while they communicate on a chat/discussion board with a website, or using a video camera to talk each other.

Some studies have used New Literacies as a frame to study how language is learned through multiple modes and use of devices. Black's study (2009) indicated that Internet access allowed different ELs to form mutual communities with the same interests. Particularly, online fan-fiction communities allowed many ELs to develop their identities as second language writers and provided an opportunity to interact with other same interested ELs. The Internet provided learners opportunities to gather and develop a community where they could communicate and share their interests in literacy practices. Lam (2009) also argued that for an EL, "the construction of transnational networks represents the desire of the youth to develop the literature repertoire that would enable her to thrive in multiple linguistic communities across countries and mobilize resources within these communities" (p. 377).

Also, the value and the meaning that groups give to new technologies are determined by groups' social, cultural, and historical contexts (Gee, 2010). Although Lave and Wenger's

original theory of Community of Practice (CoP) is situated in co-located settings, Wenger's theory has also received special attention from many researchers looking to explain this online space of learners (Dube, Bourhis & Jacob, 2005; Hara & Hew, 2007). They now claim the virtual CoP also exists due to the growth of the Internet. The concept of online CoP provides an excellent opportunity for explaining cultural aspects, social interaction, and identity issues of ELs as well. As it is explained, ELs in the current era can practice this 'digital literacy' in a new technology, a mobile device. ELs can freely practice their language learning not only with their mobile world friends but also with technologies that mobile devices can provide such as various language learning applications.

Borup, West, and Graham (2012) proposed that online interaction can be a good way to improve students' and instructors' social presence and learning. Their study involved a semester-long technology-based integration course for preservice teachers (about 900 teachers). This study showed that the online interaction can improve students' and instructor's social presence and learning. Also, they found that video-based instruction was helpful and impacted students' social presences in three categories: emotional expression, open communication, cohesion. Students felt that they were talking to their instructor when they made video comments. As it is argued by many researchers, New Literacies studies can provide an understanding of ELs who use mobile devices for their language learning and practices for various reasons.

In addition to the New Literacies, I bring the concept of investment from Norton (1995) to examine my research question of what motivates learners to use mobile devices to learn the target language. Norton (1995) introduced the term investment to replace motivation. After it was introduced by Gardner (1985), motivation had been a very common term in Second Language Acquisition (SLA) field to explain engagement of learners of a target language.

Motivation is defined as what drives learners' interests into the language learning environment. However, this term had limitations in that it failed to capture the various and complex needs of learners. In Gardner's work (1985), instrumental motivation was explained as the desire that language learners have to learn a second language for practical purposes, such as employment; however, the concept of instrumental motivation did not capture the multifarious relationships between the power, identity, and language learning. Norton (1995) explained that "the conception of investment rather than motivation more accurately signals the socially and historically constructed relationship" (p.17). Norton (1995) argued that Gardner's concept of "instrumental motivation" indicated an outside motivation for achieving learners' future goals such as getting a professional job or part of an elite group. Further, instrumental motivation generally showed "a unitary, fixed, and ahistorical language learner who desires access to material resources that are the privilege of the target language speakers." (p. 17).

Questioning the concept of motivation, Norton suggested using a more integrative term "investment." Drawing from the concept of Bourdieu's (1977) cultural capital, which explained that information and knowledge illustrate that different classes are associated with explicit sets of social forms, Norton (1995) introduced investment which she defined as a signal of learners' desire to learn and practice a target language. This socially and historically constructed relationship of learners allows them to invest in the target language. In doing so, learners acquire a wider dimension of symbolic and material resources (Norton, 1995, p.17), which will intensify the significance of their cultural capital.

Thus, unlike the traditional concept of instrumental motivation, the notion of investment perceives language learners as ones who have a complex identity that constantly changes with their social interaction. Hence, I suggest that investment involves a more complex discussion of

a learner's motivation, passion and desire through their investment in their learning, and in this study, use of mobile devices for language learning. The investments arise from both the availability and ease of use of mobile devices along with their own desire to learn a language.

In sum, these two theories helped me investigate ELs' use of technology, and the investment they place in the use of their mobile devices. The New Literacies Studies and related literature provided in-depth understanding about ELs' digital literacies and their associated social and cultural groups. In addition to this, Norton's concept of investment offered a lens to discover why ELs use mobile devices and dynamics that they learn English through this new technology.

Overview of the Study

This qualitative study took place during the fall and the winter of 2017. To investigate my research questions, I used qualitative methods for data collection and analysis. Specifically, I used a case study approach that primarily focused on semi-structured interviews (Stake, 2005). I recruited four ELs who had smartphone access.

Participants in this study were EL students in a local high school and a university. The age range of participants for this study was between 15 to 21. Three participants were Korean high school students, and one was Chinese who studied in a university.

The primary data source was semi-structured interviews. Participants participated in five audiotaped interviews with me throughout the length of the study. Other data sources included a conversations, participant-generated journals, and my own researcher's journal. Data were analyzed by following the constant comparative method (Bogdan & Biklen, 2003) to determine categories and emerging themes. Implications for this study enable educators to understand the potential for mobile device language learning and offer insights for researchers into mobile device learning.

Significance of the Study

This study has the potential to enhance an understanding of why and how ELs utilize their mobile devices for language practices and learning. Understanding of the EL population and their literacy activities through mobile devices will advance knowledge in the field of English language education. In addition, this study has the potential to provide educators and researchers practical applications for use in ESL classroom curricula. The study articulates key resources ELs use on their mobile devices and how they use those resources in their language learning. This knowledge may help teachers incorporate the mobile technology into not only their classroom activities but also out of school curricula and activities. Lastly, it is hoped that this study will add to the literature on how mobile devices can be used to support ELs language learning, and learning in general, and to explore the potential benefits of these devices as a language tool.

Summary

This chapter presented current trends of using mobile devices among different age groups and races. In addition to this, I described my interests in the area and how I developed my interests from my past experiences. More importantly, the last part of the chapter contributed to a rationale for the study and a theoretical framework that I attempt to use for the study.

In the following chapter, I discuss the literature related to mobile devices and learning and examine the relationship between ELs and their online communities. Research that examines how mobile devices are used in language learning and what constitutes mobile-assisted learning. This literature presents the current learning trends of ELs and what they do with mobile devices. Secondly, I discuss a number of studies on multimodal and digital spaces talking about new literacies in language learning. ELs' multiliteracies and online literacy practices and how these

are important for ELs' language practice and learning will be examined through a review of the literature. Finally, in chapter 3, I present an outline of the case study for ELs language learning in the new technology era.

Definitions of Key Terms

1. EL – An English Learner, a person who learns English as his/her additional language to his/her native/first language (Hakuta, 2000)
2. Mobile devices – A small/portable computing device with a display screen that people typically carry it while they are moving. Smartphones, tablets, and iPads are examples of mobile devices (Godwin-Jones, 2008)
3. Mobile learning- Learning that occurs when people use their personal mobile devices, interact in socially and contextually, and use multiple contexts (Crescente & Lee, 2011).

CHAPTER 2

THE REVIEW OF THE LITERATURE

Introduction

In pursuing the goal of understanding ELs and their language learning and literacy practices on mobile devices, this dissertation study investigated the essence of ELs' mobile language and literacy practices outside of school. Especially, this study explored ELs' social and literacy practices when using mobile devices for language and educational purposes, how ELs' perceived mobile device-assisted English learning, and how the literacy practices were made evident through their use of mobile devices, especially smartphones. In order to demonstrate how and where this study links to the previous work in the field of literacy, I review a number of studies that are related to and investigate a variety of theoretical and practical perspectives of literacy.

The following literature review is divided into three sections. In the first section, I will address basic issues on literacy from a view of the New Literacies, and related studies. In this section, I will explain how the new technology era contributes to literacy practices, multiliteracies, and related literacy studies. The second part will focus on studies of literacy and language practices in L1. This section will provide a discussion on how e-learning studies have been moved to mLearning studies that require mobile devices and mobile learning. The main argument here is how mobile devices are being used in language learning, along with current issues from e-learning to mobile learning with relevant studies on L1. Lastly, I will discuss studies on literacy and language practices in L2 research. This part will also address ELs and their online literacy practices with new technologies, including mobile devices. In addition, this part will provide current research related to ELs and how reviewed literature is connected to the

research inquiry. This review serves as a foundation for my investigation of the literacy practices of adolescent and young adult ELs; more specifically, this section will serve as the groundwork for my method of the research, a case study, for collecting and analyzing data.

Review of Theoretical Constructs Related to My Study

ELs, especially those who have recently moved to the US, try to find their ways to communicate with others. However, due to their developing language proficiency, sometimes their communication resources in-and out-of-school can be limited. Many young adults and adolescent ELs who are familiar with new technologies find ways to communicate with others on online spaces instead (Black, 2007, 2009; Choi, 2009; Lam, 2009). This is an important phenomenon to notice and it needs to be further examined in order to understand this particular group, ELs, and what, why, and how they are using new technologies for their literacy and language practices. In order to explore this particular population and the literacy and language practices of ELs, the review of the New Literacies that carries over the New Literacy Study (NLS) argument about written language to new digital technologies (Gee, 2003) is discussed in the following section.

Understanding the Immerging View of Literacy

The New Literacy Studies and Multiliteracies

One of the focuses of New Literacy Studies and Multiliteracies, the multimodal forms of literacy, captured the essence of literacy as multiple social and cultural constructions. Thus, researchers like the New London Group argued that more and varied modes of literacy practices were now prevalent in literacy practices and need to be studied. The scholars with the New London Group coined the term “multiliteracies” to explain their various modes of literacy practices and to reflect multiple aspects of literacy and language constructions. They proposed

the term “multiliteracies” as a more explicit description of the current multiplicity of communication and significant roles of cultural and linguistic diversity. This dramatic change has made image, rather than the traditional paper and pencil type of writing, as central to communication. Kress (2003) continuously argued that currently, texts are defined as “any instance of communication in any mode or any combination of modes” (p. 48) rather than just traditional written texts in paper books. Taking into account social, economic, communicative and technological factors, he explored how these changes affect the future of literacy.

This new introduction of literacy studies and multimodal literacy theory naturally intrigued many researchers, causing them to pay more attention to multiple modes in literacy practices. Thus, many literacy researchers argued the significant affordances of different modes of literacy such as photography, to access to academic writing (Stein, 2000), painting and the arts as an affordance in 21st-century classrooms (Albers & Harste, 2007; Albers, Vasquez, & Harste, 2008; Sanders & Albers, 2010), videography as a method of composing students’ thoughts (Albers, 2006), and how media and visuals can be a bridge to communicate with ELs (Ajayi, 2009). For example, in Albers’ (2006) work, she argued the importance of reading students’ visual texts as students’ artifacts. They not only showed a distinct construction of student knowledge but also provided teachers with different perspectives on literature. Similar to her, Flewitt (2006) reported on the use of video to provide insights into classroom interaction. In her longitudinal case study of 3-year-old children at home and in preschool, Flewitt used multimodals such as digital visuals and digital audios to explore how children use multiple modes to facilitate their literacy activities. The findings demonstrated a strong link between the communicative demands of a context and the modes in use. By focusing all modes (video such

as gesture, movement and audio such as talk), she was able to observe children's multifunctional uses of different modes in their meaning making.

Thus, visual texts can be used as great help to understand students' cultural and social readings of texts. Ajayi (2009) argued the significance of multimodality in EL pedagogy. In his study, eighteen ELs were asked to compose visual representations based on their understanding of cell phone advertisements they watched. Ajayi (2009) then analyzed their drawings and interpreted them for students' meaning-making process. The results of the study showed that ELs' diverse interpretations and representations of visual images provided great learning opportunities for their self-identity and social-cultural worlds. Marsh's (2006) studies investigated young children who aged between 2 to 4 years to identify the complex multimodal communicative practices that they are engaged within their home. She examined previous three studies of hers which she conducted based on parental interviews of how children mediate their media-related literacy practices in the home. To understand the functions that digital media such as television series, photographs, picture books, and magazines have in maintaining the social relations of the family, accessing knowledge, self-expression, and the development of literacy skills, she documented how children used media in family life and home-school transition. Her three studies suggested that the possibilities for a curriculum that connect with students' out-of-school multimodal repertoires.

Researchers with the NLS viewed literacy in multiple aspects. Rather than viewing it in the traditional paper texts, they all argued that knowledge in the 21st-century is not just constructed by texts, but also from various modes around texts and books. They also argued the importance of social and cultural aspects in literacy practices. For example, in studies of Ajayi (2009) and Marsh (2006), learners' multiple modes of literacy practices helped learners to

understand their cultural and social reading of the texts. In Ajayi (2009), ELs' meaning-making through multiple modes allowed them to be engaged in formation of their identity while in their social-cultural worlds. In Marsh (2006), young children showed their literacy practices in home that occurred as social relations of the family affected their primary school culture and social contexts and home-school transition. Researchers, thus, argued the significant affordances of different modes of literacy and took it into account social, economic, communicative and technological factors and explored how these changes affected the future of literacy.

The New Literacies: The Focus on Digital Tools and Digital Literacies

Along with the new digital era of evolving technological advances, the 21st-century literacy communication landscape has shifted from traditional, paper text-dominant focus to the field of online space (Gee, 2003; Kress & Jewitt, 2003; Street, 2003). Recently there has been increased recognition among the NLS scholars (Davies & Merchant, 2007; Gee, 2003; Lee, 2007; Wheeler & Wheeler, 2009) of the importance of commonly used digital forms (such as blogs, wikis, and various online reading and writing resources). These forms support a range of modes (e.g., visual, written, spatial, gestural, and so on) through which to develop one's literacy, and these scholars suggest that text and speech are not the only and main ways to communicate. As the attention to evolving technologies grows, researchers search for a more suitable literacy paradigm that expresses their focus.

Thus, the New Literacies (plural literacies) was proposed by Gee and other researchers (Coiro et al. 2008; Gee, 2004, Knobel & Lankshear, 2014; Street, 2003) for focusing more on the digital literacies and tools. The New Literacies carried over the argument of the NLS about written language as a technology for giving and getting meanings. Gee (2009) defined that it as "studying new types of literacy beyond print literacy, especially digital literacies and literacy

practices embedded in popular culture” (p.31). He also expressed the confusion in two terms, literacy and literacies, explaining that “the naming issue emerged partly because people in the new literacies studies were influenced by- and, in part, responding to or supplementing- the NLS” (p.31). As this new concept of language learning through multimodal practices receives attention from many scholars who were looking for literacy practices and language learning in the current era so called ‘new literacy,’ the proponents of this New Literacies viewed different digital tools as technologies for giving and getting meaning just like languages (Gee, 2003; Lankshear & Knobel, 2003; Street, 2003). Along with the researchers in the NLS, these researchers are against the traditional view of literacy and proposed that literacy is a constant practice of exchanging information in cultural social contexts (Gee, 2003; Lankshear & Knobel, 2003; Street, 2003). However, the New Literacies addresses the “different digital literacies-that is, different ways of using digital tools within different sorts of sociocultural practices” (Gee, 2003, p.32) as the NLS talks about using different literacy in different social, cultural situation. In this sense, the New Literacies Studies is a natural spin-off of the NLS.

In this sense, researchers who focused on digital and online literacy included various forms in language learning, and explain how these digital forms present a social practice of communication. Gee’s (2003) book on video games connects multimodality, multiliteracies, and the out-of-school literacy world of children and young people. He recognized game playing as a new space for learning and explores what it means to be a learner in the 21st century. Many other researchers focused on digital tools in literacy practices and how the tools can help learners’ literacy process in social and cultural meaning making constructions. Mills (2010) argued in her review of a decade of research that recent year, a significant shift in this field which can be called as “digital turn” observed in many studies. This change is an increased attention to new

literacy practices in digital environments across a variety of social contexts. She explained that the digital turn is “a consequence of globalization and the growing range of technologies for communication” (p.247). Research in the New Literacy Studies has similarly reflected the changing emphasis from the research of print-based reading and writing practices to include new textual practices that are mediated by digital technologies” (p. 247).

Lee’s (2007) study on instant messaging grounded in New Literacies showed that the technology of instant text messages was provided as affordances to students. For example, in Lee’s (2007) study examined a group of 19 young students between the ages of 20 to 28 who lived in Hong Kong and shared similar linguistic backgrounds. As a part of a larger qualitative study which was carried out over more than 2 years, this study focused on three particular participants’ instant message literacy practices in real life settings. Students were asked to keep a logbook and created a document file that recorded their instant messaging activities and chats for seven days. The results showed that students perceived instant message technology as an available language or linguistic resource and that their perception towards functions such as user familiarity with the language showed instant messaging as a social practice. More specifically, seven factors were evident in students’ perceptions: *perceived expressiveness of the language, perceived functions of instant messaging, user familiarity with the language, user indication with the language, technical constrains of inputting methods, speed, and perceived practicality of the writing system*. All of these factors often occurred simultaneously and were perceived as the affordance of various linguistic resources. This study showed that the NLS and New Literacies viewpoint requires a multimethod approach to understand how texts are used in real contexts in the current era.

In addition to instant text messaging, as an examination of New Literacies that views literacy as a social practice, Wheeler and Wheeler (2009) studied wikis as a space for students to advance their writing and communication skills. In their digital document analysis study, Wheeler and Wheeler studied blog postings and questionnaires they gathered from 10 first year, 10 second year, 9 third year undergraduates and 6 postgraduate cohorts over one complete academic term. All students used wikis as their developmental writing space and submitted a response to the researchers' prompts in wikis every week. Their main purpose in investigating the study was to highlight the benefits and limitations of wikis as collaborative online learning tools, especially; they asked students what particular kinds of writing skill they develop as a result of using wikis. As they examined students' blog responses and follow-up email questionnaires, these researchers found that wikis helped students' academic studies and understanding of the contents. The results showed that most students showed improvement in their writing skill level as they posted their writings to the publicly viewable wiki spaces. In addition, they found that students had very positive perceptions of using the wikis. Students reported that their academic writing skills had improved through their formal participation in the wiki. This study showed how the concept of literacy is a social practice in digital field.

Similar to this, Davies and Merchant (2007) investigated blogging and associated digital practices such as reading and commenting on other blog postings. This autoethnographic study, which occurred from November 2004 to November 2005, involved their own activity of blog posting and associated digital practices in a website named Flickr.com, an online photo-sharing website. Their one-year study of their own blog postings on this site showed three themes related to postings. First was publishing the self, which revealed specific online identities. This was related to a blogger's own decision on what to post and what not to. Next, the nature and fabric

of the text showed that this tool of blog posting is used to construct meaning making as bloggers constantly posted and edited postings that related to visuals. Lastly, the researchers showed that the social function of this blog site could lead to the development of a community of practice or an affinity space on which bloggers could interact and perform. As many researchers in this review presented, online spaces and digital tools are considered as affordances of literacy practices for students.

Summary

Given the significant role of digital tools in language and literacy practices, this set of studies emphasizes a new paradigm of viewing literacy and research studies on this new perspective of literacy practices. When exploring today's ELs experiences on mobile devices and their digital learning and literacy practices, the activities performed in digital space are key issues to examine when considering the nature of immigrants' literacy practices. In addition, both paradigms and related research provide a critical view on literacy practice and language learning and serve a foundation to investigate ELs mobile language practices.

Review of Previous Literature Related to This Study

As the online space displays multiple language learning opportunities, research studies on digital fields reveal various forms of reading and writing processes, strategies, and behaviors as well as users' attitudes towards utilizing digital tools. With the widespread use of online and related websites/tools, today's students use computers or mobile devices for their language practices in-and-out of school contexts. Students use computers for typing their assignments, sending emails, and chatting with friends. They also use their mobile devices, such as smartphones, iPods, and tablet PCs, for the similar purpose. To help understand the nature of these online literacy practices, I will address important concepts of e-learning and mLearning

and the issues regarding e-learning to mLearning. Later, I will explain the emergence of mLearning with relevant studies and how mLearning became prevalent in today's students' everyday lives. This literature review section is divided into two parts, studies related to L1 literacy practices and studies related to L2 literacy practices. The review presents an overview of the significant concepts and research that are vital to understanding the nature of ELs' mobile language practices.

E-Learning to M-Learning: The transition

The origin of the term e-learning is not certain but as a computer became involved in the delivery of education; scholars who exposed to the new technology started acknowledging the importance of this new technology and were interested in educational effects that the computer brought to learning. A one type of online learning, e-learning is defined by various scholars (Triacca et al. 2004). Nichols (2003) defined e-learning as learning occurs through being accessible using technological tools such as web-based, web-distributed, or web-capable. Other scholars expanded the definition of e-learning and included not only Internet based tools but also other instructional technologies such as CD-ROM, audio-and videotape, satellite broadcast and interactive TV (Benson et al. 2002; Ellis, 2004). The effectiveness of e-learning had been studied in many different areas and in education field; scholars investigated the effectiveness of e-learning vs. face-to-face learning and suggested e-learning for various learners from the young to graduate students (Kearsley, 1995; Neuhauser, 2002; Swan, 2003).

The online learning field, which is predominantly known as e-learning, moved to mLearning as mobile device use has increased rapidly as tools for Internet usage and online learning have been developed and introduced to the public. Petrova and Li (2009) defined mLearning as a "ubiquitous learning activity supported by an appropriate mobile technology and

pedagogical approach” (p. 219). The concept of mLearning is not new, but it received special attention due to its feature of mobility and access to online with the introduction of smartphones. According to Godwin-Jones (2011), mobile phone learning applications have evolved in a short time and left educators and students thousands of choices for language learning programs. Mobile applications, which initially focused on learners’ self-development through, for example, quiz and grammar features, are now attending to the social aspects of learning. People use their phones many times a day for checking their messages, emails, and also for their leisure purposes such as watching a video, listening to music, and interacting on social media. Thus, online database exchange of learning applications that introduce new vocabulary or check grammar are now expanded to sharing information or even communicating in virtual space with actual people using their mobile devices.

MLearning, which includes mobile-assisted language learning (MALL), emerged and evolved rapidly during such a short period of the time. Many researchers try to conceptualize mLearning and understand what has been studied in this field so far. As researchers follow trends of mLearning, they also present differences and affordances of mLearning compared to e-learning. Cobcroft (2007) discussed the transition from e-learning to mLearning, citing the flexibility, mobility, disability, and special needs of the mLearning field as advantages over e-learning. This indicated that now more and more research is focused on mLearning over e-learning as the mobile devices enable people to use these tools more effectively.

E-Learning Online Literacy Studies in L1: Affordance in Literacy Practices

Many researchers reported on learners’ attitudes and preferences of mobile devices in learning (Banister, 2010; Comas-Quinn et al., 2009; Craig et al, 2007; Dashti & Aldashti, 2015; Eppard et al., 2016; Merchant, 2012) while other researchers argued the significant trend of

mLearning in many fields. In this section, research studies related to online literacy in L1 are presented.

Studies on online literacy of L1 and eLearning presented digital tools and how educators and students use these resources in their literacy practices and social practices. Literature reviews on L1 studies offered 1) the research focused on new forms of literacy practices from traditional classroom environments (Dennen, 2008), or 2) advantages and disadvantages of the digital tools and online courses (Bourelle et al., 2016; Thibaut, 2015). Thibaut (2015) conducted a case study with 30 students in year six (11 and 12 years old) and 4 teachers. She investigated how primary school teachers and students use a social network site for learning purposes in everyday school practices using in-depth interviews, observations, and participants' logs. Her findings indicated that students' new literacy practices, dialogue formations, peer teachings, and a sense of authoring were observed through a social media tool. She argued that this study provided significant implications for teachers in searching what types of learning and literacy practices can be supported by social media tools in a school classroom. Also, the findings indicated that such technologies can be used as assistance to certain competencies.

Similar to Thibaut (2015) who presented online tools as affordances of learning and teaching, Bourelle et al. (2016) reported advantages of online courses. They conducted a mixed method study on the efficacy of online environments for teaching and learning of multimodal literacies in the first-year composition class. They used a quantitative method for students' e-portfolios grading and a qualitative method for researching in the form of quotes from students' projects. The following research questions were investigated for this study: What are the differences in student learning of multimodal literacies in both face-to-face and online environments? What are the potential reasons for these differences? and How can they lead to

increased best practices of multimodal composition? Participants were students who registered in two composition classes, online and face-to-face, and in the case of the online class, trained instructors provided feedbacks on their writing projects using the online writing studio software. Students were asked to interact with instructors while they received comments. Researchers compared students' writing products at the end of the semester and compared two groups of 21 students' products. The findings suggested that students' learning experiences were presented differently within online and face-to-face multimodal courses. Students in the face-to-face class referenced multimodality in their final project in some capacity; however, students in the online class generally seemed to present richer and more advanced multimodal projects. Students' comments and numeric results showed that students in the online class considered more about how multimodal components fit into their work by learning from operating in multiple modes.

Kirkland, in his work in 2009, re-theorized the two current literacy fields of 'in school context' and 'out of school context' to introduce the third, a hybrid space of digital places. He argued that despite complexities surrounding social networking, it cannot be denied that there is an impact from the digital dimension on pedagogical space. Kirkland (2009) also argued that researchers need to reshape literacy in the online space to enhance and update researching and teaching.

On the other hand, researchers like Dennen (2008) showed students' social practices in online space and why students presented certain behaviors. Dennen (2008) reported findings from two studies on two university hybrid online courses. This quantitative study tested 32 participants in two courses based on the survey questionnaires at the end of the semester. The primary research question of the study was why learners engage in lurking behavior such as observing, reading, but not posting to a discussion board. The focus of the study was to know

whether learners considered their lurking behavior as a part of their learning process or if it was related to better performance in a course. The results showed that about half of students reported that they learned through online discussion experience whether they posted or read. Students who participated solely in meeting a course requirement, however, tended to post discussion more than read a message and had fewer positive impressions of the discussion activity's impact on their learning.

While most of the research studies on L1 e-learning and online literacy presented affordances and social practices of literacy, research on mLearning provided more detailed information on the tool itself and the advantages and disadvantages it might have over e-learning.

mLearning and Online Literacy Studies in L1: mLearning vs. e-learning

Bruns et al. (2007) argued that current interactive users who are deeply intertwined with new advanced mobile technologies such as iPods, tablet PCs, and smartphones, show significantly different producing skills from what has been expected of the students in the past. They indicated that the role of mobile and wireless technologies should be closely examined to represent this generation of students and considered as new learning tools to support students in the current era. In addition to this, Crow et al. (2010) examined mobile technologies in electronic teaching to explore challenges, opportunities, constraints, and affordances of using mobile devices in e-learning which is previously depending on computers alone. Their qualitative research that included semi-structured interviews with three participants indicated that all participants viewed mLearning optimistically with enough technological and pedagogical supports.

In the same sense, Haag's (2011) study also showed significant trend shifting from e-learning to mLearning. In order to effectively compare an e-learning course to mLearning course, Haag (2011) conducted a study in military mandatory online courses for about a month with 40 participants. The two versions of mandatory courses, desktop and mobile, were provided to learners and surveyed questionnaires about learner's performance, beneficial features of mobile course delivery, and taking the mobile course over desktop versions were asked. Participants were heavily weighted toward younger ages of 18-22 and 23-27 who had been exposed to mobile devices in their everyday life. In his study of investigating whether or not smartphones would provide a suitable substitute for the mandatory online content, 85 percent of the participants said they would complete their annual mandatory training on mobile devices if their alternative option was provided. The main reason for this answer was its accessibility.

As it is discussed in these studies (Bruns et al., 2007, Crow et al., 2010, Haag, 2011), researchers in mLearning argued its advantages in the features that mobile devices have, accessibility and mobility, over eLearning.

While researchers observed beneficial aspects of mLearning over e-learning in learner's access, preference, and mobility of learning practices occur, other researchers like Godwin-Jones (2011) and Petrova and Li (2009) provided information about understanding mLearning and its current situation in the language-learning field. Godwin-Jones (2011) explained the changing mobile environment and how it developed from e-learning or computer-based learning and became necessary. He addressed mobile applications and how they would be utilized in language learning by giving some information about applications out there. As mLearning became more interesting to many researchers, more and more studies are focused on pedagogical and technological benefits of mobile devices and mLearning.

In the report of Korucu and Alkan (2011), they argued that mLearning is explained and expanded in a precise way. Their report indicated that the features of the mobile devices allowed teachers to share information with to contact students without limitations of time and location with the usage of the mobile device in education. In addition, the unique feature of the mobile device that it is small and portable provided the more educational atmosphere to the individuals as learners can always carry it and access whenever Wi-Fi is on.

To find out beneficial features of mobile devices in language learning, Conway and Amberson (2011) examined 31 schools with 840 students involved in the Laptops Initiative which they use mobile devices including laptops for a reading practice of students. A total of 180 students were tested and 24 of them were assessed with dyslexia. Four school case studies with focus group interviews with 24 students who have learning difficulties, teachers' interviews, classroom observation, and survey were conducted to understand the effectiveness of mobile technology in supporting students with literacy difficulties. Findings revealed that technology-enhanced literacy pedagogy was accepted very positively by both teachers and students. Researchers argued the need of increasing appeal of mLearning to support literacy and how schools mediate access to laptops and associated literacy learning.

Even though mLearning is promising in educational fields, some researchers express concerns and problems with mLearning. Cobcroft (2007) discussed current issues and problems of the mLearning environment and wrote that the key tenant to successful mLearning is to find a suitable curriculum. As Keegan (2002) also observed, not all teaching is appropriate for mLearning. They both argued that mLearning is more suitable for short and theory-based courses rather than complicated composition or project creating courses. Due to its accessibility and mobility, the mLearning, especially using a smartphone can be limited to its in-depth engaging to

the contexts as students tend to use their smartphones for a quick, short, not complicated learning activity with more graphics, sounds, and videos provided. In addition, Cobcroft (2007) argued that compared to e-learning or online learning where already software and materials were developed to, mLearning takes more time and expenses for the setting to use in secondary or higher education. For teachers, she argued that a flexible and collaborative, yet pragmatic approach developing contents using mobile devices is required for successful mLearning. Moreover, both Cobcroft (2007) and Keegan (2002) suggested that sufficient training for both learners and teachers is needed. An adaptation of mLearning in the university context will be influenced by various factors such as intra-interpersonal and socio-cultural factors.

Summary

With the introduction of mobile devices such as smartphones, iPods, and portable tablets, the attention placed on online communities moved to mobile communities, spaces where people can access learning through mobile devices (Goodwin-Jones, 2011). For many years, online spaces such as wikis, blogs and social media such as Twitter, Instagram, and Facebook have been studied for students' language learning purposes and for their social presences and interactions, which can affect their language learning (Dunlap & Lowenthal, 2009; Goodwin-Jones, 2011). However, the computer as a platform for these social networking studies has now changed to a mobile device (Godwin-Jones, 2011) and with this change, the attention which had been on computer online social interactions of learners has now moved to mobile learning settings (Ally et al., 2007; Cobcroft, 2007; Petrova & Li, 2009). Researchers in the review argued the advantages of mLearning over e-learning, as well as, the biggest advantages and the most distinct feature of a mobile device compared to a computer-based learning are its mobility (Kukulska-Hulmes & Shield, 2007). Based on reviews of relative studies in L1, it is important to

be aware of the significance of such technologies, mobile devices and the learning space for language learners and their literacy activities.

E-Learning and Online literacy Studies in L2: Active Participation

Due to its accessibility without geographical limitations and its effectiveness in learning, digital literacy is considered one of the next new language practices for many literacy and researchers who study EL populations (Alvermann, 2008; Moore, 2008). Alvermann (2008) defined online literacies as “the socially mediated ways of generating meaningful content through multiple modes of representation [...] to produce digital texts [...] for dissemination in cyber space” (p.9). What Alvermann (2008) meant by this is that online literacies are not just words produced using technology tools but rather they contain socially constructed meaning-making processes as conventional written literacies had. As Alvermann (2008) indicated, many students are now actively engaged in digitally mediated communications such as blogging, social networking, and online communities, especially outside of school contexts. Choi’s (2009) study examined four Asian adolescent ELs who participated in an after-school literacy club. Participants who were 10th and 11th graders participated in both face-to-face discussions and online discussions on the wiki. The researcher participated as a facilitator in this book club, and they read one popular short novel, *Beacon Hill Boys*, with other short stories and poems. Students had 9 face-to-face discussions over five-month period and online discussions in wikis after their meetings. This study described how this after-school reading club created the significant space to construct their identities. Huang, Chern, and Lin (2009) investigated EFL learners’ reading strategies in participating online communities and presented the online community as a beneficial tool for students’ reading development. With 30 English major students, they conducted a quantitative study with four meetings which lasted for two hours each.

Students were asked to read articles and answered to questions on online. The findings showed students used fixed reading strategies that they were accustomed to for solving online tasks.

As Internet and online communities become more meaningful to various fields of researchers, EL researchers (Black, 2007; Lam, 2009) who focused on today's online spaces, examined how ELs engage in these communities and develop their literacies and the affordances that online space could offer. One of the affordances that online space provided to ELs, as these L2 researchers particularly found, was that ELs' more actively participated online compared to the traditional face-to-face classroom. This phenomenon was not observed in most of the L1 studies.

Black's (2007) longitudinal study of Second Language (L2) writers in an online fanfiction website showed the significant affordance that online space provides. L2 writers in her study were able to express their thoughts without any restriction on time and space. Interestingly, L2 writers in her study did not show reluctant participation or insecurities in their limited English proficiency as many other EL researchers observed in traditional discussion classes or other writing classes (Cheng, 2000; Liu & Littlewood, 1997; Morita, 2004). This active participation in the online community can be observed in other literature as well. Choi (2009) explored a case study of multimodal literacy practices of four high school ELs in an online book club. Her study showed that online spaces could be a great place for language practices, cultural exchanges, and identity developments of ELs'. Yi (2007) also presented similar aspects of identity and cultural influences in online language literacy practices of EL students. In her study, which focused on one female Korean American student, she explored the significant relationship between the participant's composition activities and her identity that was shaped by cultural influences of her origin country and the U.S. Nguyen and Kellogg (2005) conducted a study of the online

discussion of adult ELs in a content-based course. As students posted an online discussion of the topic of homosexuality, researchers examined how learners negotiated their identity through participation in this online community. Their ethnography and discourse analysis of 19 students and their postings showed that there were numerous affordances that online discussions bring to language practices and learners. The most distinctive feature they found as an affordance of online discussion is that the balanced opportunity to have expressed their idea. There are less quick turn-taking, due to lack of quick turn taking, ELs have more time to freely express their opinion and it seemed that opportunities for learning would increase rapidly with active posting if others respond.

In addition, Belcher (1999) presented the importance of computer-mediated communication to ELs' learning opportunities. She noticed the significant influence from computer-mediated communication in ELs' voices. In her study (1999), Belcher reported that ELs who felt themselves at a possible disadvantage due to their language limitation showed culturally and linguistically significant contribution to the asynchronous discussion in online communities. In this graduate seminar where massive readings and in-depth discussions occurred, international graduate students who use English as their second/foreign language initially appeared at a possible disadvantage. However, graduate ELs in her study utilized Internet space as a place to express their opinion without restrictions. Compared to the traditional classroom which often sees relatively quick turns in discussions where students' talk sometimes overlaps and the topics changed fast, ELs in Belcher's study showed that "the voices-not anonymous, but clearly, and, to all appearance, confidently self-identified voices-which were never or seldom heard in class, were heard online" (p. 264). She concluded that the Internet space allowed them to have more time and space to think and to communicate their ideas.

Similar to what Belcher (1999) observed, Larson's (2009) investigation of 5th-grade EL students and their online learning experiences of sharing and reading reflections through online journals, found that ELs demonstrated more active participation in online spaces. The results showed that students, even those who have never participated in electronically-mediated writing, all freely interacted within cyberspace. This study showed a very distinctive participation in the physical classroom; only certain students were involved in sharing their ideas and thoughts with their peers. In the virtual space, however, all of them interacted more freely and were more involved in meaning-making and communication. By investigating online communities and multimodal literacy practices, researchers have observed ELs' active participation in virtual spaces. In an effort to understand language learners' motivation to more actively participate in online spaces, researchers consider the online space beyond its teaching capabilities to examine why learners choose to participate in certain communities, what the cultures of those communities are, and how they interact in such communities.

Black's (2007) three-year ethnography of ELs who participate in online fan fiction provided more understanding of ELs' participation in virtual communities and how they develop their writers' identities in these online communities through active participation. Lam (2009) also argued that for an EL, "the construction of transnational networks represents the desire of the youth to develop the literature repertoire that would enable her to thrive in multiple linguistic communities across countries and mobilize resources within these communities" (p.377).

Both Black (2007) and Lam (2009) showed ELs' active participation and multimodal literacy practices in online communities in their studies. ELs' active involvement in online communities such as fanfiction websites directs researchers' attention towards understanding the community in which they are participating, what this community is, how it is different from

other face-to-face communities, how ELs interact with others in communities and why ELs show engaged participation in such communities.

Thus, it is clearly understood that online spaces definitely provide a great opportunity for ELs, especially for who cannot actively participate in communications and discussions due to a relatively quick turn in conversations. Not only for ELs, but also for other literacy educators, online learning space can provide many valuable learning and communication opportunities.

As many researchers presented various technology and online learning tools and the importance of using those various literacy forms, it is now important to look more detailed about the technology itself that can make it possible for students to use, especially, what they use for those online literacy activities in the current era. Computers including portable laptops served as a medium that students engaged in social and literacy practices using blogs, wikis, and text messages. Now, the computer and online technology world continue to evolve rapidly with vast improvements in new devices such as smartphones, iPads, and other tablet PCs (Godwin-Jones, 2008). Thus, educators' attention to computer-mediated online learning and social interaction has now moved towards the domain of mobile phone learning (Godwin-Jones, 2008). With this change, many educators have become very interested in the learning benefits that mobile devices can bring to students in classrooms through various features (Banister, 2010; Chen & Huang, 2010). Thus, in the next section, I will explain mLearning and mobile devices in ELs' life and related studies show how mobile devices can help ELs and general literacy practices of learners.

M-Learning and Online literacy Studies in L2: Learning Tools for ELs

As Lam (2009) explained online communication as a transnational migration of language and literacy contexts, research has shown that mobile learning space can also be great resources for ELs and English as Foreign Language (EFL) learners as well. Without geographical

limitations and with its mobility, the mobile learning space can be a great field for globalized literacy practices. A large number of studies of mobile learning are centered on mobile devices as a tool for language learning by looking at language features of EL learners. Why ELs chose mobile assisted learning and how they develop their literacy practices and moreover, what kinds of literacy practices they do in mobile spaces, were questions that needed to be studied.

Literature that links mobile learning and ELs provide the rationale for using the mobile phone-assisted learning to ELs' situated learning in the mobile world (Kukulska-Hulme & Shield, 2007; Antenos-Conforti, 2009).

From their study of mobile blogging (Comas-Quinn, Mardomingo, & Valentine, 2009), Comas-Quinn et al. (2009) found that mobile blogging helped ELs to engage and promote their motivation for interactive and collaborative learning activities. They examined mobile devices including cell phone, MP3 players, digital cameras of ELs. They thought mobile technologies have the potential to create learners' active participation and help to build a community of learners. The authors were interested in finding the benefits of mobile technology use, especially in informal settings, when teachers need to teach 'new literacies.' The results of their pilot project indicated that learners had unexpected difficulty using devices and were unfamiliar with using the new method in their L2 classes. Researchers concluded that students needed to be accustomed to using technologies in classrooms. From the results of this study, it is clear that there should be more research on perceptions of EL students who use new technologies in classrooms, especially how they use it and what should be taught in advance to ELs' technology use in a classroom.

In addition, Kiernan and Aizawa (2004) presented a quantitative study that evaluated the use of mobile phones as tools for classroom-based vocabulary learning. In order to examine how

the mobile device (cell phone) acted as a tool for ELs' learning, they compared three different groups. A total of 120 ELs were divided into three groups: a group with PCs, a group with mobile phones, a group with audio recording files of the vocabulary. Learners all received the same emails about the new vocabulary they needed to study. After three weeks, researchers checked participants' vocabulary acquisition between three groups. Although researchers did not reveal a significant difference in the three groups, their post-test indicated that learners' possibility of access to tools might cause a different result. In the fact that this study came out in 2004 when the smartphone was not widely used, the results in more recent studies could present a different view.

A quantitative study of Oberg and Daniels (2013) on learners' access to tools showed very different results from what Kiernan and Aizawa (2004) found. They divided 122 first year Japanese university students into two groups, one group with an iPod Touch instruction and the other group with a traditional textbook instruction. They investigated iPod Touch to access online L2 English textbook-based program about English listening and quizzes. The results showed that 61 ELs who were in the iPod group scored consistently high on their quizzes than the other group who use textbook only. In addition, the iPod group showed extremely positive attitudes toward self-study iPod-based learning.

Another study conducted by Nah, White, and Sussex (2008) showed Korean university L2 learners' attitudes towards using mobile phones. The researchers introduced a WAP site. WAP is a global standard designed for browsing Internet content on a mobile phone, thus, students can only access only such Internet contents via mobile phones. They presented various resources and information that ELs found useful for English listening comprehension in the WAP site. This website also provided a discussion board that helped ELs complete pre-and post-

listening activities. With the primary research question of finding Korean EFL students' attitudes toward using smartphones to access WAP sites, 30 ELs browsed the web via their mobile phones for 12 weeks. Findings indicated that they all expressed positive attitudes towards the use of the WAP site. Researchers argued that using mobile phones to various language learning process such as listening, reading, and even interacting with others, has significant potential.

Similar to Nah et al. (2008), Ally et al. (2007) demonstrated effectiveness of using mobile phone in ELs' language learning. The study described how a tutorial program that was accessible via mobile devices was helpful to ELs' English remedial grammar practices. The program had 86 lessons and related exercises and about 100 adult ELs accessed the program only via mobile devices, particularly their mobile phones. The results revealed that all learners demonstrated slight improvement and positive attitudes toward using a mobile phone to learn English grammar.

Anaraki (2009) also argued the importance of mobile devices in English language learning. In this study, 76 university students who learned English as their second language were examined to see how mobile devices, in their case, PDAs and smartphones, could be utilized for learners' independent study in English listening and pronunciation. The students who participated in this study expressed that they felt significant growth in their pronunciation and listening skills by watching flash-based multimedia lessons.

As review literature revealed, the advent of hand-held computer-based devices gave rise to mLearning also known as MALL, or mobile assisted language learning. Over the past 10 years since the smartphone is prevalently used and other mobile devices such as iPods and tablet PCs are introduced, the studies on ELs and their language learning and literacy practices considered these new technologies as affordances in their learning. Yet, there is little research on EL teens

and young adults' use of mobile devices in their literacy and social practices. In order to extend the research in this area, this study examined closely ELs and their mobile device usage, especially their smartphones, to explain how mobile devices were used as part of their literacy practices.

Summary

ELs and their performance in literacy are often overlooked by researchers and educators (Garcia & Godina, 2004). ELs often comprise a large number in the US school system; however, they often receive less immersion such as the coursework designed to address their various levels of English and creative instruction that fits in their interests compared to adult English learners in many public or private colleges (August & Hakuta, 1997). By reviewing literature related to online literacy practices and mLearning, I have noticed that there is not enough qualitative research related to mLearning and students' attitudes, motivations, and perspectives on using mobile devices. Unlike L2 online literacy studies that focused on learners' active participation as one advantage of online space, studies on L2 mLearning focused more on linguistic features of language learning such as memorizing vocabulary or grammars. Thus, by applying the concept of mLearning and affordances of using mobile devices, this study explored the nature of ELs' mobile literacy practices and their motivations, attitudes, and perspectives on using mobile devices as their literacy practice tools.

Conclusion

From a review of multi-aspects of mobile spaces and literacy practices, it is important to understand that there is more need to explore ELs' literacy learning in mobile assisted literacy communities. In addition to this, significant to ELs' language learning is more research in their multimodal and mobile literacy practices, how these literacy participations and instructions are

related to students' everyday life and their language learning. However, from this review of the research, few studies have been conducted around mobile learning for ELs, and studies related to ELs and their usage of the mobile device as language literacy practices should be conducted. This study was designed to extend further research regarding ELs' attitudes, motivations, perspectives when using mobile devices in daily life and how they contributed to their literacy and social practices. This study intends to contribute to this research.

CHAPTER 3

METHODOLOGY

Research Design

In an attempt to understand the impact of mobile devices, especially smartphones, on ELs and their language learning practices, this study generated a thick description of a particular group of people, English Learners (ELs). Although mobile devices have proven to be efficient and fruitful tools for educational purposes, much of the published research to quantify their effectiveness is based on research methods such as questionnaires and surveys (Dashti & Aldashti, 2015; Eppard, Nasser & Reddy, 2016; Olufadi, 2015; Saidouni & Bahloul, 2016). Even when investigating the motives and intentions behind ELs' use of mobile phones during a class lecture, Olufadi (2015) used a cross-sectional survey to find the contributing factors of why students use mobile phones during class periods. This is not an unusual case for studies related to ELs and their mobile device applications.

Dashti and Aldashti (2015) conducted a study based on questionnaires to investigate attitudes towards mobile learning for EFL (English as Foreign Language) students in university. Saidouni & Bahloul (2016) investigated perceptions of EFL teachers and students on the effectiveness of a mobile technology (smartphones) in their language learning using a mixed method approach. Although these researchers found out useful reasons why students used mobile devices, the attempt to understand the phenomenon and know each participant's motives still remained unsolved.

Based on a brief discussion of ELs' mobile literacy studies, the current study used qualitative methods including semi-structured interviews to understand ELs' mobile assisted language and literacy practices in and out-of-school contexts. More specifically, the research

aimed to investigate ELs' motivation for using mobile devices for language and literacy practices and what language and literacy practices and learning occur through their use of mobile devices in and out-of-school contexts. The study took place during the fall and the winter of 2017 and involved four ELs who used their smartphones to learn the language. Findings from this study offers both research and pedagogical insights into how mobile literacy practices informs ELs' language learning in and out of school.

According to Guba and Lincoln (1989) and Schwandt (2000), research must be designed to better understand the field and to understand and know participants' experiences more fully. This qualitative study attempted to explain the multiple realities constructed by various participants. Also, the choice of methods should depend on the nature of the topic and the data. As I sought an in-depth understanding of my participants, ELs from various backgrounds, it was natural that my choice of research methodology was qualitative approach. In my case, my inquiry to understand this particular group of ELs confirmed the idea that we, researchers, should understand that our inquiry should be faithful to human construction and be safe for them and their communities (Schwandt, 2000). With this in mind, this study investigated the following research questions:

- 1) How do participants use mobile devices in their classes, and what features of mobile devices do they find useful (e.g., recordings, video, still photo, etc.)?
- 2) What mobile device applications do participants find important in school and/or in their everyday lives?
- 3) Is there a relationship between participants' use of mobile devices and their identity in and out of school?

Theoretical Consideration of Qualitative Research and a Case Study Approach

As the primary purpose of the study was to create an in-depth description of ELs' out-of-school mobile literacy practices, I focused on the individual level of mobile literacy practices in this study and situated myself methodologically within a qualitative case approach. In qualitative research, the research is context-sensitive since there exist multiple realities, and each person's experience is different from others resulting in all participants' points of view being emphasized. Although there is no specific one-sentence definition of a qualitative study, many researchers provided their understandings of qualitative research and all commonly argued the importance of seeking 'why' in the study. Van Maanen (1979) defined qualitative research as "an umbrella term covering an array of interpretive techniques which seek to describe, decode, translate, and otherwise come to terms with the meaning, not the frequency, of certain naturally occurring phenomena in the social world" (p. 520). By stating this, he explains that one technique is not enough to represent a qualitative study; rather it is a combination of various techniques that allow researchers to collect in-depth data for understanding the world we live in. Thus, qualitative research has strengths in that it can provide an in-depth explanation of localized and individualized cases and can focus on participants' voices. It provides an individual, personal view of particular experiences or phenomena. I purposefully chose a qualitative research approach since a quantitative research approach might fail to provide the background information of participants and might not explain 'why' a certain phenomenon occurs. In addition to this, Graff (1986) argued that literacy studies should move their focus from quantitative studies that required a large population and generalization of that large population and focus on smaller scale studies of specific groups and subgroups to understand these specific groups. In my study, therefore, quantitative methods may fail to show how this small group of

ELs perceives mobile assisted language practices and why they use them for their language practices.

While quantitative research methods could not provide an answer to the research questions that I wanted to pursue from the participants nor give direct access to experiences of participants, Shulman (1981) argued that “what distinguishes methods from one another, usually by virtue of their contrasting disciplinary roots, is not only the procedures they employ, but the very types of questions they tend to raise” (p. 6). This shows the importance that researchers need to carefully choose their methods of conducting a study and collecting data. Depending on their research questions, researchers need to make an effort to choose the most appropriate method. As my research questions for the study were to understand ELs mobile literacy practices, language learning processes, and social interactions are observed from using mobile devices, I wished to conduct a qualitative study, particularly using interviews as the primary data resource and the most suitable approach for the study. Interviews would allow me a more in-depth understanding of participants’ motivations for using mobile devices, how they used them and for what purposes, and how these devices informed their identities as ELs.

A brief discussion of the major features of a qualitative study sheds lights on the suitability of a case study for this research. A case study is one of the most common and frequently used methods in qualitative research, and since it is commonly used for various types of research, researchers often find a case study is confusing in terms of how to define it and what constitutes it. As Creswell (2014) explained, case study research is one of the qualitative approaches that allows investigators to explore a ‘bound system or multiple bounded systems’ over a set period of time. Additionally, Stake (1978) stated that a case study is best used for “adding to existing experience and humanistic understanding” (p. 7). It is also noted that “the

case need not to be a person or enterprise. It can be whatever ‘bounded system’ is of interest” (p. 7). Thus, a qualitative case study is an approach to research that enables investigation of a phenomenon using multiple data sources (Baxter & Jack, 2008). Baxter and Jack explained that a case study can make it possible to ensure issues are explored from a variety of lenses rather than through one specific lens. This allows multiple aspects of the phenomenon to be revealed and understood.

According to Stake (1978), a qualitative case study should include 1) distinctiveness of the case, and 2) humanistic understanding of existing experiences. Additionally, Merriam (1998) explained that a case study needs to be thickly descriptive in order to provide in-depth understanding of a particular case and participants’ experiences. In the same sense, Stake (1995) and Yin (1984) agreed that the case study topic under investigation needs to be well explored and that the essence of the phenomenon should be revealed by conducting the study. A case study, therefore, needs to seek what is particular about the case while acquiring a full and rich description of the phenomenon being studied and illustrating readers’ understanding of the particular phenomenon. An in-depth understanding of the experiences of ELs’ out-of-school mobile literacy practices in this study were best investigated drawing from the key aspects of a case study approach.

In order to conduct a successful case study, adequate procedures are required. Although many researchers agreed on what makes a case study, two major researchers, Yin (1984) and Stake (1995), took a slightly different procedures on how to conduct a case study. Yin (1984) defined the case study research method “as an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used” (p. 23). In Yin’s

view, a case study is an empirical analysis that investigates the case(s) by addressing ‘how’ or ‘why’ questions. He argued that experiments and surveys are insufficient to capture the motivation behind the research, and that investigators should be able to present the logic behind their case with theoretical propositions and characteristics of it. As he argued the importance of ‘logic’ in the study, Yin (2003) suggested that a case study should contain five procedures: 1) a study question, 2) its propositions, 3) its analysis, 4) the rationale that connects the data to the propositions, and 5) the criteria for interpreting the findings. A researcher’s job in conducting a case study is to make sure these components are well connected and logically consistent throughout the study. A step by step procedure for each component is required, and a solid foundation for the research such as a literature review or theoretical framework that links researcher’s inquiry to case is required before starting to conduct a study. This distinguishes a case study from a grounded theory or ethnographic approach. Contrary to Yin who suggested a very organized and regulated design of all case studies, Stake argued flexibility in designing each individual study. Stake (1995) defined a case study as “both the process of learning about the case and the product of our learning” (p. 237). He argued that a flexible design, which allows researchers to make major changes even after they proceed from design to research, offers a strong understanding of participants and is true to the goal of understanding participants by designing and investigating a study. According to Stake (1995), for conducting a case study which relies heavily on particular cases, designing solid research questions is crucial. Researchers should develop questions that “help structure the observation, interviews, and document review” (p.20). Additionally, he argued the significant role of the researcher in the case study. He stated that “most contemporary qualitative researchers hold that knowledge is constructed rather than discovered” (Stake, 1995, p. 99), and thus the researcher of a qualitative

study should be rather a reporter or a storyteller of what has been interwoven together by a researcher and a participant than a founder or an explorer who discovers knowledge from the research. He suggested having at least 10 substantive questions in mind to structure major methods for collecting data. Even though Stake (1995) did not advise to have a step by step procedure, his suggestions of relevant and consistent research questions throughout the study and especially the importance of a researcher as a reporter gives strong direction to researchers who are seeking to conduct a good case study.

Although the two researchers took a different point of view on the procedures of a case study, I took elements of both researchers' views as each provides a valuable understanding of the case study. I took Yin (2003)'s steps on making inquiry, propositions, and designing a study that links to proposition as well as analyzing the case based on full description of literature review for my case, ELs. I also took Stake's (1995) view of flexibility and the importance of research questions and revisited my initial inquiry and literature review time and again for a better understanding of my case, ELs, and to provide humanistic explanations on this particular group.

In research with ELs, many researchers carefully chose a case that represented the population (Achiba, 2003; Liu et al. (2014); Morita, 2004; Norton, 2000; Toohey; 2000). Especially for studying online literacy practices, many of these researchers used a case study design for their research methods. For example, Liu et al. (2014) conducted a study with two EL teachers and students in two school districts. In order to examine the reality of using iPods in ESL classrooms, they conducted a case study with the two teachers over a year. Their main data collection method for the teachers was interviews, and some of the teachers' students also participated in the interviews. From the interviews, the researchers were able learn about the

teachers' use of the iPod Touch in their classrooms and how teachers perceived it. Teachers both explained that they used this new technology as affordances of the instruction. Students' interviews also revealed that they use the technology (iPod) as a useful tool for learning English. By using a case study with multiple interviews, researchers of this study gained an in-depth understanding of how iPods were actually used in the classroom by teachers and students. Another study by Kim and Lim (2010) showed how nine college students in New York utilized Twitter for their English learning activities. Researchers used a case study with interviews and a document analysis of students' tweets for five weeks to see how this enhanced students' cultural knowledge and motivation to write in English. The results indicated that the nature of posting and interacting with others using tweets was perceived as a positive aspect that increased students' motivation to write in English. Researchers in this study also were able to provide each student's voice in their findings as they could acquire detailed information and knowledge about each student.

Merriam (1998) noted that one of the strengths of conducting a case study is that researchers can deal with various evidence in their study by using data collection methods such as interviews, documents, and observations. In order to take advantage of doing a case study, in addition to using interviews as a primary research method tool, researchers who conduct a qualitative study of mobile and online literacies used observations and documents as additional data sources. Ghandoura (2012) observed 13 ELs who enrolled in English composition class. Ghandoura's study examined the attitudes of students who registered for computer-assisted writing classes. The researcher observed students' activities and analyzed students' comments on their experiences in writing courses. Students' diaries about writing courses were useful documents for the researcher to understand their attitudes towards computer-assisted writing

programs. Merchant (2015) also used personal observation and participants' documents for his study of young children (14-22 months) using iPads and applications their material affordances. He observed the interactions that children had with iPads and identified the ways in which the technology supported early literacy development. His observations revealed detailed information about young children and how they interact with iPads.

Based on reviews of the strengths and procedures of the case study by different researchers, I believe a case study was the most suitable method for my study. Thus, this study employed a case study approach which occurred over the fall and the winter of 2017. As I was interested in the language learning process and literacy practices of EL students, conducting interviews and additional data collection during the school semester was a good time to observe their various academic activities in and out-of-school contexts along with recreational practices with mobile devices.

The primary purpose of this qualitative case study was to create a descriptive portrait of ELs' mobile learning language practices based on an in-depth understanding of the nature of their learning experiences. To accomplish this goal, I focused on the individual level of literacy practices among ELs and their perceptions on mobile learning in this study. Through an individual case study, I created a boundary for each participant as described by Stake (1995) and a portrait each case's uncommon or case-specific results. Therefore, this study was an investigation of a particular group: ELs, who have been in the US less than five years. I studied this particular group to understand the group's literacy activity in the mobile world which presents important environments of participants' possible interactions and engagements. According to Stake (1995), it is important to know "what leads to significant understanding, recognizing good sources of data, and consciously and unconsciously testing out the veracity of

their eyes and robustness of their interpretations. It requires sensitivity and skepticism” (p. 50). Thus, to conduct a good case study, I followed next detailed steps from data collection to analysis.

Procedures of the Study

After my research was approved by IRB, I began this study. Bloomberg and Volpe (2008) guided novice researchers to remember “the background, context, problem statement, purpose statement, and research questions” (p.82) for the IRB approval. The background of the study argued the importance of current issues related to mobile devices, and that the majority of adolescents and young adults’ access to mobile devices provided information for understanding the population and the need for the study. The context of the study occurred in out-of-school settings. Across the interview period, I interviewed each participant five times in local libraries, coffee shops depending on their preference and/or to accommodate their schedules. Each interview took about 30 minutes to an hour depending on the context of the conversation. Questions in each interview drew upon the previous interview, as well as solicited new information about the literacy tools and practices around these tools. Meeting off campus and away from school provided participants a more relaxed atmosphere and ensured that the interview process went smoothly. Once the data was collected, I looked at each participant’s data individually, and then cross-analyzed data across each participant.

Participant Selection and Recruiting Procedures

Merriam (2002) presented a way to select and recruit participants. In selecting a sample, she suggested that researchers to seek a sample which can be learned from the most as qualitative inquiry seeks to understand the meaning of a phenomenon from the perspectives of the participants. She argued that random sampling makes little sense. In addition to that, Patton

(1990) argued that “information-rich cases” are important to learn about issues of central significance to the purpose of the research and used the term “purposeful sampling” (p.169). A purposeful sampling can be used to yield the richest information about the phenomena in the study, thus, researchers emphasize the importance of determining suitable criteria for choosing who is to be studied (Mason, 2002; Merriam, 2002; Patton, 1990). Sample units are then chosen based on how well they represent particular features or characteristics that the researcher can explore to understand themes and questions that they are pursuing in the study (Ritchie et al. 2013). Thus, the number of participants for this study was ideally between 3-5. Participants were ideally in high school or recently graduated. Participants who had been in the US fewer than 5 years, and possibly ones who are currently taking an ESL course in a university or a public school to understand their language proficiency were recruited. This particular age group of participants was ideal because they had high access to mobile devices in everyday life based on the literature review. Further, identifying the number of years each had been in the US enabled me to understand their language development and types of apps they might use to learn language. The participants’ social markers (e.g., gender, nationality, and native language) varied. Inclusion criteria for participants in this study were as follows: a) ELs who have access to mobile devices such as smartphones and use them to learn language; b) ELs who are aged between 13 to 21; c) ELs whose native language is other than English and d) ELs who came to the US less than 5 years ago. For the participants who are native Korean speakers, the interviews were conducted in Korean upon their request.

Recruiting Procedures

Researchers suggest that maintaining smaller sample size is essential for qualitative study to yield the richness in detail (Patton, 1990; Ritchie et al. 2013). Thus, for this study, my goal

was to recruit 3 to 5 ELs from whom I could pull out detailed information and in-depth experiences from their stories. Recruiting participants was essential to the success of a study, and as briefly discussed above, deciding on a representative sample was a key to recruiting participants (Merriam, 2002; Patton, 2002). For this study, I used a purposive sampling (Mason, 2002; Merriam, 2002; Patton, 2002; Ritchie et al. 2013). A purposive sampling lets researchers find people who can and are willing to provide information and decide what needs to be known from the stories of the people's knowledge and experiences (Bernard, 2002). With this in mind and using purposive sampling, I recruited a former EL who fit the inclusion criteria from my Korean language classes and English as a Second Language (ESL) programs.

When the recruiting started, I was teaching at a private university in the southeastern part of the US, and this university had a high population of Korean and Chinese students. Many of them were in the university's ESL program and also enrolled in a Korean program for their interests in Korean language. About one-third of the population of the beginning level Korean class was Chinese native speakers, some of whom still took university ESL courses. Also, in the advanced level, there were Korean heritage students who recently graduated high school in Korea and had come to the US for their university degree. I sent out an email for recruitment (Appendix A) to former students who were in my classes in previous semesters. This avoided any conflicts of power and interest as their teacher, especially as it concerned grading. I invited all willing participants to fill out a pre-survey questionnaire (Appendix B) to get a rough idea about their mobile device usage per day. The survey included general questions about their engagement in mobile assisted learning outside of a school context: How much time do you spend on your mobile devices (including a smartphone) per day? How often do you use your mobile devices for language learning? What are the most common features you use on your

mobile devices? Based upon their responses, I then selected participants who most closely align with my inclusion criteria. I talked with them about the purpose of the study, secure informed consent, and only then begin data collection.

Second, for recruiting adolescent ELs, I used a snowball sampling method also known as chain referral sampling (Creswell, 2014; Heckathorn, 1997; Noy, 2008). Noy (2008) defined snowball sampling as the procedure where “a researcher accesses informants through contact information that is provided by other informants” (p. 330). As one of the purposive sampling methods, a snowball sampling lets researchers find hidden populations (Creswell, 2014). Noy (2008) argued that snowball sampling relied on the dynamics of natural and organic social network, thus, this sampling method offered researchers social knowledge of a given group and enriched sampling clusters. Using the snowball sampling recruiting process, I asked former students in my Korean courses and my Korean church if they had any younger siblings or friends who had younger siblings who came to the US at least five years ago. If they knew others, I sent them a letter of recruitment via email (Appendix A), and invited them to participate in the study.

Once I had four whom I identified as best fitting the inclusion criteria for this study, I began the process of securing Informed Consent and/or Informed Assent. If a participant was under the age of 18, I set up a separate meeting with each recruited participant. I explained the study to them and its possible impact on them while they were participating the study. Also, I let them know that they could withdraw from the study whenever they want to. I then presented them with the Informed Consent or the Informed Assent. Only when I received these consent forms, I began data collection.

Participants

I met three of the participants in a local coffee shop, and one participant, Kaye, in the library. In the first interview, we met to talk about their background. In the second interview, we talked about general experiences and the use of mobile devices including a smartphone. In the third interview, we talked about their daily literacy practices such as what they did with their mobile devices or what were their favorite activities on mobile devices. Then, I invited all participants to demonstrate their use of application/software on their devices in the fourth interview. The last interview contained questions regarding the value of mobile learning such as why they used mobile devices and what they thought about using them. They shared their participant journals across all five interviews.

The Pew Research Center's 2018 report on teens' smartphone ownership indicated that now 95% of teens reported they have a smartphone or access to one. In the case of young adult (age 18-29), 100% of researched participants owned a cellphone and 94% of them owned a smartphone. This shows that young people's mobile device use has evolved and now they are online on a near-constant basis. As I thought I might expect from the report, all participants showed enthusiasm for this dissertation study, and their interest in sharing how and why they used mobile devices. On average, the participants in this study used their mobile devices daily between three to six plus hours. They all have owned a mobile phone (either a smartphone or a flip phone for more than five years. Thus, this study was ripe to examine EL teenagers' mobile device use and technology they often consumed. Table 1 presents background information from pre-survey and basic information about each participant, length of time in the US, and how long they had used mobile devices.

Table 1. *Summary of Participants and Length of Time Using Mobile Devices*

Name	Anna	Cindy	John	Kaye
Age	15	15	16	21
Nationality	Korean	Korean	Korean	Chinese
Gender	Female	Female	Male	Female
Grade	10 th grade	10 th grade	11 th grade	University Senior
First year started in the US	8 th grade	8 th grade	7 th grade	Freshmen
Stayed in the US	2.5 years	2 years	5 years	3 years
Length of time mobile devices used	6 years	5 years	5 years	9 years

Cindy

Cindy was first introduced to me by another participant named Anna. During the first interview with Anna, I asked her about another possible participant Sue who initially agreed on the interview by phone. As Anna and Sue knew each other, I asked Anna if she knew how Sue was doing. Anna told me that Sue's family was on a trip, so they would come back to the town in a week and she also said that Sue's younger sister, Cindy, was her best friend. I immediately asked Anna if she thought Cindy might be interested in this study. A week later, Anna brought Cindy to her second interview and I had a chance to talk to her and explained the study. When we met in a local coffee shop, Cindy seemed excited and was ready to tell her story. Cindy was a 15-years-old high school student from Korea. She had been in the US for two years. Her entire family including her older brother and sister moved to a metro-southeastern city in the US due to her father's job relocation. Her father intentionally applied for a transfer to a US branch of his company as he thought this would be an excellent opportunity for his children's education.

Cindy completed her elementary school (grade 6) in Korea and started her US school education in 8th grade skipping the 7th grade. Her family lived in Japan for a year when she was young, and she started a school one year behind than those in her age group, so she wanted to jump a year up and start school with friends who were in the same age. Cindy is now in 10th grade and still in an ESOL class. Although she mentioned in her first interview that she was thinking to take a regular language art class, I had an impression that she was still more comfortable staying in the ESOL class. She also explained that the reason why she stayed in the ESOL class was that of the benefit she could get from being an ESOL student such as extra exam time or detailed test guidelines. Cindy expressed her frustration in using English even in our very first interview. When I asked her if she wanted to have a conversation in English, she immediately said ‘No’ with great emphasis and force. She explained that her limited English made her a very timid and shy person throughout the middle school and, after two years, she finally felt that she was barely on track to get her original personality back.

During the two years of her residing in the US, she had more than three tutors who helped her through school work and general English conversation skills. Her first two native speaker tutors did not help her much as they focused on more conversation skills when Cindy thought she was not ready for the free conversation. Her last tutor was Korean and most helpful according to Cindy. She mentioned that she needed basic language skills such as grammar and vocabulary, and her Korean tutor explained well concepts and information in Korean. Even though she had tutors who helped her English, her frustration with the language mostly came from her not being able to make any friends. This was in contrast to Cindy’s own self-categorization as a people’s person. She loved to make new friends and was always the one who approached people first in Korea. However, in the US, she could not make friends quickly due to a language barrier. She

mentioned that she hated to be portrayed as a shy girl in school as she was always “the energetic girl” in Korea. As Cindy struggled with her English, she eventually found a way to make friends by joining a sports team. She first tried out for the cheerleader squad, but she it was not as enjoyable as she expected. Later, she decided to try a volleyball team as a friend of hers liked playing on the volleyball team. At the time of this study, Cindy was on the high school volleyball team.

Cindy actively used her mobile devices, especially her smartphone. Her recent favorite activity included watching an interview clip of an actor on the popular TV show named “Stranger Things.” She was “obsessed” with the main character of the show and followed him on Instagram and Twitter. As such, she continually checked his status on her phone as the alerts popped up frequently. She also utilized other applications frequently on her phone such as pronunciation apps, dictionary apps, and/or Googled specific acronyms when she received text messages with these acronyms from her friends.

Anna

Anna was a 15-year-old Korean girl. We first met in a local coffee shop in early morning in November. My first impression of her was that she was well-mannered. She was also very quiet but polite and provided long answers whenever I asked questions. My impression of her reminded me of high school teenagers I used to teach in Korea, shy but polite. Anna was in a different situation compared to other participants regarding learning English. She had experience attending kindergarten in the US when she was young. Her family lived in the US for about three years until she was seven. When the family decided to return to Korea, Anna had to adjust to a Korean school life again. Later, she came back to the US with her family when she was in 9th

grade. At the end of January 2018, she and her family moved back to Korea again; Anna had to readjust, again, to Korean school life.

Unlike other participants, Anna's first English learning experience was very natural as she went to a kindergarten and learned the language with other kids in the US. Based on the conversations we had, I deduced that Anna was a high achiever and extremely motivated in all school subjects. Ironically, when she returned to the US, most of her difficulties that she encountered resulted from what she had achieved in Korea. As she had a record of attending a school in the US, she was not able to be assigned in the ESOL class. Further, based on her language arts grade in the Korean school, she was placed in an honors literature class in the US. This class gave her considerable problems as she did not have any background knowledge on the US history and other US literature, and never learned how to write an academic paper properly. She stated, "It was difficult [to follow the class] because I was placed in Honor's literature class based on my Korean literature class grade in Korean school, but I don't have any background information. Also, for the Georgia History class, I don't know anything about the history of Georgia, so it was super hard to follow. (Anna, first interview, 11.20.2017)." In the first interview with Anna, she remarked, "When I returned to the US, I already established some Korean accents [in my English words] so it was a bit hard to change it. As for writing, I've never learned how to write an essay so that was hard to do, you know, writing for academic purposes." (Anna, first interview, 11.20. 2017).

It was interesting to hear Anna's story as she mentioned that she thought she would fit in more into the subjects such as literature, history, sociology as she did in Korea. However, instead, in the US, she thought that she would better fit into the classes such as science and math. When I asked the reason why she thought the way she did about her competencies in different

subject areas, she indicated that she was more comfortable with those classes as they did not require sophisticated language use and knowledge. When she was in middle school in Korea, Anna's favorite class was English as she did the best out of all other students. In the US, her favorite class was science as she did not enjoy her Honors literature class. Two high school participants, Anna and Cindy, explained how they had become quiet and passive students due to their limited English proficiency. They also mentioned how much they did not enjoy their portraits/personalities/identities in the US school.

Regarding her mobile devices, Anna was not particularly concerned with her mobile devices practice in school as she sometimes checked her text messages and looked at Snapchats. She considered her a self-maintained person who was well organized for school and her work was done on time. After her US high school provided a portable tablet to students, the school's regulations on using mobile phones became strict. Yet, students continued to use their mobile phones during class times and on campus. Although Anna used her cell phone for entertainment purposes such as listening to music and browsing social media, Anna's mobile devices practices, especially for her tablet, were mainly for academic purposes such as researching unknown words or working on assignments.

John

John was the only male participant in this study; he was from Korea. He was a 16-year-old high school boy who loved old pop music. His parents immigrated to the US about five years ago to provide a better educational opportunity for him and his older brother who was, at the time of this study, a college student. John was in the ESOL class for one year right after he came to the US. When I first met John in a local coffee shop near his high school, he seemed very shy and quiet. He did not seem so passionate about the interview; however, interestingly, he was the

one who provided the most in-depth participant journal of all participants. John was self-taught in English while he lived in Korea. He learned some basic conversation skills by watching American TV shows, Disney cartoons, and listening to pop music. When I asked how fluent he was in Korea, John confidently stated that he was able to perform some elementary conversations even in Korea. After he came to the US, he said that his English proficiency dramatically improved for the first three years, and then it slowed down after that. John reported that listening was his weakest area of English, even now. He said that one of the most embarrassing moments he had due to his lack of English proficiency was when he was in a restaurant with a group of his friends. He was not able to understand what the waiter said to him. John stated that in most cases, he had difficulties understanding strangers' pronunciations, whereas, he did not have any problem understanding his friends and teachers in school

When John was in the 7th grade, he got his first cell phone but it was not a smartphone. At the beginning of 8th grade, he started using a smartphone. His first smartphone was a used iPhone 4 that his father used to possess. Since it was an older phone, John said he did not enjoy the phone as it took “forever” to open any application. John mentioned that he could not deny that a mobile phone in his life was something crucial, but he stated he could live without it. John's mother controlled his cell phone use at home, and he gave his phone to his mother once he came home after school. However, avoiding his mother's eyes, John continuously did on his computer at home what he did with the phone in and outside of school.

Kaye

Kaye was a 23-year-old Chinese woman. I have known her for about two years; she was in my Korean intermediate class at a private university for two semesters. In comparison to other international students in my class, Kaye's English proficiency was not so fluent. She

frequently asked questions after classes about concepts or information she did not understand during class time, or she double checked that she understood the requirement of class assignments. She came to the US about three years ago to pursue her higher education in the college. Kaye first went to a small college and then transferred to this private university. I asked Kaye why she transferred from the small university to the private one. She stated that attending a university with strong name recognition is essential in China to get a good job, and the small university was not so popular in China. Since data collection, Kaye graduated from the private university and started graduate school in another university in the Southwest.

From my observation, Kaye's English speaking and listening proficiency seemed less strong than the high school participants in this study. Based upon Kaye's responses and my experiences as an English as a second language teacher, I reasoned that Kaye's lack of proficiency arose from her school life. Kaye mentioned that she rarely communicated with her "American friends." She had a Chinese boyfriend and many Chinese friends, so she spoke Chinese more often and spoke English only in class. Even in class, Kaye stated, she remains quiet and uses minimal English. If she has something to confirm or ask, Kaye remarked that she would rather ask Chinese students who often sat next to her than English-speaking students. If there was no Chinese student, Kaye stated that she would find a Chinese student who had taken this class previously, or she would ask another international student like her. The unique environment of the university she attended had many international students, with a large population from China. Kaye easily found Chinese or international students on campus to help her. Due to this her shyness, Kaye showed little motivation to use or learn more English. Her primary purpose for using English was for academic purposes only in many cases. In comparison to the high school participants who were forced at times to socialize with native English

speakers, Kaye's university life provided her a choice of whether or not to mingle with native English speakers and allowed her to stay in her comfort zone of speaking Chinese.

Also, compared to the high school participants who sometimes had restrictions in using a mobile phone in school, Kaye was not limited in her mobile phone use in or out of school. She always brought her mobile phone to class with her and checked her phone regularly. Kaye mentioned in one of the interviews that she often used a dictionary application in class, especially when she did not know some of the words used in class. In addition to this, she continually connected with friends and families in China using her phone.

Kaye was the only college student and Chinese in this study and remained in this study for several reasons. First, while she was the only Chinese participant, I believed that I would find interesting information regarding her use of mobile devices. As a qualitative study, I knew that I would not—nor would I want to—generalize to a larger audience of different cultures. However, and most of all, Kaye was eager to participate in this study. She was the first participant who agreed to work with me and was passionate about sharing her story. Second, Kaye was also in a different circumstance compared to the other three participants in this study. I understand that teenagers and young adults are heavy users of mobile devices from various investigations into mobile device use (Pew Reports, 2018a, 2018b). I knew that Kaye would, perhaps, have different uses for mobile devices than those of the high school participants. However, I hoped to observe some similarities and differences in their use. As the high school participants were banned to use many Internet websites in school, I thought that Kaye, with unfettered access to websites, may use a range of sites for different reasons. I also thought that Kaye's use of mobile devices and websites would, perhaps, be different from that of the three high school participants. Third, I was also curious to examine how Korean and Chinese participants' use of mobile devices, in terms of

culture, would influence their mobile device usages. For example, high school participants were forced to be in school daily from morning to afternoon and did not have so much free time during the school; whereas, Kaye had more free time in and out off campus as she selected classes that fit in her schedule.

Data Collection and Procedures

Since no single method could adequately explain certain phenomena, I collected multiple data sources to increase the validity of the study (Duff, 2008; Lichtman, 2012; Schram, 2006) and triangulated these data. Duff (2008) stated that “an important principle in current qualitative research is that both insider (emic) and outsider (researcher/analyst) perspectives of phenomena should be incorporated to the extent possible in order to provide what is called a triangulation of the data” (p. 143). Stake (2005) also argued that case studies present data which is gathered through various means. The primary purpose of collecting data through different methods is to increase the trustworthiness of the data and to make it possible to perform an in-depth analysis. Thus, I collected the following types of data: semi-structured interviews and participants’ journals, and I kept a researcher’s journal. For the purpose of obtaining an in-depth understanding of the study’s participant population and answering the research questions, the following data sources were collected and studied and connected to the study’s theoretical frame (Table 2).

Table 2. *Data collection and Connection to RQs adopted from Bloomberg & Volpe (2008)*

<i>Research Question</i>	<i>Data Sources</i>	<i>Connection to RQs</i>	<i>Connection to Theoretical Perspectives</i>
1) How do participants use mobile devices in their classes, and what features of mobile devices do they find useful (e.g., recordings, video, still photo, etc.)?	Participants' interviews and journals, researcher's journal	To reveal why ELs use the mobile device for their language practices. Participant's journal extends and attempts to explain the motivation.	Learners as active meaning-makers (Knobel and Lankshear, 2014)
2) What mobile device applications do participants find important in school and/or in their everyday lives?	Participants' interviews and journals; researcher journal	To understand which apps are important in helping ELs with language learning; how they use apps to socialize with others; thoughts are on mobile devices, reveal their knowledge, ideas, and challenges when using mobile devices. Researcher journal extends and attempts to explain the role of mobile devices in language learning	Use of various digital tools as technologies for delivering and receiving meaning, just like language (Gee, 2010; Lankshear and Knobel, 2003)
3) Is there a relationship between participants' use of mobile devices and their identity in and out of school?	Participants' interviews and journals; demonstrations of participants as they use mobile devices	To understand participants' literacy practices in their discussion about using mobile devices for language learning; their perceptions on different apps for language use; how they use mobile devices in and out of school	Literacy practices almost always involve more than just using a digital tool (Gee, 2010); The importance of social and cultural contexts of communication and learning of different groups of people (Gee, 2010; Leu, Kinzer, Coiro, & Cammack, 2004).

Pre-Survey Initial Information on Mobile Devices Participants Owned and/or Used

Based on the pre-survey initial information regarding which mobile devices participants owned and used, I studied two devices the high school participants stated that they used: tablets and smartphones. I studied Kaye's use of her smartphone only as she did not possess any portable tablet. Thus, her interview and findings are mostly focused on her usage of a smartphone. Three high school participants, Anna, Cindy, and John, went to the same high school and they all had tablets furnished by their school. John mentioned in his second interview that the school had decided only recently—within the last year-- to distribute tablets to all students in his school.

Semi-structured Participant Interviews

One of my primary sources of data was semi-structured interviews. For this study, I conducted five semi-structured interviews between 30 and 60 minutes each. Rubin and Rubin (2012) defined semi-structured interviews in this way: “[T]he researcher has a specific topic to learn about, prepares a limited number of questions in advance, and plans to ask follow-up questions” (p. 31). They also state that when interviews are semi-structured, researchers have space to ask additional and follow-up questions which, then, allows them to study detailed ideas of specific groups. According to Rubin and Rubin, the primary tool of a qualitative researcher is their ability to conduct in-depth interviews.

Many qualitative researchers use semi-structured interviews for comprehending participants' world views (Bogdan & Biklen, 1982). Semi-structured interviews allow researchers to hear a participant's in-depth story, and follow-up questions allow for flexibility when gathering information from participants. In this type of interview, researchers can more freely adjust questions to participants' responses as the interview progresses. This provides the

researcher with an opportunity to capture participants' perspectives, experiences, and understandings of phenomena in relation to research questions by offering wider guidelines and framework (Bogdan & Biklen, 1982; Creswell, 2014). In this study, I followed the advice of these scholars when designing my own interview questions. I went into each interview with prepared questions; however, if participants said something that was not related to my prepared questions, I asked follow-up questions. Further, by conducting semi-structured interviews, I hoped to learn about ELs' perceptions and challenges when using mobile devices as their language practicing tools from their reflections and perspectives.

Duff (2008) explained another approach to conducting interviews as a primary data source. Rather than focus solely on "the actual linguistic or textual features of the discourse," a researcher can learn a great deal if she or he attends to "the insights or perspectives of research participants" in each interview (p. 133). From Duff's perspective, researchers commonly conduct more than one interview with participants to follow up on issues or clarify uncertainties that emerged from an earlier interview. Drawing from Duff's experience, I conducted participant interviews either face-to-face or online via Skype, depending on participants' availabilities. Interviews were conducted in English for Kaye as English was the mutual language for both the participant and the researcher and her Korean was limited in conveying complex thoughts. For Korean high school participants, interviews were conducted in Korean upon their request. I audio recorded each interview in order to transcribe the exact statements made by participants. Further, audio-recording allowed me to listen to the interviews multiple times and captured the tone and essence of each participant's voice. I interviewed participants across a period of 3 months. In total, I had 20 interviews from 4 participants. The length for each interview was between 30 and 60 minutes. By interviewing participants on multiple occasions, I was able to collect information

across time and across participant. I was able to present a thorough description of ELs' mobile assisted language literacy practices and perceptions. Each of the five interviews had a different focus. The focus topic and question areas are listed below for each interview (See Appendix C for questions in each interview).

Table 3 *Interview Topics and Times*

Interview Number	Interview Topics	Interview Time
Interview 1	The first interview gathered participants' background information.	30-40 mins. (Initial interview)
Interview 2	The second interview invited conversation about their work days, their set of practices using mobile devices, and their access to and use of language software. a) General experiences in mobile-assisted learning b) General reasons why participants are accessing mobile-assisted learning c) Participants' expectations of using mobile devices for their language practices d) Participants' take away from the experiences	30-60 mins. (Follow up interview + Main interview)
Interview 3	The third interview invited conversation about participants' use of mobile device features and how they are related to their language learning.	30-60 mins. (Follow up interview + Main interview)
Interview 4	The fourth interview invited participants to demonstrate their use of language software on their mobile devices using think-aloud, and/or demonstrating how they participate in online language communities.	30-60 mins. (Follow up interview + Main interview)
Interview 5	The fifth interview invited conversation about the value of mobile learning.	30-60 mins. (Follow up interview + Main interview)

Participants' Journals

Bogdan and Biklen (1982) explained the importance of written words from participants. They said that written words of participants such as autobiographies, personal notes, letters, diaries, memes can “serve as sources of rich descriptions of how the people who produced the materials think about their world” (p.97). This participant-produced data is “employed as part of studies where the major thrust is participant observation, interviewing” (p.97). For this study, participants were asked to keep a journal between every interview. They were asked to describe their weekly or bi-weekly mobile literacy experiences including what kinds of software or applications they use for that week and the motivation or purpose of using them. Also, they were asked to memo if any specific things happened during their mobile literacy experiences such as during the exam period, whether they tended to use mobile phones less or more and explained their feelings about using mobile phones for a purpose of leisure. The format was either bullet points or narratives depending on participants' preferences. These participants' journals allowed me to obtain insight into their mobile literacy practices and tendencies and the primary features, function, websites, or applications of literacy in their lives. Also, these journals helped participants remember the software, features, what they learned and how. These journals served as prompts for follow-up interviews.

Researcher's Journal and Fieldnotes

To triangulate data (Duff, 2008; Lichtman, 2012; Schram, 2006), this study also included document analysis to achieve a better understanding of participants and increased the trustworthiness of data. Two of these documents were fieldnotes and my researcher's journal. Bogdan and Biklen (1982) argued the importance of fieldnotes. Fieldnotes are “the written account of what the researcher hears, sees, experiences, and thinks in the course of collecting and

reflecting on the data in a qualitative study” (p.74). They suggested that the process of writing fieldnotes help the researcher “as well to internalize, to commit to memory, what has been observed” (p.93). The extra source of data helps the researcher’s mind store the thought process used to recall the data. Thus, for this study, I took fieldnotes during and after each participant interview. This enabled me to have a clear idea of the focus of each interview, what the participant has said, and points that needed more clarification or explanation in future interviews. Duff (2008) discussed the importance of keeping a research journal. She argued that keeping a research journal can be used as “ a platform for conceptualizing, noticing, articulation, or testing out new hypothesis or ideas” (p. 142). In the case of L2 researchers, like myself, a researcher’s notebook can be a great source of understanding and reflect the researcher’s learning process. Bailey (1983) who conducted on diary studies of L2 learning revealed that journals that are created by L2 researchers are not just a record of research, but they are also a kind of intervention. Journals can perform as a platform for conceptualizing, noticing, articulating, or testing out new hypothesis or ideas. Duff (2008) wrote that researcher memos provide the researcher with helping remember important details later on and journal keeping becomes part of the analysis and interpretation process itself. For example, an entry in my researcher’s journal focused on how often a participant used his/her mobile device to study English. Then, based on the participant's responses, I wrote reflective notes in my researcher’s journal which allowed me a space to consider questions for future interviews. I took fieldnotes and wrote memos in my researcher notebook after each interview. These memos contained various information about contexts, participants, researcher’s feelings, and comments. The following is an example of what an entry in my researcher’s journal looked like.

Table 4 *Researcher's Journal*

Interview questions	How often the participant uses his/her mobile device to study English?
Participant response	Whenever she has a free time
Researcher reflection on today's interview (how it turns out, what I need to ask, or what I need to be careful for the next interview, and future question to ask)	Will ask about how much her free time was a day/week. Why did she use her mobile device during her free time? What makes her to invest such time in using mobile devices?

Data Analysis

Bogdan and Biklen (1982) stated that “Data analysis is the process of systematically searching and arranging the interview transcripts, fieldnotes, and other materials that you accumulate to increase your own understanding of them and to enable you to present what you have discovered to others” (p. 145). Since qualitative research adopts an approach which requires researchers’ own “emotional and experiences” (Grbich, 2012, p. 17), I considered various data analytical approaches for my data. In this study, data analysis was intended to uncover the nature of ELs’ mobile literacy practices in out-of-school contexts and this particular population, adolescent and young adult ELs, so that this study could create a thick description of their everyday mobile literacy practices. As many researchers argue the importance of unraveling the nature of the case (Bogdan & Biklen, 1982; Stake, 1995; Yin, 1984), I arranged and explored my data, interview transcripts, fieldnotes, and other materials first. Then, I organized them into a manageable amount to constantly revisit, review, and synthesized to find themes and patterns and searched to discover the stories of participants (Bogdan & Biklen, 1982).

Additionally, Stake (1995) argued for the importance of simultaneity of data collection and analysis in order to achieve a better understanding of the data. Thus, I intended to gather data

and analyze them concurrently. My initial data analysis was made based on the interview transcripts. Rubin and Rubin (2012) suggested that the first step of analysis of interview data is to transcribe the interview right after the interview so that researchers can locate possible misunderstandings or missing information in the interview. In doing so, the researcher can have a second opportunity to fill the gap by doing a follow up interview. Taking their advice, I transcribed the interview right away after each audio-recorded interview. While I was transcribing interviews, I was thinking about what each participant said, and considering general codes. After I transcribed all participant interviews, I read and re-read interviews several times to get a general sense of what each participant has communicated about their motivations, perceptions, and use of mobile devices for language learning.

I used a descriptive code approach to initially code the interview transcribed data. According to Saldaña (2009), qualitative codes are essence-capturing and an essential element of the interview transcript. I used descriptive coding which allowed for capturing the essential topic of the phrases within the interview. Descriptive coding is used as “one-word capitalized code in the right column” (p. 3). Based on reading the participant’s interview transcript, the researcher provides a phrase or a word that represents participants’ intention of the utterance. Following is an example of descriptive coding.

Table 5 *Descriptive Coding, Saldaña (2009)*

Participant’s interview transcript	Coding
I normally use my phone when I go to school or wait for my friends or sometimes between classes when I have free time. I use my phone because I don’t have anything to do and want to kill some time.	1 – Reason for using a mobile phone

After conducting a descriptive coding for each participant's interview, I developed a category for those codes. Depending on themes that emerge from the transcripts, I generated an initial category. If I found additional excerpts for further analysis, I gathered them together for a more in-depth analysis of the data. After doing the same procedure several times for each participant's interview, I was able to see themes emerging. My data analysis followed these steps of coding written below, adopted from Saldaña (2009):

1. Decide which types of coding are most relevant
2. Start coding
3. Create a start list of codes
4. Generate categories
5. Test these categories against new data – constant comparison
6. Write about categories/pattern codes in a memo to explain their significance
7. Repeat procedures 1-6 for subsequent analysis

Saldaña (2009) explained a theme is something that a researcher can immediately produce, and not from a code itself, it is rather an outcome from multiple layers of coding, reflection, and categorization processes (p. 13). Merriam (1988) also argued that developing categories or themes involves looking for recurring regularities in the data. Researchers need to repeat the same coding procedure multiple times to obtain clear ideas and themes. Thus, after categorizing possible codes, I started to look for possible themes. Merriam (1988) explained that “when categories and their properties are reduced and refined and then linked together by tentative hypotheses, the analysis is moving toward the development of a theory to explain the data's meaning” (p.146).

Interviews with Kaye were conducted in English, while interviews with Korean participants were in Korean. For interviews in Korean, I used descriptive coding. I first transcribed interviews in Korean, and then translated these interviews into English. As I transcribed their interviews in Korean first, it seemed natural to me to keep their original words in Korean when I first-coded their interviews. After reading their interview transcripts multiple times, I generated initial coding for the Korean interviews. Once initial coding was completed, I then translated interview scripts to English and coded again with the coding manual (Appendix F). I started collecting data at the end of October in 2017, and the interview data collection continued until early January 2018. While I was collecting interview data, I conducted follow-up interviews simultaneously. Participants had a short follow-up interview about the previous interview before or after their main interviews. As I was analyzing data, I invited and asked participants to comment on my interpretations of the data through member checking.

Member/Participants Checking

Gall et al. (2005) explained that member checking is “a procedure used by qualitative researchers to check their reconstruction of the emic perspective by having field participants review statements in the researchers’ report for accuracy and completeness” (p. 551). This procedure can enrich the study by providing authenticity to the results. Merriam (1988) suggested six basic strategies (triangulation, member checks, long-term observation, peer examination, participatory modes of research, researcher’s bias) to increase internal validity of the study. One of the six categories, the process of member checks lets the researcher know if the data is used well enough to reflect participants’ voice by “taking data and interpretations back to the people from whom they were derived and asking them if the results are plausible” (p.169).

In order to raise the internal validity of the study, thus, I also conducted member checking. After each initial analysis, I asked the participant to take a look at the transcript to avoid any possible misinterpretation. Member checking also allowed me to ask follow-up questions, especially if I had trouble understanding what participants had said while I was listening to the recorded interviews. In addition to this, after each interview, I asked participants how they felt about the interview, if there were any additional comments they want to make, or if there were any comments they wanted to take back. I understood the pressure on participants from their interviews, my observations of their use of mobile devices for language learning, and my analysis of their documents. Member checking enabled participants to correct or edit data that I had collected and assembled into codes/themes, and provided insights into my writing up of their statements and documents.

Specific to ELs, Duff (2008) mentioned that when researchers conduct member checking with ELs, they need to consider whether “the research participants have cognitive and linguistic maturity, technical sophistication to understand some kinds of analysis, and sufficient language proficiency, time and reflexivity to examine documents containing transcripts, analyses, interpretations, or draft reports” (p. 171). She suggested that if participants’ English proficiency is not developed enough to reflect on such matters, researchers and/or assistants who speak the same first language may be needed to support participants’ ability to member check. Since my participants were mainly Korean, I explained and did member checks in both Korean and English to help their understanding. Also, for my Chinese participant, I asked for assistance from native Chinese speakers who worked at the same university to help me more accurately represent information exchanges and understanding in the interviews, observations, and document reviews.

Ethical Considerations

Understanding and protecting participants' identities are considered crucial in a qualitative study (Lichtman, 2012), especially, as in a case study which is an intensive investigation of a specific phenomenon of interest, it is nearly impossible to protect the identity of either the case or the people involved. Exposure of the case presents risks such as the danger of representing the case in a disrespectful manner. Thus, for researchers, it is important to rely on guidelines and regulations for helping in dealing with some of ethical issues. Merriam (1988) also explained that "although researchers can turn to guidelines and regulations for help in dealing with some of the ethical concerns likely to emerge in a case study, the burden of producing a study that has been conducted and disseminated in an ethical manner lies with the individual investigator" (p.184). Especially since three of the participants were under age 18, various ethical considerations were made throughout the data collection and analysis process. Thus, in my study, to protect each participant's identity, all participants' names were presented as pseudonyms except Kaye who wanted to use her name in this study. I asked participants if they wanted any specific pseudonyms for use in the study. If they did not have any preference, I randomly gave them a pseudonym. In addition to this, I minimized the possibility of revealing their identity for readers by not providing a specific city, neighborhood, and school names.

Also, participants had the right to remove themselves from the study if they wished.

Positioning of the Researcher

Several researchers (Creswell, 2014; Lichtman, 2012; Schwandt, 2000) have mentioned the importance of the researcher's role in the case study; the researcher is a main tool in a qualitative study. It is central that how the researcher views the world affects his/her knowledge, understanding, and experiences. A good qualitative study is one written by researchers who

“reveal what they learn about the other” (Lichtman, 2012, p. 295). As a researcher who wanted to write a good qualitative study, I acknowledged the importance of the researcher, and knew that my interpretations and collection of data were informed by my beliefs. I regularly reflected on my data collection and analysis processes, and at the end of the interviews, asked participants how they felt about the interviews.

At the end of the study and during the last interview, I asked participants how they felt about their participation in the study. Before I asked questions, I provided participants a moment to review their thoughts, comments, and experiences of interviewing. This provided a relaxed and friendly atmosphere for participants and help reduce possible concerns that the data might be used in a different way from what they originally intended. Sample questions that I asked include the following:

- a. What was it like to share your experiences?
- b. Did sharing your experiences feel awkward?
- c. Is there anything else you want to add to what you’ve already said?
- d. Is there anything you would like me to leave out or edit?
- e. Do you feel that the interviews could have been conducted in a better way?
- f. Is there anything else you would like to add regarding your use of mobile devices and language learning? Do you have any suggestions that you would like to add?

I asked participants to answer those questions and discussed that they wanted to add to or edited in the previous statements.

As I worked on data collection and analysis and looked at themes from the data, I opened and was sensitive to possible outcomes from emerging themes and patterns and mindful about ethical concerns for my participants throughout the data collection and analysis. Throughout the

process of reaching at an in-depth understanding of participants, ELs, and their mobile literacy practices, I was aware of my role as a researcher and my relationships with participants.

Summary

This chapter outlined the process by which I conducted a case study on ELs' mobile literacy practices. I described in detail the rationale for employing a case study approach and introduced the research settings and participants. A discussion of how data was collected systematically from multiple sources throughout the study and analyzed was presented. In summary, to explore my research questions, I used qualitative methods for data collection, specifically a case study approach primarily using interviews (Stake, 2005). I recruited four EL learners whose ages ranged from 15 to 21. Participants were ELs who varied across gender, nationality, and native language, and who came to the US fewer than five years ago. The primary data source was five interviews with each participant along with participant journals, and a researcher's journal. Data collection took place during the fall and winter of 2017 and data was analyzed following Saldaña's (2009) approach to determine categories and emerging themes. Finally, I did member checking and wrote up the study to ensure accuracy in representing participants' experiences and perspectives on mobile devices in learning language. By following steps of data collection and analysis, I presented a case study of adolescent and young adult ELs and their literacy practices on mobile devices.

CHAPTER 4

FINDINGS

The purpose of this qualitative study was to understand English language learners' usage of mobile devices in literacy practices. Specifically, I wanted to understand their perceptions and literacy practices in using mobile devices in and out of school settings. The four participants in this study, Anna, Cindy, John, and Kaye (all pseudonyms), were English Learners (ELs). Three high school students, Anna, Cindy, and John were Korean, and a university student, Kaye was from China. Each volunteer agreed to participate in five semi-structured interviews and write five participant journals from November 2017 to January 2018, for a total of 20 interviews and 20 journal entries), during which I gathered the data for this inquiry.

In this chapter, I describe the findings which were generated from this study's central research question: What are the mobile device practices of EL participants in and out of school? More specifically, this study investigated the following: 1) How do participants use mobile devices in their classes, and what features of mobile devices do they find useful (e.g., recordings, video, still photo, etc.)? 2) What mobile device applications do participants find important in school and/or in their everyday lives? 3) Is there a relationship between participants' use of mobile devices and their identity in and out of school?

I organized this chapter by starting with each participant's background information about their mobile device habits based on their responses to pre-survey questions. After their background story about their daily usage of mobile devices, the chapter moves to the findings that emerged from participant interviews and participant journals. Findings were based on participants' use of smartphones, tablets, and laptops as these devices were the most often used

by participants. For Korean participants, I included the transcriptions of excerpts from their interviews in Korean to provide readers with their exact words.

Shown earlier in Chapter 3, for convenience, I present demographic and background information of the four participants (Table 6).

Table 6 *Summary of Participants*

Name	Anna	Cindy	John	Kaye
Age	15	15	16	21
Nationality	Korean	Korean	Korean	Chinese
Gender	Female	Female	Male	Female
Grade	10 th grade (High school)	10 th grade (High school)	11 th grade (High school)	Senior (University)
Stayed in the US	2.5 years Stayed in the US when she was in kindergarten to early 2 nd grade	2 years	5 years	3 years
Years participant had phone	6 years	5 years	5 years	9 years

All three high school participants were born in Korea and moved to the US. Anna spent her time from kindergarten to first grade in the US. She returned to Korea early in her second grade and returned, again, to the US in eighth grade. She moved back to Korea in early 2018. Cindy arrived in the US about two years ago, and she was in an ESOL class at the time this study was conducted. John started seventh grade in the US and stayed in an ESOL class for a year. Cindy and John are still in the US continuing their high school life. Originally from China, Kaye, a university student, graduated from high school in China and came to the US for college. Kaye is now in the Southwest part of the US pursuing a graduate degree. All participants used mobile

devices for more than 5 years. John and Kaye started with a flip phone and then moved to smartphone use. Anna and Cindy started with a smartphone which they continued to use. Based on five interviews and five participant journals from each participant, four findings emerged.

- Participants' mobile practices in and out of school involved the use of smartphones and/or, tablets, and/or laptops.
- Participants used features and a range of applications in mobile devices to access supplementary resources for learning English.
- Participants used mobile devices as a way to socialize and communicate.
- Mobile phones enabled participants to disguise their identities as EL.

As the participants' literal words will be presented along with themes/categories throughout the chapter, it will be useful to keep in mind the following abbreviations: Participants and the researcher are denoted with the initials A for Anna, C for Cindy, J for John, K for Kaye, and R for the researcher. Interviews were conducted in Korean for three high school participants and in English for the university student, Kaye.

Finding 1: Participants' mobile practices in and out of school involved the use of smartphones and/or, tablets, and/or laptops.

According to the Pew Research Center (2018a), 45% of teenagers are on their smartphones "constantly." The Pew report also indicated that now 95% of teens reported they have a smartphone or access to one. In addition to this, another report from the Pew Research Center (2018b) on mobile device use presents that in the case of young adults (ages 18-29), 100% of research participants owned a cell phone and 94% of them owned a smartphone. This growing mobile device ownership by teenagers and young adults suggests the importance that

mobile devices have on their learning. Specifically, research would benefit from knowing more about which mobile devices that ELs have access to and how they use them. Thus, a short survey was given to participants in this study to understand their mobile device usage. (Appendix B) All participants indicated on this survey that they owned one or more mobile devices. While these participants stated that they were not on their mobile devices constantly, all participants used their smartphones quite extensively. Table 7 is a summary of the mobile devices that participants used, how long they had used them, how much time they spent on these devices, and what kind of features they used. Survey results indicated that on average participants owned or had access to mobile phone, either smartphones or flip phones, for 5-9 years.

Table 7 *Survey Summary*

Name	Anna	Cindy	John	Kaye
Type of device used	Smartphone Tablet	Smartphone Tablet	Smartphone Tablet	Smartphone Laptop
Years of mobile device used	6 yrs.	5 yrs.	5 yrs. (since 7 th grade)	9 yrs.
Hours per day (in & out of school) of using a smartphone	Between 3-4 hrs.	Between 3-4 hrs.	More than 6 hrs.	More than 6 hrs.
Most frequent features of mobile devices used	YouTube Social media Listen to music Take photo Any learning applications	YouTube Social media Listen to music Take photo Message	YouTube Social media Listen to music Take photo Message Game Any learning applications	YouTube Social media Listen to music Take photo Message Game Any learning applications

Participants' Use of Smartphones. For all high school participants, smartphones were a large part of their mobile practices and which shaped their social practices. Anna, Cindy, and John used mobile phones for about five years and Kaye, a university senior, had used a phone longer than the other three participants. Anna and Cindy's first-owned mobile phones were smartphones and John and Kaye's first mobile phone was a flip phone. At the time of this study, all participants owned smartphones. John and Kaye reported that they used the phone regularly in and out of school contexts often for more than 6 hours per day. In their survey reports, they broke down the average time of their phone usage per day as three hours in school and another three hours in out of school contexts. In comparison, Anna and Cindy's smartphone usage was limited to between three and four hours per day both in and out of school contexts. The heavier users, John and Kaye identified that they consumed most of the features on their phones such as listening to music, taking photos, recording videos, and playing games. Anna and Cindy indicated that they used their smartphones in similar ways as John and Kaye with one exception, they did not play games. Typical functions and applications that all participants used on a daily basis were YouTube, social media such as Instagram and Facebook, Music, and Photo. Although all participants were not constantly on the phone, they reported that they were regularly on the Internet when they used their phones. All agreed that they watched YouTube often for both entertainment and learning purposes.

Regarding the manufacturer of mobile devices that they used, participants noted that the brand of the smartphone did not matter; rather, they preferred the most recent available model of the smartphone whichever brand they had. Anna and Kaye possessed an iPhone 7 and Cindy and John had a Samsung Galaxy. Anna, Cindy and Kaye all purchased new phones while John's mother gave him her used one. John's first smartphone was an iPhone 4 that his father used to

own. In terms of the data plan, three of them had an unlimited data plan so they could easily access the Internet without any restrictions. Anna was the only participant who reported that she had a limited plan, but she stated that “I never thought that was not enough.” (Anna, 2nd interview, 2017). High school participants also indicated that in high school, they had Wi-Fi on campus although the school Wi-Fi limited some content such as YouTube or social media including Facebook and Instagram. Out of school contexts, they had Wi-Fi at home, and most of the libraries or local coffee shops they visited to hang out with friends and study together offered unlimited Wi-Fi. In Kaye’s case, she did not have any data usage restrictions even on campus, as the university did not limit the access except to illegal websites. Although having unlimited plans or enough data access did not guarantee that they were on the Internet constantly, having this access suggested that participants’ mobile phone provided a means of continual communication and learning. With access to the Internet via Wi-Fi and unlimited data plans that participants could utilize the Internet at a cheaper or no cost, they had instant access to the rich resources such as various websites or applications they needed for both entertainment and academic work. As Brown et al. (2011) suggested in their research on minority and low-income teenagers and their mobile phones, the Wi-Fi access on mobile phones could help teens who do not have other means of accessing the Internet (e.g. laptop, desktop) as their phones offer a new portal to the Internet along with communication tools for teenagers. However, they also point out that the rich resources can make teenagers overuse their mobile devices as it is easy and simple to access the Internet.

With free or low-cost access to the Internet participants revealed in interviews that they relied on their phones in and out of school contexts as their primary device to access the Internet. All participants articulated the degree to which they relied on their mobile devices. John

mentioned that if he had to think about how dependent he was on his smartphone, he stated it would be about 75 percent. “[I think] 80% would be too high...If I didn’t have a phone, I would probably say, 'Oh that sucks' so that kind of level [would be 75%], you know.” (John, 1st interview, 2017). In this interview, John became self-aware of just how important his phone was to his mobile practices, 75%. For John, his dependence on his smartphone was visceral-- it would “suck” if he did not have his smartphone. Cindy thought she would be “grumpy and angry” all day if she left her phone at home.

C: I always bring my phone but sometimes, it’s rare, I forget my phone at home and go to school. Then, I am really angry, really.

R: For all day?

C: Yes, even though I said that I didn’t use my phone at school that often, during the break or something, I think I use my phone quite often. When I imagine if I don’t have a phone at that moment, I would feel very grumpy.

R: What do you think is the reason for your grumpiness?

C: Because I don’t get to talk to my friends, can’t listen to music, or do something I want to.

C: 항상 함께 다녀요 다니는데 진짜 가끔 핸드폰을 까먹고 집에두고 학교에 그럴 때가 있어요 그럼 짜증나요 진짜 짜증나요

R: 하루종일?

C: 네 학교에서도 은근 제가 핸드폰 많이 안한다고 하긴 하는데 쉬는시간이라든지 그럴 때 핸드폰 쓸 때 많거든요 근데 그 때 핸드폰이 없다고 생각하면 진짜 짜증나요

R: 짜증이 나는 이유가 뭔 거 같애?

C: 친구들이랑 연락하는 거 내가 지금 이시간에 음악 더 들을 수 있는데 약간 내가 듣고 하고 싶은 거 못한다는 그게 짜증나는 거 같아요.

(Cindy, 2nd interview, 2017).

Cindy's smartphone defined two important social and mobile device practices at school and/or out of school talking with her friends and listening to music or "do something I want."

Kaye reported in her journal that she was "bound" to her phone as she kept all important information on it. She set up an automatic log-in for the websites she most often visited. She wrote: "I can't imagine living without it for a day because I've bound almost all communication tools (Wechat, e-mails, Facebook) with my phone. And even if I can get access to them by laptop, I have to use my phone to verify the access" (Kaye, 1st participant Journal, 2017). In terms of mobile practices, Kaye used both her smartphone and her laptop to securely access websites through autosave password. As part of her mobile practices, Kaye created passwords to secure access to personal websites (laptop) and which confirmed her identity (smartphone). She was able to save her passwords on one device for future access and confirm them on another device. For Kaye, the laptop and the smartphone have a reciprocal relationship to keep her information secure. Cindy also shared a similar story showing how much she appreciated the autosave mode on the smartphone to watch Netflix.

R: So what device do you use for watching [Netflix]?

C: Ah, I only watch it with my smartphone. I forgot my ID and password so I can't log in with my computer, but I saved information on my phone, so I only watch it using my phone.

R: 그럼 넷플릭스는 주로 뭘로 봐?

C: 아 제가 비밀번호랑 아이디를 깜빡해서 핸드폰에 저장되어 있는 걸로 밖에 못 봐요.

(Cindy, 4th interview, 2017)

As shown in this excerpt, Cindy depended on websites, like Netflix, to keep passwords stored in order to engage in another mobile practice on her smartphone, watching films. The autosave password feature on Netflix allowed Cindy to access this website without the hassle of remembering her password. Anna said that of the mobile devices she used, her phone was the first thing she grabbed when she went out.

R: So, if you have a choice and need to bring just one, what would you bring it among the tablet, laptop, and smartphone?

A: A smartphone.

R: Why?

A: Because it is the most convenient one to bring it with and I can literally do everything with it that I can do it with my laptop.

R: 바로바로 쓰기 편하고? 그럼 니가 초이스가 있다면 셋중에 하나만 가질수있다 태블릿 컴퓨터 핸드폰 그럼 뭘 할거야?

A: 핸드폰

R: 이유는 뭐야?

A: 가지고 다니기 쥔 편리하고 컴퓨터에서 할 수 있는 거 다 되고

(Anna, 2nd interview, 2017)

For Anna, her smartphone was a convenience that she did not want to leave at home. For her, her other mobile device, specifically her laptop, did not afford anything that her smartphone

afforded. John also stated that he used his phone more often than his tablet simply because accessing the tablet took more time than the phone. He mentioned, “If I need to use something or search something for longer time, I would use my tablet. But if I use [a device] for seconds, I think I use my phone more often. For example, I need to power on my tablet and type a password to turn it on if I need to use it [tablet] so it takes longer time and extra steps.” (John, 2nd interview, 2017)

For participants, smartphones had several important uses: for security, ease of access through password save, and provided instant, convenient, and hassle-free access to the Internet and websites they regularly visited. As Kaye’s interview excerpt indicated, she saved her online IDs and passwords on her phone, so she did not need to type her log-in information for most of the sites she regularly visited. She was also able to ensure security of her information through confirmation on another device. However, when she used her laptop, she needed to type her log-in information and sometimes it took extra time and energy—a hassle--that she wanted to avoid. Cindy also used the auto-saved log-in feature for her preferred website, Netflix, which was useful as she had forgotten her log-in information. Thus, she stated she could only access Netflix using only her phone. She could have retrieved her log-in information and used Netflix on her laptop, but she did not want to—it was a hassle. Further, she believed she did not need to and did not think it was necessary to do. For John, his smartphone was always “on” and did not take “extra steps” to access information. All participants also enjoyed the convenience of smartphones to “do anything.” However, for searches that take a longer time, the laptop was more useful.

Participants’ Use of Tablets and Laptops. Not only did smartphones play an important part in their social and academic lives, participants also used tablets and/or laptops as a part of

their mobile practices in school, particularly the high school participants. According to the website of the school that John, Cindy, and Anna attended, the overall performance of students was higher than 97% of schools in the state and indicated that 88.4% of graduates were college ready. Their school was considered one of the top public high schools in the area. Participants saw their school as “very competitive,” and all were particularly concerned about their grades and took college-preparatory classes. Of the schools in this metropolitan area, this high school had twice the number of Asian students. The chart below, taken from the school website, identifies the cultural make-up of the student body.

Race/Ethnicity

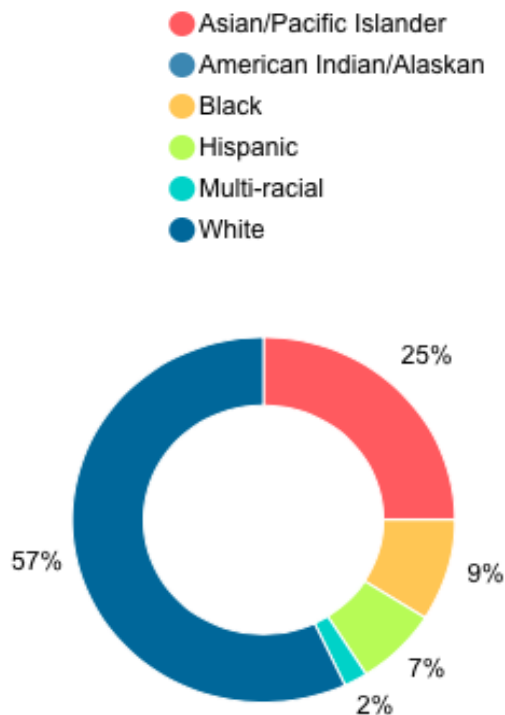


Figure 5. High school cultural representation

The high school that Anna, Cindy and John attended assigned every student a tablet during the academic year. Students returned their assigned tablet at the end of each semester and were reassigned another tablet (or the same one) at the start of the semester/school year. Participants' tablets contained a detachable keyboard and an electronic pen to write so that they could efficiently work on their assignments or take class notes. The tablet was used by teachers to distribute assignments, quizzes, and projects. High school participants frequently used their school-issued tablet to learn, take notes, and download assignments. Anna stated that she and her friends tended to use the tablet more often in school or even at home as teachers provided information about the subject through the tablet applications.

R: So, when do you usually use that tablet?

A: Usually, when teachers give an assignment, they ask us to search using that tablet. We have this Quizlet [application] that we do that with the tablet. When we have homework, we can write on the tablet [it has a touch screen feature so that students can directly write on the material that teachers shared] so teachers won't give any papers.

R: So, you don't really write notes during class.

A: Yes, I only write on the tablet.

R: 그래서 그 태블릿은 주로 어떤 용도로 쓰는거야?

A: 보통 선생님들이 숙제 내주면 찾아보는거 다 태블릿쓰게하고 핸드폰 못 쓰게 하고 저희 quizlet 이라고 애들이 좋아하는 그게 있는데 그것도 태블릿으로 하고 숙제같은거도 태블릿으로 펜으로 쓸 수 있잖아요 그래서 그냥 종이를 안 나눠주고 태블릿으로 나눠주면 거기에 펜으로 하고 선생님들도 그거에 펜으로 하는게 편하다고

R: 필기는 거의 안하겠다

R: 필기는 거의,, 거기에다 하거나

(Anna, 1st interview, 2017)

Participants' utilization of the tablet was limited only to school-related work as the school blocked particular websites that students often browsed outside of school. Thus, participants used tablets only when they wanted to check their course assignments, take lesson notes and communicate with teachers. The tablet that participants used had various features related to their learning in and out of school. On the weekend after the final exam week, I interviewed Cindy. When we talked about the smartphone or tablet use during that week, Cindy immediately said she heavily used her tablet the week of final exams for which she had to prepare.

C: Well, this week, I used the tablet a lot.

R: Why? Because you have all the information [about the test] there?

C: Yes, I have all the information and there is this application that we only use on this tablet, OneNote. I wrote all the class notes [using that program] so I kept using my tablet to study it.

C: 어 이번주는 학교에서 주는 surface 그거 되게 많이 썼어요

R: 그걸 많이 쓴 이유는 거기에 자료가 다 있고 그래서 그런거야?

C: 네 자료도 다 있고 또 surface 에서만 쓰는 앱이 있어요 one note 라고 거기에 선생님들이 말하는 거를 많이 적어서 그거 볼려고 surface 만 들어간 거 같아요 계속

(Cindy, 4th interview, 2017)

John also mentioned his frequent use of the tablet in and out of school. He explained that one of the basic tablet features included OneNote and how he utilized it to study. As teachers uploaded all important class materials, he used his tablet to access class notes as Cindy did during finals week.

J: Yes, now we use the tablet instead of computers we used to use. It's convenient. It has Outlook [software] and also a touchscreen feature. So, we wrote a note or completed assignments using an electronic touch pen. If you don't like it, you could do it on the paper, but I feel it [using the tablet] is more convenient so I use it often.

R: So, teachers upload materials before the class?

J: Yes, they share it OneNote and all class can see it. And if you note on it or share your homework, you can bring it to home and work on it. You can see the all documents [that teachers upload].

R: 그럼 수업시간에 선생님이 자료를 미리 올려놔?

J: 이제 outlook 에 자료를 미리 쉐어 하면 클래스룸 다 볼수있어요 그럼 거기 노트 적거나 숙제를 쉐어하면 그걸 집에 가져가서 할수도있고

(John, 2nd interview, 2017)

Laptops that high school participants used to use for school were replaced by tablets for “convenience” and the easily accessible features like the mail software “Outlook” and “touchscreen,” or tapping to access applications. As the excerpts indicate, high school participants were dependent on their tablet for academic purposes, especially for class materials and notes. They all expressed that the tablet was useful and convenient to bring and use. Participants used tablets for “OneNote,” software developed by Microsoft for creating

documents for multi-user collaboration. OneNote users can create notes that include text, pictures, and tables and can share those over the Internet or a network. As high school participants stated, teachers in school shared their lecture notes or materials with them, and they wrote their own notes during class. High school participants used tablets quite exclusively for school-related work because all features, programs, and applications that were only used in the tablet and teachers encouraged them to use it.

Anna, Cindy, and John all agreed that they did not need a laptop to bring to school as they had the tablet, which offered the same or even more features. When I asked about students' preference on mobile devices, John mentioned that "I don't think many students bring a laptop to school these days as we have a tablet." He continued "Some who take computer science, they bring laptops but other than them I don't think so. We don't really need it." (John, 3rd interview, 2017). Cindy also shared similar views on bringing laptops to school. She said that "Now that we have a Surface [tablet] so I don't think kids bring their laptops to school. As we have specific apps that only work on the tablet and not on the laptop and we often use these [apps] in class so it would be easier [to bring a tablet to school]" (Cindy, 2nd interview, 2017). John saw the tablet more important than the laptop, so he let his brother use his laptop: "My brother uses my laptop now as I really don't need it. It was originally a shared one with me and my brother, but I just gave it to him" (John, 3rd interview, 2017).

Unlike other three high school participants, Kaye did not have a tablet. She carried her laptop everywhere as she might need it for classes or studying and working on assignments during her free time. Kaye's mobile practices were heavily focused on her use of the smartphone and the laptop. When asked if she owned any other mobile devices than her laptop and smartphone, she said "no" and she indicated that she did not particularly need any other devices.

K: No.

R: No? just the phone and your laptop?

K: Yes, and the laptop. Yes.

(Kaye, 2nd interview, 2017)

Kaye did most of her school work using her laptop. Even though she had a smartphone, she frequently used her laptop especially for school-related work. She was taking a film class at the time of this study and mentioned that she usually used her laptop to watch any assigned film for the class.

K: Oh, when I'm watching a film or yes, mainly watching the film, I will use it much like online views that will be fine, but when I'm watching video films, I will use laptop, because I need to pause, maybe to see the lines or to see this shot, to analyze the film.

R: Uh-hum, so it's...

K: It's really hard to pause with my phone.

R: Why not? Can't you just touch the screen?

K: Oh, if I just want to go forward a little, a few segments

R: Ah, it's just a little hard to--

K: Yeah, yeah.

(Kaye, 2nd interview, 2017)

All participants agreed on that they actively used mobile devices: smartphones, tablets, and laptops for their academic and social life. As the high school provided tablets to students and encouraged them to use in class, high school participants' mobile practices in school showed heavy use of tablets whereas in Kaye's case, her laptop took a place where tablets were used for high school participants.

Benefits and Limitations of Mobile Device Use. Participants not only described which mobile devices they used, they also explained how they used them and the benefits and restrictions of mobile devices. Participants, like John, indicated that they could explore digital resources using various mobile devices for their school work. In an interview, John stated that he accessed "Khan Academy," a website that offers open-access instructional videos and online lectures on various subjects including math, science, and economics. Even though John used his desktop for watching videos on the Khan Academy site, if he had something to search for (for example, if he did not understand certain terms), he would immediately open his smartphone and begin to search for the meanings of words. He said that "I can immediately search words. [If I search words using my desktop] I have to minimize my web browser and open another web. It is such a hassle" (John, 2nd interview, 2017). John also used his smartphone at school to connect with friends, especially one who was good at every subject. "I call my friend to develop my English-speaking level. I research English vocab with my phone to study." (1st participant journal, originally written in English, John)

The portability and the convenience of a tablet and smartphone benefited participants in and outside of school especially in convenience and accessing outside resources to study, not to mention "[Mobile devices] are very addicting. They are easier to carry around than other technologies such as laptops" (John, 1st participant journal, originally written in English).

Kaye who was taking an online Graduate Records Exam (GRE) course used her laptop to take the class. After a class session, students from the same course joined a group chat and exchanged questions and answers on their smartphones. They checked their process together in a group chat, shared their mock test results, and asked questions about the practice items they had problems with. A teacher who offered an online class was also invited to this group chat and assisted in solving problems from time to time. Kaye, the most active participant in this study, brought copies of screenshots from her phone after her first interview. As all of her settings were in Chinese, she translated the names of applications into English for this study. Figure 1 is a screenshot of the group chat list on Kaye's phone. She translated the name of the GRE-related group chat and explained how this group chat works in the interview.

I think [smartphones] are more efficient and more convenient compared to like laptops or other devices like larger than cell phones. Because before I prepared GRE, the way I was learning English is through, like a long session of study. I spent hours being in front of like a laptop and learning like a language, but after my experience of studying GRE I realized that sometimes it might be even more efficient if you use like segment of time to maybe in memorize several vocabularies or just take a look at it like for a few minutes when you are like taking a break and that like a small amount of time like accumulated can be really efficient way to study.

(Kaye, 5th interview, 2017)



Figure 6. Kaye's photo of a cellphone screenshot

Participants used their smartphones, especially when laptops or tablets were inconvenient or limited access to online resources. Anna stated that she used her phone when she read books because “I normally read a book on a sofa or something so it would be easy to just hold my cellphone [rather than my laptop]” (Anna, 2nd interview, 2017). Cindy mentioned that one of the great things about using mobile phones was that they were “convenient and fast.” She said, “First of all, I can use it fast and conveniently especially for using apps such as translators. Also, I like [using] it to watch drama or YouTube. I think it would be easily access during the break time and I can enjoy learning English through watching short clips and drama.” (Cindy, 4th interview, 2017). John was able to access sites on his smartphone like Yahoo and Facebook blocked on the school-assigned tablet. Outside of school, he also used Yahoo to search for information. John’s search practices using his phone showed that he heavily relied on his mobile devices for learning even when he had access to the Internet at home. Anna used the affordance of the school-assigned tablet to “search on online so if you don’t have any device, it is impossible to study” (Anna, 5th interview, 2017).

For Kaye, her smartphone was:

...really useful, convenient, and necessary. I can’t imagine living without it for a day (addicted to it) because I’ve bound almost all communication tools (Wechat, emails, Facebook) with my phone. And even if I can access to them by laptop, I have to use my phone to verify the access.

(1st participant journal, originally written in English, Kaye)

In addition to this, for Kaye, one of the reasons for using the mobile phone was that it could provide another opportunity for her to learn English. Further, the smartphone was less complicated than other devices they used. Kaye stated that her mother bought her an expensive voice recorder, but she never used it because it was too complicated to use. “It was really

expensive, but I never used it, because it's just very complicated to use, because it's really sensitive and had a lot of functions and I don't know what these buttons [were] for, so I just preferred to use [the] smartphone.” (Kaye, 2nd interview, 2017). John used his mobile devices for different purposes and relied heavily on his smartphone and tablet as he could take them anywhere:

You know, I could use it [smartphone] in any places, on the street, or something. You could get easily distracted as it [smartphone] opens applications right away. The tablet seems similar to my desktop but it's smaller and convenient to bring around than the desktop. So, I used them [smartphone, tablet] very much.

그냥 어디에서나 쓸 수 있잖아요. 길에서도 그렇고 근데 바로 앱이 열리니까 좀 방해되는 거 같기도 하고 태블릿은 컴퓨터나 비슷한데 작고 편하고 그래서 두 개 많이 써요.

(John, 4th Interview, 2017)

Although their pursuit of learning supplements using mobile devices showed that they perceived using mobile devices as a must for their learning, participants' responses in their journals about how they felt about using mobile devices showed various perspectives. Not all participants showed a positive feeling toward using mobile phones. They agreed on the fact that the mobile phones were very convenient and necessary in their lives, but sometimes it bothered them when they needed to study. Anna wrote in her journal that “it is convenient to bring around and study” (2nd participant journal, originally written in Korean), but in her first participant journal she wrote that “it is convenient but hard to resist when I study” (1st participant interview, originally written in Korean, Anna). Like John, Anna saw mobile phone addicting and “hard to resist.” In Anna's last journal entry, she concluded her perception about using the mobile phone as “sometimes it bothers me when I need to study but it is convenient to bring around, so it is good to bring out anywhere and study” (5th participant journal, originally written in Korean,

Anna). Cindy constantly expressed negative feelings about using her smartphone. In her first journal writings, she mentioned that it was convenient and good, but she defined using her phone as a “waste of time” (Cindy, 1st participant journal, originally written in Korean). However, as time went by, she expressed some positive feelings as well such as “it is easy to communicate with” (Cindy, 5th participant journal, originally written in Korean).

Summary. In summary, this finding revealed that participants engaged in mobile practices that involved the use of various mobile devices: smartphones, tablets, and laptops. Mobile practices are social practices in which participants used a particular mobile device for a particular purpose. Participants sought extra resources for school work using their mobile devices. Smartphones, in particular, were used by all participants as they were portable and essential. They believed that they could not live without them for school and communication. They took their phone everywhere and utilized features and applications in their phones and one participant was even “angry” and “grumpy” when she left them at home. They could “carry them around” easily and allowed on demand access to such school-related work including vocabulary or help from friends. Further, smartphones afforded, specifically, high school participants access to blocked websites. As a practice, then, participants found ways around access to blocked websites through their smartphones. Further, as a mobile practice, high school participants used different features to communicate, touchscreen, or to access school-related material like Quizlet.

As a mobile practice, tablets afforded participants mobility, touchscreen features, and apps that enabled them to more easily access school-related work including in-class note taking, assignment checking, and communicating. For them, tablets were necessary for their school life as tablets enabled them to actively participate in school-related work and keep up with classes. Especially for high school participants, tablets took place where laptops used to as tablets afford

more features laptops cannot provide. Participants communicated with peers and teachers using One Note app in the tablet, checked daily assignments, and shared their homework and notes using their tablets.

The mobile practices around laptops included taking notes in class and working on school assignments. Kaye who did not have a tablet used her laptop for most of the school related work. Unlike high school participants whose Internet access was limited on campus, Kaye could freely access to most of the websites on campus using her laptop. For Kaye, the laptop provided reliable technical help when she needed it in and out of school.

Chen and deNoyelles (2013) pointed out that all types of mobile practices of students have great potential in their learning practices, and played a key role in students' academic lives both within and outside of the classroom. The critical factors of mobile devices: convenience, flexibility, engagement, and interactivity allowed students to transform how they learn, as well as influence their learning preferences. Various apps that run on these devices also allowed students not only to consume but also to discover and produce content.

As the interview excerpts revealed, for participants, mobile practices involved in and out of school use. They used smartphones as a primary item to carry in and out of school setting. As Merchant (2012) argued, mobile devices have been absorbed into our day-to-day lives and as ownership and access to smartphones has increased, mobile devices should play an important role in school as well. Findings on high school participants' usage of tablets provided evidence that smartphones and tablets were an important part of their school life. High school participants constantly used their tablets in and out of school for checking school assignments, making notes in class, and communicating with teachers and peers. Rahmati & Zhong (2013) argued that teenage users' application usage is highly mobile, locate-dependent, and serves multiple social

purposes. Findings of high school participants use of their mobile devices, phones and tablets, and Kaye's use of the laptop in school showed that participants used their mobile devices for their mobility, convenience, and academic purposes. The results showed that technological features the commonly used in mobile devices that differentiate mobile devices from other traditional technologies including desktops, can provide an optimized mobile learning practice.

Finding 2: Participants used features and applications (apps) on their mobile devices as supplementary resources for learning English

All participants used mobile devices as tools to aid in their English learning, and they identified favorite features through which they learned English. While all participants used different apps, they most frequently used the recording and camera features.

Participants' Use of a Recording App. Cindy, Kaye, and Anna used a recording feature on their mobile phones, and all four participants used the camera feature in their high school classes. Although these features are not necessary novel to the population at large, the ability to capture a class lecture as a whole greatly appealed to participants. Participants in this study used these features primarily for keeping up with classes. Cindy, Kaye, and Anna considered their English "not enough" to successfully complete their required coursework. In their class, they had to understand the lectures, complete essay assignments, and sometimes do oral presentations. Thus, they appreciated the help of the recording and/or camera features of the smartphone to keep up required assignments. Especially for Anna, the recording feature was one that she used most frequently:

R: When you have words that you don't know during the class, do you search for them in a smartphone or just leave them as unknown?

A: Um...I am not fluent in English. I record them or write down every word that the teacher said and re-read when I get home. Then, I search for words at home.

R: What device did you use for your recording?

A: My phone.

R: So how often do you use that recording feature a day?

A: Um... I have two important classes, so I use it when I take these classes. Also, I use it when there is a review session for a test or something.

R: 수업시간에는 모르는 단어가 나오면 핸드폰으로 바로 찾아보는 편이야 아님 듣고 넘기는 편이야?

A: 어 저는 아무래도 영어가 부족하니까 녹음을 하거나 선생님 말씀을 아니면 다 받아적고 집에와서 다시 읽어보고 모르는 단어 나오면 그때 이제 찾아보거나 하는편이에요

R: 녹음은 그럼 뭘로 해?

A: 핸드폰으로요

R: 핸드폰을 그럼 하루에 녹음기능을 얼마나 쓰는 거 같아?

A: 음 저는 어 수업이 그렇게 중요한 거는 두개 밖에 없어서 그 두개 할때 그리고 다른 반은 시험 전날에 리뷰세션을 한다던가 그럼 녹음을 하고

(Anna, 2nd interview, 2017)

R: So, for these two classes [World History, Chemistry], when do you re-listen to them after you recorded them?

A: Once I got home, I re-organize notes as I listen to them.

R: Then you spend doubled time compared to others. What about the words that you don't know? You wouldn't know the spelling if you don't know the word you hear.

A: I just type the word as I listen then Google usually gives choices of correct words that might work.

R: What if you still can't find it?

A: Then I just leave it as blank.

R: 그럼 이거 두개는 너가 녹음을 하면 언제들어? 집에와서?

A: 네 집에와서 한번 더 들으면서 정리해요

R: 집에서 들을때 그럼 결국 2 번 시간을 쓰는 거잖아 학교에서 듣고 집에와서 듣고 그런데 들으면서 단어같은거는 모르는거는 스펠링을 모르잖아 그런건 어떻게 찾아?

A: 그냥 대충 이거일거 같다이려고 치면 유사단어로 많이 나오니까

R: 안나올때는 어떻게 해?

A: 그냥 넘기고

(Anna, 2nd interview, 2017)

For Anna, the recording feature of the smartphone helped her regularly organize her learning, supported her English vocabulary development, and helped her review for tests. Because she "...[was] not fluent in English," the recording feature helped her maintain the good grades she had in Korea. In her second and third interviews, she mentioned that her smartphone was helpful when she needed to record her classes and review her sessions to earn better grades.

With her smartphone and Google, Anna was able to support her English language learning as well as content area learning. In any content area class, English learners must navigate a number of different modes (Angay-Crowder, 2016; Shin, Cho, & Albers, 2016), aural (listening), visual (e.g., notes on board, PowerPoint presentations), movement (gestures), and written (e.g., book chapters, study notes). Thus, for English learners, they must have a means by which they can more easily access these modes—the recording feature allows them to do so and keep up with what they must know for tests and assignments. Further, her smartphone supported what she considered her lack of “fluency” in English by spending extra time to re-listen to teachers’ lectures and take notes to prepare for her classes.

Like Anna, Kaye considered that a recording feature on her smartphone was also critical to follow her university instructors’ lectures. During this interview, I shared my experience of recording classes when I first started a master’s program in the US. We talked about how academic English listening can be difficult.

R: I did the same thing [recorded lectures] when I first started. How often do you record?

K: Frequently. Every class, every day.

R: Every class? Still now?

K: Just for his class [film class], not for others, because I will just record something I think is useful, because some professors just--...I don’t even know what he’s trying to say and he, I don’t think, even knows. They just don’t prepare anything for a class and they just talk random things. But for that class, because I like that professor and like that class very much, I feel like each sentence he says is really useful and important.

R: When you recorded his session, did you listen again right after the session or you just kept recording and just save it on your computer?

K: Uh, for the first half semester, I just accumulated the files and listened to them right before the mid-term, but I study from this experience, I cannot expand myself to finish all of it. It was really once. In the next half of [the] semester, I recorded each class and probably collected information during the weekend.

(Kaye, 2nd interview, 2017)

Similar to Anna, Kaye found that the recording feature was essential to her learning. The recording feature enabled her to capture information that her film professor (and other professors) presented. Further, the recording feature helped Kaye in that her professor spoke quickly and was not always organized with his information. Also, like Anna, the recording feature helped Kaye organized her notes before mid-term exams and subsequently over the weekends when she was not in classes.

Cindy also frequently used a recording feature on her smartphone.

C: I often record the chemistry class, for example, when we have a presentation, I record how other group members present their projects. I review them when I got home and prepared for my own presentation [based on that recordings].

R: So that you could see how others present a project?

C: Yes.

R: What kinds of things do you carefully listen when you listen to the project presentations?

C: I honestly don't know how to smoothly connect sentences or how I can start or finish my projects, so when I record others and listen to them, I get an idea that how I can start my project naturally you know. How I can naturally finish my presentation.

C: 케미스트리 수업같은거 발표있으면 다른애들 하는거 녹음해서 듣고 준비해요.

R: 다른애들이 어떻게 하는지 보려고?

C:네

R: 어떤 부분을 주로 봐? 다시 들을 때.

C: 솔직히 문장같은 거 어떻게 연결하는지 시작할 때 끝날 때 어떻게 하는지 잘 모르니까 그런 거 많이 봐요. 어떻게 자연스럽게 끝내는지 이런거.

(Cindy, 3rd Interview, 2017)

Unlike Anna and Kaye who recorded class lectures, Cindy used the recording feature to prepare for her classes and to check her pronunciation for presentations. When I asked how she prepared her presentation. She stated:

I usually write a script ahead because I can't really improvise sentences. So, I write a script and then if I don't know how to pronounce certain words, I type words in Google so that I can have a correct pronunciation or I record other classmates' pronunciation because those are technical terms [such as terms in biology] that we use in class.

저는 미리 스크립트를 쓰는 부분이 많아요 왜냐면 바로 잘 안나올때가 많으니까 그럼 말은 먼저 그렇게 쓰고 그럼 말은 편한데 혹시 발음이 문제가 되는 부분이 있나 그럼 구글에 물어보고 그렇게 해요. 아니면 다른 애들 발음하는 거 듣거나 대부분 그냥 수업에서 쓰는 용어들이 많으니까요.

(Cindy, 4th interview, 2017)

Cindy's mobile practice of recording her voice could be related to her natural curiosity about English and her motivation to assimilate in class. During the interview, Cindy expressed her curiosity about learning everyday colloquial English, such as how to order in restaurants, pronounce unfamiliar dish names, and how to express her frustrations in some situations. She also stated: "Friends are the most important thing" for her and also "[making a friend is] the most struggled part in the US" (Cindy, 1st interview, 2017) as she could not speak English well in the beginning when she started school in the US. She stated:

[Making a friend is] the most struggled part in the US. Because in Korea, you would just use Korean so it was so easy to make friends and I was the one who always approached kids first, but here, because of my English [being limited], I can't just go and talk.. so, I got very timid and I hated seeing me timid.

제일 힘들었던거는 친구. 왜냐면은 한국에서는 그냥 한국말로 하는거니까 애들이랑 사귀기도 너무 편하고 그냥 저도 원래 먼저 다가가는 스타일이라서 그랬는데 제 뜻대로 모든게 안되고. 영어때문에 소심해지고..그 소심해진 모습이 너무 싫었어요.

(Cindy, 1st interview, 2017)

Cindy also stated that she was very concerned about her accents and how she was portrayed to others. She shared this anecdote with me how she became aware of her accents and her limited English impacted on her personality and making friends in school.

You know, we were in middle school. Some kids understood my English, but most of the times, it hurt when I talked to them because they just didn't understand my English and also didn't want to understand that there is a person who has an accent or who can't speak English well. So, it hurt me a lot. Sometimes I experienced something similar to racism as well. [R: What kinds?] Some thought that they were way better than others because they speak English. Well, I don't see these kids that often in high school but the middle school I felt passive racism when they just ignored me. So that kind of thing was very difficult to overcome. I tried to learn English and hoped to speak it without an accent, you know.

중학생이잖아요. 영어가 안 되는데 어떤애들은 그냥 이해해주는 애들도 많았고 근데 그렇게 애들한테 말 걸면서 상처받은 적도 되게 많았어요. 제가 엑센트있는거랑 영어못하는걸 이해

못하고 하려고 안하는 애들도 많았기 때문에..그런건 진짜 상처 많이 받았죠.. 인종차별도 있고 (어떤?) 인종차별이요? 백인애들이 자기자신이 잘났다고 생각하는 애들이 있어요. 영어좀한다고. 그런 애들은 high school 와서는 안그러는데 middle school 때는 은근히 무시한다고 해야하나? 그런게 있었던거 같아요. 대놓고 하는게 아니라 약간..은근히 무시해요. 그냥 그런게 좀 힘들고 그래서 영어 좀 잘하고 액센트없이 그러고 싶었고, 공부했죠.

(Cindy, 1st interview, 2017)

Cindy's personality, including concerns about finding caring friends and how she would be portrayed to others, motivated her to assimilate with others. As her interview excerpt revealed, she was concerned about her English and her accent. In order to assimilate with others, she used her smartphone recording feature to capture others' presentations before hers. As she indicated, she could practice and see how to connect sentences and start openings. Thus, she was able to produce a native style of speech. As she could speak English well, she stated that she was able to make some friends.

R: How did you solve the issue of making friends?

C: I think once I could express myself in English, and once kids noticed that I could speak some English, it was not hard to make friends anymore.

(Cindy, 1st interview, 2017)

Unlike the other three participants, John stated that he rarely used the recording feature of his phone.

R: Do you record something with your phone?

J: Um... except for the Virtual Spanish class, No I don't do it.

(John, 2nd interview, 2017)

Participants' Use of the Camera Feature. The camera feature was also popular among all four participants while they were in class. Anna discussed her use of this feature.

A: I found a feature that I use it often.

R: What [is it]?

A: Usually when teachers provide answer keys, I don't really use a surface [tablet] or laptop, I would rather use my smartphone. I take a photo. So, I use my phone when I check my answers or edit my answers.

R: For every subject?

A: Yes, teachers tend to give one or two answer key print-outs and tell us to take a photo so...

R: ...so teachers encourage students to take a photo [for the answer key]? Are there any teachers who do not like taking photos in class?

A: Usually, they just tell us to take a photo.

R: What about students who do not have a smartphone? Is there any friend you know who doesn't have a phone?

A: I don't see a single friend who doesn't have a smartphone.

R: Not one? Any student in class?

A: Yes.

R: What about students who didn't bring their phone to school that day?

A: In that case, friends send a photo to them or record the class for them and send it later... when I have a low battery, I asked them to record it for me.

A: 저 제가 자주 사용하는 거 하나 발견했어요

R: 어 뭐?

A: 보통 선생님들이 answer key 같은거 줄때 사진을 컴퓨터나 surface(tablet)로 잘 안찍고 핸드폰으로 찍으니까 그거 가지고 정답적거나 답 고칠때는 그거 핸드폰으로 계속 보고 쓰는 거 같아요

R: 음~ 모든 과목을?

A: 네 선생님들이 정답 보통 반에 한 두개 정도 가져다 놓고 사진 찍어 가라고 하셔서 그런거 할때

R: 그럼 선생님들이 직접 찍으라고 하는 편이야? 싫어하는 선생님들은?

A: 어 근데 보통은 그냥 찍어 가라고 말씀하세요

R: 그럼 핸드폰이 없는 학생은 어떻게 해? 친구중에 핸드폰이 없는 친구도 있어?

A: 지금까지는 못 본거 같은데

R: 지금 까지는 한 명도 없어? 반에 그냥 있는 애들도?

A: 네

R: 그렇구나 그럼 핸드폰 놓고 온 친구도 있을 수도 있잖아

A: 보통 사진 보내달라 하거나 녹음같은거도 대신 해주고 보내주고 그런 경우도 많아요. 배터리가 없을 때는 친구한테 부탁할때도 있고요.

(Anna, 3rd interview, 2017)

This interview excerpt with Anna captured how she used the camera feature often for note taking and sharing. While the photo-taking feature helped Anna record notes, other students

in her class also took notes through their phones. For Anna, the camera feature supported her learning content presented in English by capturing answer keys written in English through photos. Kaye mentioned that she assumed that not many university students--other than international students--would take photos or record classes.

R: Do others, too, [take notes with their camera]? Do you notice that other students [record] or is [recording] just for you?

K: It's not like only for me, but I don't think a lot of people do that, like taking pictures, because more often they just type [notes] really fast.

R: Was that helpful for you because you need more solid pictures?

K: Yeah, and also for one of my film class because [the] professor talks really fast and I just record it.

(Kaye, 2nd interview, 2017)

Kaye also mentioned that she was not good at reading and typing English as quickly as others: "Because I can't type as fast as Americans, so if there are really important PowerPoint and the professor just switches to one another very quickly, I will just take photos and I use this method pretty frequently." (Kaye, 2nd interview, 2017). Unlike how high school participants saw other students taking photos of notes in class, Kaye reported that not many university students used the camera feature. Specifically, she noted that she used the camera due to her unfamiliarity with the English keyboard and summarizing a professor's speech in class. The camera feature provided Kaye with support as she studied content presented in English. Not only did her professors speak "really fast," but she thought that her native-English-speaking

classmates could keep up with the professor's speech. Thus, the camera allowed Kaye to also "take notes" quickly through this feature.

John frequently used a camera to capture the lectures and assignments given.

J: I take a lot of photos [of the class notes]... I take a photo for required assignments.

R: You do that too?

J: Yes, that helps me a lot. Because teachers erase the board very quickly especially for AP classes. They move at very fast speed so I take a photo. Except my math teacher, who is weird, I guess he doesn't like students to take photos. But except for him, all teachers permit students to take pictures, so I take a photo for given assignments.

J: 사진 많이 찍어요. 숙제같은거

R: 너도 그래?

J: 네, 도움이 많이 돼요. 왜냐하면 AP 같은 경우는 막 빨리 지워버리고 진도도 빨리 나가니까.. 수학 선생님이 좀 이상한데 그분만 빼고는 사진 찍는거 뭐라 안하세요. 그분은 사진 찍는거 좀 싫어하는 거 같고.

(John, 2nd interview, 2017)

Like Kaye, John used the camera feature to capture notes in the class. However, he shared feelings about why his math teacher did not permit students to take photos, with the implication that John had to take notes on every assignment and lecture by hand in his math class. In this excerpt, what seems clear is that teachers, like John's math teacher, do not always understand the language needs of English learners. John needed to take photos of notes to have time to review them and to capture them as precisely as possible. English learners, unlike

teachers like John's math class, take it upon themselves to use their smartphones to learn content presented in English. John also wrote about the benefits of using his phone to study English:

I watched many American TV shows by a phone with Netflix. I call my friend to develop my English-speaking level. I research English vocab with my phone to study.

(1st participant journal, originally written in English, John)

Participants' Use of Other Apps and Websites. In addition to the aural and visual recording features of a smartphone, participants used custom downloaded apps on their mobile devices as tools to learn a language and to engage in social online spaces. The three high school participants most frequently used the app 'Quizlet'. Quizlet is an open-access flashcard app which is designed to practice and study vocabulary in various subjects from languages to sciences. Users create their own flashcard and study sets or they can choose from sets already created and shared by other users. All four participants used Quizlet for multiple reasons. Kaye, who was preparing and studying for the GRE for graduate school admissions during this study, used this application for memorizing GRE vocabulary. She used it on her way to school or home, or even between classes.

R: Okay, that's good. We talked last week about your GRE exam and you told me that you were using the application on your phone during free time?

K: Yes.

R: What was the name of the app?

K: It was Quizlet.

R: Yes, Quizlet. Have you been able to use that Quizlet during this week?

K: Just once.

R: Just once? [For] how long?

K: Normally, I would use it every day. Well, in the transportation, or after class, or having lunch, but this week ... I'm so busy, so I didn't really have time to use it.

(Kaye, 2nd interview, 2017)

High school participants used Quizlet for memorizing new English vocabulary for various classes they were taking. Anna also expressed how she used this app for her studies. Since it was easy to access and was open-access, Anna used this app for instant check-ups before a test. As she and other high school participants used Quizlet as a last-minute check-up before classes or tests, they all used this application only with their phones.

R: So, you don't do this [Quizlet] with your laptop?

A: I usually do it with my phone.

R: Why do you think you use it with your phone?

A: Well... I think a smaller device is more convenient [to use]. Because this [application] is a flashcard application and I only use it when I need to check the point only.

...

R: Have you used it [Quizlet] for studying English?

A: Yes, last year I took a literature class and we had an SAT vocabulary quiz every week, so I used it every week for the quiz.

...

R: When you do use this application? On your way to home? Or in school?

A: Normally in school during the free time. Or when I need to check it really quick.

R: Right before a quiz or something?

A: Yes, right before the test.

R: 그럼 이거는 컴퓨터로는 안해? 랩탑이나?

A: 주로 핸드폰으로 해요

R: 왜 그런거 같애?

A: 이게 어.. 그냥 작은 게 더 편한 거 같아요 플래쉬카드 형식이니까 그리고 좀 되게 딱
요점만 보고 싶을때 보는 거라서

...

R: 혹시 이런걸로 단어나 영어공부 이런거 해본 적 있어?

A: 네, 작년에 제가 literature 시간에 sat vocab 선생님이 외우게 하고 시험이 퀴즈가 매주
있었어서 매주 이걸 사용했었고

...

R: 그럼 이건 주로 어떨때 많이써? 집에 가는 길에? 학교에서?

A: 보통은 그냥 학교에서 쉬는 시간에? 딱 봐야 할때?

R: 시험 보기 바로 전 이럴때?

A: 네 바로 직전에 많이 보는 거 같아요

(Anna, 3rd interview, 2017)

John also used Quizlet for memorizing English vocabulary.

I used Quizlet a lot to memorize vocabulary. It was not used necessarily to learn English itself but because I was not good at English words. I didn't understand important parts [in the classes] so it was good to memorize important vocabulary and things that Quizlet offered [because I don't know what is important].

퀴즐렛 단어 외울 때 많이 썼어요. 영어를 공부하려고 한 건 아닌데 영어 단어를 잘 모르니까 중요한 부분을 이해 못하고 그래서.. 퀴즐렛이 중요한 단어 외우거나 그러는 건 좋은 거 같아요.

(John, 3rd interview, 2017)

Participants also frequently used YouTube to learn English on laptops or desktops by watching entertaining video clips or listening to music. The school-assigned tablet that high school participants blocked YouTube, so they had to access YouTube at home or on their smartphones. However, ironically, high school participants often used YouTube to check their pronunciation for unknown vocabulary words.

R: So, when you have unknown words or something, how do you check your pronunciation?

A: I search YouTube. You can find most of the words there.

R: Do you open YouTube using your laptop?

A: Actually, no. I [check my pronunciation] when I am in between classes or right before [class] presentations so I normally use my phone to do that.

R: 그럼너가만약모르는단어가있거나그런건발음체크는어떻게해?

A: 유튜브에찾아봐요거기에웬만한단어는다나와있어서

R: 유튜브는그럼컴퓨터로쓰는거야?

A:이런거는사실발표바로전이나쉬는시간에하는거라서핸드폰을사용하는거같아요

(Anna, 4th Interview, 2017)

For these three participants, YouTube was a useful website/app on their smartphones to help them check English pronunciations. For two of the high school participants, Anna and Cindy, in particular, they were concerned about how their pronunciation appeared to their classmates. In our third interview, Anna talked about why she was very self-conscious about her pronunciation.

R: So, you are nervous about presenting in front of the people because of your pronunciation [of English words]?

A: Yes, part of it is because of my pronunciation. Well, native speakers mispronounce words a lot but because I am Asian, when I make mistakes, people see me... I hate when people see me like that.

R: 사람들앞에서서 프레젠테이션하는게? 발음때문어?

A: 네 발음때문에도 그렇고 사실 백인애들사이에서도 잘 못 발음하는애들이 많은데 그냥 저는 동양인이고 그렇기 때문에 앞이나가서 발음을 잘 못 했을때 사람들이 조금더 그렇게 보는 거 같아서.. 그게 싫어요.

(Anna, 3rd interview, 2017)

Cindy also presented a similar opinion about why she was sensitive about the pronunciation in that she did not want to be seen as different. In the interview excerpt presented earlier, she said that “but most of the times, it hurt when I talked to them because they just didn’t understand my English and also didn’t want to understand that there is a person who has an accent or who can’t speak English well.” She continued “I tried to learn English and hoped to speak it without an accent, you know.” (Cindy, 1st interview, 2017). She also said that “I didn’t

like being different.” (Cindy, 1st interview, 2017). Another website that John used to check pronunciation was Google Translate.

R: So, have you ever tried any apps for checking your pronunciation?

J: I used Google Translate couple of times as it is new and interesting, but I don't use it often.

(John, 4th interview, 2017)

When asked about the voice recognition feature Siri for iPhones or Cortana for Samsung Galaxy phones, participants stated that they never tried it. John, however, mentioned that his mother often checked her pronunciation with her iPhone as she produced certain words to see if Siri recognized her pronunciations. If the words were recognized by Siri, she considered it a proper pronunciation of the words. He thought this could be a good way to check his pronunciation, but he never tried it.

R: So, in your opinion, what would be good to use your phone for studying English?

J: Instant check-ups. When you study English with your phone, you can search or check your weak points whenever you want. Except writing...I think [using the phone would be good]

R: What about the speaking practice?

J: My mom uses Siri to check her pronunciation. Whether Siri understands or recognizes her words or not. If it is recognized, then she considers it as a right pronunciation.

R: What about you?

J: I never try it.

R: 그럼 니 생각에는 핸드폰으로 영어공부하는 좋은 방법이 뭐야?

J: 바로 체크업하는 거. 핸드폰으로 하면 바로 체크하기도 하고 찾아보기도 하잖아요
취약한 부분. 라이팅은 빼고..

R: 말하기는?

J: 저희 엄마는 시리 쓰는데요. 시리가 알아듣는지 엄마말을 그래서 알아들으면
맞는 발음이라고..

R: 너는?

J: 한번도 안 해봤어요.

(John, 4th interview, 2017)

Participants also utilized the apps that they could also use with their tablet, laptop, or desktop to share their assignments with others with the intent to support their writing. Anna shared an anecdote about how she used her smartphone to finish an essay. She and her family went to a party hosted by her mother's friend. She was bored and had nothing to do after eating dinner, so she decided to work on her essay while she waited to go home.

R: How do you do that? Using your smartphone to complete your essay?

A: I used Google Docs on my smartphone.

(Anna, 4th interview, 2017)

Anna stated that completing her essay via the assistance of her smartphone was helpful because the software had a grammar check. Further, she was also able to show and get help on her essay from the daughter of her mother's friend who was also Korean but had been in the US longer than Anna.

Among all participants, Cindy showed the most varied practices for utilizing applications in learning English. Recently, she had gained interest in a TV drama called *Stranger Things* and also an actor who plays a lead character in that drama. Cindy followed him on Instagram, Facebook, and Twitter and watched every interview she could find on YouTube. She enthusiastically shared her interests in the drama and the actor. Her passion for the actor led her to watch more YouTube interview clips and read interview articles and postings on his social network sites. Those activities sometimes helped her learn new vocabulary or expressions in English that she never knew before.

When I watched the interview [of the actor], I watched the same interview about 10 times. When I did that, I knew what he was going to say next so naturally I learned the English expressions in certain situations.... Also, when he posted he liked a certain dish, if I didn't know what that was, I Googled it. The other day I Googled his favorite dish. It was a Jewish dish I never heard of it before so I like learning new things from him.

인터뷰같은거 볼때 막 같은 거 열번 씩 보거든요. 그러면 다음에 애가 뭐라고 할지 알게 돼요 그래서 막 이런 때는 이런 말을 쓰는구나 배우고.. 그리고 애가 어떤 음식을 얘기했는데 제가 모르는 거예요. 그래서 찾아보고 저번에 제일 좋아하는 음식얘기해서 찾아봤는데 무슨 쥬이시 음식인데 첨 들어본거고 이제 배웠어요.

(Cindy, 2nd interview, 2017)

Cindy was very determined when I asked if she used her smartphone for watching interviews or reading posts on Facebook or Instagram.

R: So, when you search and watch interviews and stuff [reading postings], do you use your phone or computer?

C: With a smartphone! (with strong emphasis)

R: Why?

C: You can do it easily and quickly with your phone, you know, with one hand. You could do it with your computer and watch it in a big screen but I think that using smartphone is much more convenient.

(Cindy, 3rd interview, 2017)

Cindy also used an application named “Yarn” which is a horror story presented through short text message conversations, a sort of eaves-dropping on someone else’s text messages.

R: Where did you find this [application]?

C: I often go to the app store to see what is new and I downloaded it because I wanted to study English with novels, in a fun way by reading novels. This is just like a text message as if I am in that [horror] situation.

R: Cool!

C: Most of them are horror stories. So, like, I get a text message like ‘Help dad, I am locked in a strange place.’ Or ‘Send SOS’ to friends, you know.

R: Interesting, so you do it at night?

C: Whenever I have some free time.

R: 이런건 어디서 알아서 봤어?

C: 저는 가끔 심심하면 여기 앱스토어에 들어가요 보다보면 소설같은거 소설로 재밌게 영어공부하고 싶어서 찾아보다가 재밌는거같아서 깔았어요. 이게 문자처럼 제가 진짜 그 상황에 있는 거 처럼 나와요

R: 신기하다

C: 대부분 무서운 거 밖에 없어요 그래서 집에 감금됐다 아빠한테 살려달라고
문자내용이라던지 친구한테라던지

R: 되게 신기하다. 그럼 이런건 밤에봐?

C: 어 그냥 시간날때 봐요

(Cindy, 5th interview, 2017)

Yarn is similar texting. As Yarn is opened, the viewer receives text messages explaining situations such as “I think someone is in my house and I am alone. What should I DO?!”

Viewers also see the reply for that message such as “What!?! Call 911!!”. Although all messages are fake, Cindy found it interesting and stated that she downloaded this application thinking she could learn English in more fun ways. Cindy was the only participant who described how she learned language through fun apps.

Summary. Churcher et al. (2014) argue that using mobile devices in classroom increases students’ learning outcome. Particularly for ELs, scholars (Agca and Ozdemir, 2013; Burston, 2014) report that using mobile devices in school helps ELs lower their anxiety in English, and increase the outcomes of learning English. In general, this finding revealed that participants used a range of apps and websites to learn vocabulary, check pronunciations, learn colloquial phrases through following celebrities, and to read stories written in a novel form like text message. Participants also indicated that they used their mobile phones to maximize their learning and study for success in school.

Finding 3: Participants used mobile devices as a way to socialize and communicate

During the interviews, all participants stated that they used their mobile devices as a channel to communicate with peers. Anna's first interview revealed that she used her mobile phone to answer messages from friends or used the Snapchat app. By interacting with peers, participants' English learning and mobile device practices were sometimes expanded in learning new vocabulary or expressions they never saw in their school textbooks or from teachers.

Cindy stated that she often used Google Translate to communicate with her friends when she did not understand the expressions they used: "When I chat with a friend, for example when I was not sure about what she was saying, then I typed it in Google Translate." (Cindy, 3rd interview, 2017). Also, she mentioned that in order to communicate with her peers, she watched beauty-related YouTube clips and learned colloquial expressions.

C: It's a really small thing but when you don't know how to express certain things, I think I learned those things from watching YouTube.

R: Do you often use expressions you learned on YouTube?

C: Yes, when I chat with friends. It's useful.

C: 완전 작은건데 어떻게 표현하는 지 잘 모르는 거 있잖아요. 그런거 유튜브 보면서 배웠어요.

R: 유튜브에서 배운거 좀 써?

C: 네, 친구들이랑 문자할때 잘 써요.

(Cindy, 5th interview, 2017)

Anna also expressed that she used a smartphone for communicating with her peers.

R: Then, what do you usually do with your phone in school?

A: Usually, I answer messages or talk to friends using Snapchat.

R: 그럼 학교에서는 핸드폰으로 뭐 해?

A: 주로 그냥 문자하거나 스냅챗으로 이야기하거나.

(Anna, 1st interview, 2017)

Snapchat is a message app for people to send a photo or video to friends. The unique feature of this application is that the message or picture sent to people will disappear for good after a few seconds. Since there is no trace of sending or receiving messages, participants used this application mainly to connect with their friends while avoiding teachers' eyes. John mentioned: "I am not doing it, but many students use it during the class because, even though teachers caught them using text messaging in class, they cannot see the evidence" (John, 3rd interview, 2017).

While high school participants reported that they all used Snapchat often, Kaye did not report using it. Instead, Kaye used an application named "We-Chat." She explained that most of her Chinese friends used this application for texting. All three high school students, Anna, Cindy, and John showed similar patterns using their mobile devices to communicate with others while Kaye showed different patterns. All high school participants actively engaged in communication and socialization with people who lived in the US while Kaye's communication and socialization largely involved people in China. Whereas high school participants variously engaged in two different groups for communication and socialization, a Korean-used group and an English-used group, Kaye mainly participated in communication in Chinese. High school participants

indicated that they used Facebook for friends in Korea and Instagram or Twitter for friends in the US. For Snapchat, they only used this app to socialize with friends in the US.

R: So, what do you usually do with your phone?

J: I do social media like Instagram, but I use English for that. I don't have any Korean followers.... But for Facebook, I use Korean as I have many Korean friends there, but on Instagram, I only use it with friends here [US]

R: What was your intention? Separating the languages?

J: No, not really. It was so natural to do that as these are two different groups, you know.

R: 그럼 핸드폰으로는 주로 뭐 해?

J: 그냥 인스타나 이런거. 근데 그건 영어만 써요. 한국인 팔로워가 없어서..근데 페이스북은 한국 친구들이 많아서 한국어 쓰고. 인스타는 여기 친구들밖에 없어서.

R: 그렇게 따로 구분하는 이유가 있는 거야?

J: 아뇨 딱히. 그냥 그렇게 됐어요.

(John, 3rd interview, 2017)

Like John, Cindy also used Korean for Facebook and English for other social media using their mobile phones to network socially with peers.

R: Why do you use Korean for Facebook?

C: Because all my friends who are using Facebook are Korean. Although some were born here, it feels weird to use English with them because we are Korean.

R: 왜 페북은 한국어로 써?

C: 왜냐면 페이스북은 한국 친구들만 써서요. 여기서 태어난 애들도 있긴 한데 그냥
 걔들도 한국인이라 영어쓰면 좀 이상해요.

(Cindy, 2nd interview, 2017).

Teenagers and young adults spend a lot of time communicating via digital and social media—largely achieved by using their mobile phones. Stald (2008) stated that the mobile phone acts as a medium for social networking, enhancing of group identity, and for interaction between friends. John and Cindy intentionally used specific social media for specific friends and languages. By using a specific language for each group, John, Kaye, Anna, and Cindy identified with and communicated with that group socially through language.

Interviews with participants showed that they also developed their English language through social communication with their friends on their mobile devices. One unique social behavior of participants was that they learned new vocabulary while they were texting friends. Cindy mentioned that she learned many new words from texting, remarking that those words could not be gained elsewhere as they were acknowledged as “phone words” only used in text messages.

C: You know, those phone words, you don’t know if you don’t text each other.

R: What would those words be?

C: Um... WYD, what are you doing? Or IGTG, I gotta go. And you know long words to type such as “tomorrow” so for this word, you just drop “o” and type “tmrrw” to type it easy.

R: In capital letters?

C: No just smaller letters because you want to type them fast and you are lazy too.

R: Seems like it is similar to Korean.

C: Yes, so when I see words that I don't know, I search them in Google.

..

C: One of my close friends used these kinds of words a lot so I used to search them [in the past] constantly.

C: 또 다른거는.. 핸드폰 용어같은거도 핸드폰으로밖에 안쓰니 모르는 거잖아요

R: 뭐가 있을까?

C: 음... WYD what are you doing?이나 IGTG.. I gotta go. 나 지금 가야하니까 문자 나중에 하자 이거랑 또.. 그리고 긴 단어있잖아요 tomorrow 라든지 이런건 o 를 빼요 tmrrw 라고 해요 그냥 빠르게 칠려고

R: 이런건 대문자로 써? 소문자로?

C: 소문자로 귀찮으니까 빨리 쓰려고 소문자로

R: 한국이랑 좀 비슷하네

C: 맞아요 진짜 많아요 그래서 친구들이랑 문자할때 가끔 모르는건 구글에 찾아봐요

R: 구글에서 찾아서 너도 많이 써?

C: 네 제가 아는 건만

..

C: 친구 한 명이 이런 걸 진짜 많이써서 진짜 계속 찾아봐요.

(Cindy, 5th interview, 2017)

While engaged in the group chats, Anna described that if there was a word she did not recognize, she googled it online while engaged in the chat or asked other close Korean-American

friends. When I asked Anna why she did not immediately ask in the group chat the meaning of the word, she mentioned: “Because it is a group chat, I don’t want to bother others.” (Anna, 2nd interview, 2017). Anna also used the Google Docs mobile application to complete collaborative work with classmates. Anna used her smartphone as a support device for her group work. While she worked on group projects, she used her smartphone to communicate with others.

R: So, you use your phone often when you have a project with friends?

A: It depends but it [Google Docs application] shows who commented and provided an idea. I text with others and when we make a PPT, normally we text each other while working on the PPT using Google Docs on each one’s laptop.

(Anna, 2nd interview, 2017)

Participants’ also communicated with through school apps and websites, especially with high school participants. Anna described this type of interaction.

A: We have this app, it is like a reminder, so teachers upload the alert when we have a lab or something.

R: So, students use this app with a phone or laptop?

A: With phones.

(Anna, 2nd interview, 2017)

Summary. Warsh et al. (2009) reported that the primary benefit of mobile phone use for youth was to connect with others. The results of their study indicated that while mobile phones were used for other practical reasons, the word ‘connect’ was regularly used by participants. This finding, in part, corroborates Warsh et al.’s findings. High school participants actively

participated in social interactions using their smartphones and used social media as a means to learn English. For participants in this study, by socializing and communicating with others through apps and mobile devices, they engaged in self-learning as they learned new words through texting and acronyms used in texting, expressions that they could not learn from the traditional texts or asking teachers, by following celebrities on social media, and by collaborating on group projects. The use of specific languages for specific purposes to communicate in Korean and/or Chinese also showed that they sought to use mobile phones to strengthen their English and identification with a social group and make that identification more positive.

Finding 4: Mobile phones were very much a part of participants' identities as English learners

Mobile devices presented as points of identity in participants' understanding of themselves as English learners. English learners often find themselves concerned with aspects of language that define them as non-native English speakers: pronunciation, accents, needing academic support, and grammar (Cui, 2011; Ferdous, 2012; Yamat and Bidabdai, 2012). Also, research has found that younger mobile phone users turn to mobile phones not only as communication tools but also as objects that portray or constitute some aspects of their identities (Lim, 2010; Ling, 2004; Salmi and Sharafutdinova, 2008). As participants reported, mobile devices were a part of their life as ELs. Their interview excerpts uncovered their constant needs for using mobile devices, especially smartphones because of the demand for continuous checks on their English in everyday life.

All four participants commonly stated that mobile devices, especially their smartphones, were small and convenient to check their English. As participants reported earlier, being a non-native speaker required extra time to record notes, reorganize information presented by teachers,

and energy to live an ordinary life in the US. Particularly in situations where participants needed instant help in English, they used their smartphones to check English pronunciations because of their portability and convenience. Such use points to participants' concern to "hide their identities" made visible through their accents and/or mis/pronunciation of English words. For example, participants used YouTube and Google to check pronunciations of words right before they gave a presentation or double-checked vocabulary right before a quiz or test. Such measures to disguise their identities emerged in the interviews and journal entries.

The use of mobile devices also enabled high school participants, like Anna, to shift their identities as Korean learners to American learners. Anna mentioned that due to the unique learning style in US schools, she thought that the use of mobile devices was necessary.

A: Unlike Korea, here you cannot find any "Changoso" [a learning workbook for various subjects] so I need to search on online so if you don't have any device, it is impossible to study.

R: Oh, I never think about it. So, because you can't find many workbooks, you have to rely on your devices [and Internet].

A: 여기는 한국이랑 다르게 참고서같은게 없잖아요 그래서 온라인으로 찾아봐야 되고 하니 이렇게 없으면 공부를 못 하죠.

R: 그건 생각 못 했네. 참고서가 많이 없어서 핸드폰 같은거를 많이 쓸 수 밖에 없다구.

(Anna, 5th interview, 2017).

In Korea, high school students can easily find workbooks for all subjects from mathematics to music. These workbooks usually contain a short lecture section explaining the

lesson's goal and providing a number of exercises and questions. Korean students can easily find more than ten workbooks per subject, especially for core curriculum subjects such as Korean, English, or math. Thus, it is sometimes necessary that, in order to get a good grade, students have to finish as many workbooks as are available. Anna pointed out that in the US, it was not common to buy various practice workbooks and it was also hard to find them. Thus, she needed to shift what she knew as a Korean learner—supplementing her learning through workbooks—to that of an American learner, accessing the Internet through her smartphone for additional resources to study the different content areas in her high school.

Although Kaye did not report that she used her smartphone as a way of socializing with native English speakers around her in the US, she used it as a virtual way of learning English and the mobile phone was a critical factor for her learning English. Like the high school participants, Kaye shifted how she was as a Chinese learner to an American learner studying for the GRE.

During this study, Kaye was preparing to apply to graduate school and studying for the GRE test. As reported earlier, she used her mobile phone to memorize vocabulary. When I asked how she studied her GRE vocabulary, she stated, “I used Quizlet [mobile app] to memorize vocabulary.” (Kaye, 1st interview, 2017). She also mentioned, “Normally, I would use it [Quizlet] every day.” (Kaye, 2nd interview, 2017).

She also took a synchronous online GRE class delivered from China for the verbal portion of the test on Saturday mornings at 7 a.m. Even though she needed to wake up early, she stated that she did not mind taking the class. Kaye actually seemed very appreciative of the fact that a Chinese institution offered an online course that she could take in the US. She mentioned that in the US, it was hard to find a good online class. Even if it was offered in the US, she preferred online courses from China rather than ones offered in English, as her needs as an

international student were different from native English-speaking students who were preparing for graduate school.

K: I think Chinese institutes provide what I want, how to solve the problem mechanically.

As I am not familiar with all contexts that GRE exam provides, this is something I want to learn.

(Kaye, 3rd interview, 2017)

Thus, much like Anna, Kaye put aside how she learned as a student in China, “solving problems mechanically,” in favor of becoming an American learner who is “familiar” with the GRE. Across interviews, mobile devices were strongly connected to participants and their identities as students in American schools. A number of researchers have studied the relationship between mobile devices, especially mobile phones, and a user’s identity and found interesting results. Individuals across cultures and gender value their phones in various identity-relevant ways and users make different phone-related activities and choices because of this (Baron and Campbell, 2012; Hjorth, 2006). Gordon et al. (2017) discussed that mobile phones are understood as cultural tools. In their research about the link between mobile phones and identity showed that women tend to orient to their phones as identity-relevant. In their research about college students in three different countries, Oman, Ukraine, and the US, Gordon et al. (2017) found that women were more prone to treat their mobile phones as objects that relate to identity expression. This study also found evidence that pointed to specific relationships between participants and their mobile devices and why they used specific devices in specific situations.

In interviews, participants clearly articulated a relationship between which device they used where and when, and this relationship was not always positive. Participants described how

mobile devices made visible their social situation in school as students and how they shifted their identity as students with a particular mobile device.

Anna did not like to be viewed as a stereotypically industrious Asian student by others. Although she categorized herself as a “hardworking student” during her interviews, she pointed out that maintaining good grades was her main motivation for learning English, yet she did not want to be seen as a “good” student. For Anna, being identified as a hardworking student was not positive: “It seems like I don’t have any friends to talk or a person who obsesses with a grade. I don’t like it” (Anna, 3rd interview, 2017).

R: Based on what I just heard, I feel like you are a very hardworking student, aren’t you?

A: Yes, I think I am a hardworking student and also a very quiet student.

R: Is this what you want? Being a hardworking and quiet student? Or do you want to be more outgoing but couldn’t do it because of your situation?

A: I think both. I like being a good student but don’t want to be seen as too hardworking and quiet.

R: 그럼 지금까지 듣기로는 엄청 열심히 하는 학생 같은데 아니야?

A: 열심히 하고 되게 조용한 학생인거 같애요

R: 너가 원하는 학생상이야? 아님 나는 아웃고잉하고 그러고 싶은데 내 상황때문에 그런거 같애?

A: 둘다인거같애요. 모범적인 거 좋죠 근데 너무 열심히 하고 막 그 정도로 조용한 애이고 싶지는 않아요

Anna's hard-working quiet demeanor prompted her not to ask questions during class. She thought "everyone else would know what that means so I didn't want to ask." Anna's third interview captured her anxiety of asking questions during the class.

A: Yes, because I don't have a foundation on certain things that others already learned in elementary school, because I am from Korea I didn't have a chance to learn those things.

R: Oh, I remember you saying this in our previous interview. You couldn't solve the problem because you didn't know the words in English although you knew the concept and answer. Was it in math class? Biology? Did these things happen often?

A: Yes, a couple of times. You know, when you see the problem and the words sound really familiar, I have an instinct that everyone else would know what that means. So, I didn't want to ask because it is a bit embarrassing.

R: Then, what do you do?

A: I would search the word later with my phone when I am home or after the class.

A: 좀 있었던거같아요 그리고 이게 문제를 딱 봤는데 단어가 되게 많이 들어본 단어고 여기애들은 당연히 다 알거같은단어이기 때문에 사실 선생님한테 물어보기가 되게 망설여져요

R: 그럴땐 그럼 어떡해?

A: 수업시간중일때는 나중에 찾아보거나 아님 집에 가서 폰으로 찾아볼때도 있고

(Anna, 3rd interview, 2017)

Clearly, Anna was highly self-conscious about her identity as a “good student.” While she liked being known as a good student, that was not all she wanted her peers to see. This was made evident in Anna’s use of her smartphone instead of her laptop in the school cafeteria to do homework.

R: So, these kinds of applications you mentioned, they are also available in your laptop, right?

A: Yes.

R: Then, why did you download it on your phone?

A: Because I want to use it when I need to do my math homework in school. I do that often.

R: Oh, yeah? Why don’t you use your tablet (that you got it from school)?

A: I could do if I want to but during the lunch time, I just don’t want to bring out my tablet while others are having lunch.

R: Why?

A: Because it is obvious that I am working on some school work if I use my tablet.

R: 그렇구나 또 이런 학교에서 쓰는 애플리케이션이 있어? 지금 이것도 컴퓨터로도 쓸 수 있는거지?

A: 네

R: 근데 굳이 핸드폰으로 다운받아놓은 이유가 있어?

A: 아 이거는 학교에서 수학숙제 할 때가 많아가지고 그때쓰려고 다운 받아놓 거라서

R: 왜? 학교에서는 태블릿 쓰면 안 돼?

A: 아 태블릿으로 해도 되는데 그냥 만약에 점심시간 같은 때 하고 그러면 이게 더 크니까 태블릿이 ..애들 밥 먹고 있는데 꺼내기가 그러니까

R: 왜?

A: 그냥 딱 대놓고 나 속제해 이러니까.

(Anna, 2nd interview, 2017)

This excerpt shows how mobile devices can be used to disguise one's identity that one wishes to keep invisible. Anna directly connected her use of her smartphone, in essence, to hide her identity as a "hard-working" student. Had Anna used a tablet, this would be an obvious and outward sign that she was working on schoolwork. Further, by using her smartphone rather than a tablet, Anna was able to be seen as a social teenager. Peers in the cafeteria saw her using a smartphone which Anna believed would position her as "one of them," socializing with others through her smartphone. Through her smartphone, Anna disguised her "student-ness" and was able to socially blend into the cafeteria crowd.

Anna also saw her smartphone as an emotional support.

R: When you first came to the US, did your phone provide you some kinds of emotional support? Or not?

A: I think it did. When others chatted, I would be very isolated and awkward if I didn't have my phone. At least I could pretend to do something because I had my phone.

R: Pretend? Or did you actually do something with your phone?

A: Pretending. You know, I didn't have anyone to talk to...so...I was pretending to look at my phone although I was looking at the same thing over and over again.

R: 처음에 왔을때 핸드폰이 너에게 얼마큼 안정을 줬어? 안정을 주는 부분이있었어? 아님 도움이 안 됐어?

A: 그런건 있었던거 같아요 애들 다 막 얘기하고 이럴때 핸드폰이 없었으면 디게 멀뚱멀뚱했었을거 같아요 그나마 핸드폰이라도 있었으니까 그거 하는 척이라도 하고

R: 하는 척이야 아님 진짜 뭘 했어?

A: 하는 척이었던거 같아요 보다보면 계속 똑 같은거 나오고 지겨운데 얘기할 사람도 없고 그니까 계속 보는거 처럼 하고

(Anna, 3rd interview, 2017)

Just as she disguised her persona as a “hard-working student,” Anna also used her smartphone to disguise her isolation and lack of social engagement with friends. The physical action of pretend-looking at her phone was an outward and visible sign to her peers that she was as social as others who also were on their phones. By using her smartphone instead of the tablet that all students mainly use for study, Anna could disguise herself performing actions that may have been perceived by others as uncool.

Like Anna, John used his smartphone to blend into different situations in school.

J: Sometimes, when I needed to search for something, I googled on my phone or ... Oh, I am in the school band.

R: What kind of band?

J: An orchestra. So, when I am in the band practice session, I often search on my phone.

R: Why?

J: Well, because everyone does that. When we practice, there is nothing really to do when other instrument players practice, and I don't want to be sitting there when others do their phone.

J: 아예 서치해야할게 있거나 여러가지 같이하는경우나 그럼 잠깐 찾아보고 아니면 밴드..제가 밴드를 하거든요.

R: 무슨 밴드?

J: 그냥 학교 밴드, 오케스트라. 그래서 밴드 연습할 때 핸드폰 써요.

R: 왜?

J: 그냥 다 그래요. 거기서 예를들어서 띠악기파트들 연습하면 그러면 띠악기들은 할게 없으니까 막 핸드폰 보는 애들도 있어요. 저도 할게 없으니까 그냥 있기도 그렇고

(John, 2nd interview, 2017)

Cindy also stated how her smartphone enabled her to disguise her isolation in school. In the interview, she commented that when she did not have friends to talk with during lunchtime, she used her smartphone to browse social media and felt connected to others: "I pretend to do some work using my phone. It is just awkward to sit there without any friends to talk to, you know. I would be seen as a total outsider". (Cindy, 2nd interview, 2017). However, she also mentioned that even if she was looking at her phone, she eavesdropped on others' conversations and gauged whether she could jump into those conversations.

R: So, what did you do? Look at your phone?

C: I was doing Facebook or Instagram but while I was looking at my phone, I actually paid attention to others. Listening to what others said, you know.

R: Why?

C: I guess I was wondering if they were talking about me as I was the only one who didn't have any friend. So, I guess I was trying to get out of that situation and jump into their conversation. I just pretended to see my phone but I was actually not looking anything particular.

R: 그럼 그때 주로 핸드폰으로 뭐 했었어?

C: 핸드폰으로 그냥 페이스북 들어가고 인스타그램했던거 같은데 사실 눈으로는 인스타그램보면서 신경은 걀네들한테 쓰고 있었던거 같애요 다른 애들한테

R: 왜 그랬을까?

C: 얘네들이 내 얘기를 할 수도 있나 하는 생각도 들었고 그러고 그냥 그냥 주변 사람들이 다 친구가 있고 나만 친구가 없고 그런 상황이..그 상황 자체가 짜증나고 거슬리고 그러니까 그 얘기하는 거 자체가 신경이 쓰이고 핸드폰에는 그냥 보는 척만..

(Cindy, 2nd interview, 2017)

Cindy also mentioned that the “phone was my savior” when she felt she could not speak English well.

C: I would never go back [to the beginning of the school when I came to the US] even if someone gave me tons of cash.

A: Why? Do you regret coming here?

C: No...but I miss Korea so much. I miss my friends who know me well back there.

A: How did you handle that situation?

C: I contacted my friends in Korea A LOT. I talked a lot.

A: Was it helpful?

C: Not really. Because they didn't understand my situation, so I talked really casually like this happened today and such. But it did release my stress.

C: 아무리 많은 돈을 줘도 절대로 돌아가기 싫어요.

R: 지금 생각해봤을때 물론 지금은 시간이 지났지만 돌아봤을때 미국에 온걸 후회한적이있어?

C: 후회하지는 않는데 그냥 한국이 너무 그리웠고 이해해주는 친구들이 너무 그리웠고

R: 그럼 한국이 그리웠을때는 어떤 식으로 ?

C: 그냥 연락을 많이 했어요 얘기도 많이 하고

R: 친구들이 많이 도움이 됐어?

C: 도움이 되진 않았어요. 이해도 못하고 그래서 이렇게 가볍게 오늘 이랬다. 그래도 그냥 스트레스 풀때는 좋았어요

(Cindy, 1st interview, 2017)

These statements from Cindy clearly reflected that smartphones provided emotional support for her; she could talk with her friends in Korea speaking Korean. Her memories of her first months in the US were not positive. Her unfamiliarity with a new culture and language was so unpleasant that she “would never go back” to that time even for “tons of cash.” For Cindy, her smartphone enabled her to reach back into the Korean culture and language, a place of familiarity, when she physically felt isolated from peers due to her lack of English.

Through the use of smartphones, Anna, Cindy, and John were able to look just like other students, “doing” something on their phones. For John, this was a positive shift in his identity as a student; he was on his phone “because everyone does that.” For Anna, her smartphone was a way to shift away from her identity as a good student and into a “pretend” identity as a social teenager. Cindy saw her smartphone as a way to reconnect to her Korean culture and language. The smartphone intimately connected each of these high school participants with identities they wished or did not wish to take on.

Interestingly, gender factored into participants use of mobile devices. They relied on their smartphones for filling a part of their identity and/or personality that may have been missing, especially when they first moved from Korea or China to the US. Further, they saw the use of apps and websites more palatable than face-to-face work in groups. Cindy stated:

Well, when you eat lunch, here you gather with friends and eat but I didn't have any friend to sit with, so I often went to the restroom and stayed there until the lunch session ends. I think I was on my phone all the time there. Even if I tried so hard to make a friend, you know sometimes you just can't. For my case, as time went by, and as I can speak English well, I can make some friends, naturally.

일단 점심같은 경우도 여기는 솔직히 친구들 끼리 먹는데 친구가 없으면 못 먹잖아요. 근데 저는 한국에서 와서 막 먹을애들이 없어서 화장실에서 있고 그랬어요. 그래서 핸드폰 진짜 많이 그랬어요. 아무리 제가.. 영어를 못하니까 아무리 제가 친구를 사귀려고 노력을 해도 영어를 못하니까 힘들더라고요. 그래서 제 생각에.. 시간이 해결해주는거 같아요. 점점 영어가 늘고

(Cindy, 1st interview, 2017)

Cindy noted how her smartphone was her only friend when she was at school. However, now that she speaks better English, she has more friends.

A common experience that all three female participants had in learning English was that none of them enjoyed groupwork. Their perceived limited English proficiency may have caused them not to participate in projects as they had wanted. Anna expressed her difficulty in making conversation with peers. She said: “I think I can do well in reading and speaking, but somehow it is hard to make a conversation with peers than teachers. You know, you wouldn’t use much slang with teachers, so I can easily follow the conversations. But with friends, they all use slangs that I don’t know. So, I can’t follow their conversations” (Anna, 1st interview, 2017). They all felt burdened by group projects and did not embrace feelings of rejection or isolation; moreover, sometimes they felt like useless members in a team project context. Kaye stated: “I don't know. I just don't want to let my American classmates know that I don't understand this word, because I don't want to be a burden on them.” (Kaye, 5th interview, 2017). Thus, participants often relied more on their smartphone to Google the meaning of what others said during the group projects. Instead of asking other group members directly, they all tended to use either a dictionary application or Google Translate for a better understanding of others’ statements.

When asked why they did not directly ask other members when they had questions, all said that they did not want to be a “burden” to the group. Their fear of being burdensome to or isolated from the group made them avoid personal communication and rely more on their phones for reducing any possible misunderstandings. Female participants felt they could not express themselves as they wanted in English, so mobile devices helped them portray themselves more closely to how they wanted to be perceived. Whereas female participants who expressed frustrations about learning English multiple times during the interviews and stated that they were not good at English or have barely adjusted to the US now after two years, John expressed that

he was comfortable using English in class or even making friends. Mobile devices were not a conduit through which he needed to communicate.

R: Did you experience any difficulty making friends when you just moved in here due to your English?

J: Not really. I think making friends need some courageous actions rather than English. You just go and talk to them whether you speak good English or not.

R: So, English was not a big problem for you?

J: No.

R: 그럼 처음 와서 친구 사귀는 건 힘들었어? 영어때문에?

J: 딱히.. 그냥 친구사귀는 건 영어보다는 그냥 용기가 필요한 거 같기도 해요. 그냥 막 가서 얘기하고 말 걸고, 영어 보다는..

R: 그럼 영어가 큰 문제가 아니었다는 거지?

J: 네

(John, 3rd interview, 2017)

A need to keep a feeling of consensus in a group emerged in female participants' descriptions of their mobile phone use when they needed to complete team projects. When they were tasked with group projects, they preferred to communicate via phone rather than through in-person discussions. The smartphone was less stressful.

Since all participants have lived more than two years in the US, they have tried to set rules for themselves for how to handle stressful team project situations, especially in face-to-face interactions. Kaye said that she texted her Chinese friends, who had better English proficiency, about her group project if she did not understand words from her groupmates as she could not

find these words in the dictionary. When asked why she did not send messages/questions to group members directly, Kaye said that she did not want to bother them to explain every detail just for her. She mentioned that she would use her phone to look up words, but asking for help also depended on how close she was with whomever she was interacting. She stated: “But for my other Americans [in my group project?], they're not my friends but my classmates. When we have to contact each other for a group project and they send me some abbreviations, if I can understand the meaning of the whole sentence, I would just like let it go” (Kaye, 5th interview, 2017). Another excerpt from Kaye revealed that she tried to avoid situations where she felt she might be a burden to other classmates due to her self-perceived lack of English proficiency.

K: And also, I don't know, I just don't want to let my American classmates know that I don't understand this word, because I don't want to be a burden on them. Because sometimes I really feel like, I feel sorry for them because like if they were paired with native speakers, they might have like a better grade or better performance in that assignment. But, unfortunately, they were paired with me, so I will try my best to not be the burden on them.

R: So, you think asking questions about English will burden them because you are learning English from them.

K: Yeah.

(Kaye, 5th interview, 2017)

Kaye also mentioned that she used her smartphone more often in classes where she needed to participate in discussions or group work. When asked if there were classes in which she used her

dictionary app more often than other classes, she stated: “If I need to participate, I would use it [more often]” (Kaye, 2nd interview, 2017).

Participants’ statements revealed that to complete a group project, good English speaking and listening proficiency should be required, a characteristic about which they all were very concerned. When asked the reason why, they all mentioned that they did not like to have the feeling that they were behind and useless to others. In the first interview, Kaye mentioned that she was very funny when she spoke in Chinese and all her friends thought she was the funniest girl around them. People were always around her when she was in China. Then, she expressed her feelings in the US. She said, “Because of my limited English proficiency, I am no longer ‘funny’ in the US.” (Kaye, 1st interview, 2017). She had a cultural difference and limited contexts that blocked her attempt to make jokes in English. She stated: “Everyone thinks that I became very shy here” (Kaye, 1st interview, 2017).

A similar identity change occurred with the two female high school participants. Cindy said, “I was the one who always approached new friends first when it comes to making friends” (Cindy, 1st interview, 2017). When she was in Korea, she had many friends and she thought making new friends was nothing but easy and fun. In the US, however, making friends was the hardest part of her US life. When I asked what the most difficult thing was to adjust in school, she immediately said “friends.” She said that she was very devastated that she could not make new friends, and even if she tried to initiate conversations, it constantly stopped or ended fast due to her limited English. After a few tries, she stopped initiating conversations. Cindy also did not enjoy having to complete group projects, as she did not understand participants' conversations. Moreover, other classmates excluded her from major discussions. Cindy mentioned: “I totally understand that I am not really helpful for them so I couldn’t blame them because I would

probably do the same thing if I were in that position.” She continued: “But that is definitely not a good feeling. I feel very isolated” (1st interview, Cindy).

Anna’s case was somewhat different, as she spoke English more proficiently when she first came back to the US. However, to some degree, Anna shared the same feeling about being isolated from groups and that she felt she had lost her personality.

A: I was a leader of a project and also a class reader [ban-jang] many times in Korea but I found myself a least favorable member in the group when I had team projects here in the US. The one that I did not like the most was when I was a leader.

R: What would that member be like?

A: The one who is not participating in anything.

R: Oh, okay.

A: But the fact that I am not participating is not because I don’t want to but because I don’t have any idea...

R: Why didn’t you have any idea? You didn’t know the topic well?

A: I knew about the topic, but I never thought about that way. I never did that in Korea, so I guess I didn’t know what to do.

R: What was the topic about?

A: It is a project about a law-making process that we need to come up with new bills.

..

A: I was told later that other group members did not like me being so passive and quiet, so I was a bit sad because that was the student who I did not understand at all when I was in Korea. You know, but now that student is me.

A: 저는 작년인가 이제 저는 근데 한국에서는 되게 리더같은거도 많이 하고 반장도 되게 많이해서 그랬는데 근데 미국에 와서 팀프로젝트를 많이 하게 됐는데 그 안에서 제가 그룹프로젝트의 리더였을때 가장 싫어하던 애가 제가 된거 같아서

R: 가장 싫어하던 애가 어떤 앤데

A: 그냥 아무것도 안하는 참여를 안하는

R: 응

A: 근데 그게 제가 그러고싶어서 그러는게 아니고 널 아이디어가 없으니까 그리고

R: 왜 널 아이디어가 없었어? 토픽을 몰라서?

A: 토픽은 알았는데 그냥 한국이랑 교육방식이 다른거 같아요 그런 식으로 생각하는게 전혀 발달이 안되어 있어서 그래서 막

R: 어떤 프로젝트였어?

A: 법을 만들라는 프로젝트였는데

...

R: 나중에 제 친구가 알려줬는데 개네가 좀 못 마땅해했대요 안하는거 같아서 근데 진짜 제가 한국에 있을때 제일 싫어했던 애인데 생각해보니까 애들입장에서는 그럴수밖에 없어서 그때 되게 속상했었던거 같아요

(Anna, 3rd interview, 2017)

From the interviews, Anna appeared to be afraid of being seen as a passive and quiet Asian student. She said in our third interview: “I do not like to be considered as a quiet girl. I

mean I like being a calm person but not that quiet and invisible as teachers do not remember my name.”

Participants’ stories revealed that their personalities changed as they switched to a different language and culture to avoid any situation in which they needed to use English in front of native speakers. They tended to rely on their mobile devices to find ways to avoid situations where they were portrayed as someone that they did not want to: a less than competent group member, someone who was not outgoing, someone who did not understand vocabulary or concepts in group projects. Participants used their phones as a strategy to hide their own sense of being an international student and to participate as viable group members. They used their phones to connect to friends they knew, they Googled words that they did not know instead of asking friends or teachers, and they sometimes found a way to communicate with group members online rather than in-person.

In addition, Kaye tried to complete tasks in which she needed to have the least possible English-speaking proficiency. For example, instead of giving a presentation in front of the whole class, she volunteered for parts of a group project where she could work on something by herself, such as making a PowerPoint presentation/slides or video clips. Unlike Kaye, Cindy did not avoid in-person discussions, as she was usually in a situation where she needed to have group discussions in class. However, whenever she needed to check her words or there was a word or phrase that she did not understand, she immediately Googled those on her smartphone. She said that, in that way, she could follow group discussions without feeling that she did not understand any information. While like Kaye, Cindy did try to avoid most speaking requirements in group projects, but when she needed to present, she checked her pronunciations using either Google Translator or YouTube applications. Anna’s approach was very similar to the other two female

participants; she utilized her smartphone often during her group projects. When she encountered unfamiliar words, she would use her phone to Google them instead of asking her group members. She checked her projects until the very last minute, so she utilized her smartphone for the final check-up of her work before any deadlines.

It is interesting that all female participants, Anna, Cindy and Kaye, reported that they had negative feelings toward group projects, however, they used their smartphone as a strategy—a mobile device practice—to allay their fears. They all relied on their smartphones for extra help to fit into the group. They also used their smartphones as a strategy to disguise personalities they had in their home countries. Anna and Cindy used smartphones in school to escape a negative portrait of being isolated from other peers, and to disguise that they did not have any friends to talk with during lunchtime. Also, they relied on their smartphones for fast checking unknown words or phrases when they were in a group work not only to avoid miscommunications but also to not be seen as a ‘burdensome’ team member due to their perceived lack of English proficiency.

In addition to providing emotional support and instant help for participants, smartphones provided aids outside of school when participants needed it, providing reassurance during fearful situations, like group projects, due to their perceived limited English. Cindy, who arrived most recently in the US, mentioned in her third interview that she got help from her smartphone when she had any difficulties finding words in English.

C: I think I got a lot of help from it (smartphone) in my daily life. I can use [Google]

Translator and quickly look up the words, so it is so helpful. Also, you can just type the word to get the accurate pronunciation in the Translator app so...

R: Did you ever use it?

C: Of course, a lot.

R: What is the most useful feature?

C: I think the pronunciation is most useful.

...

R: When do you think you use it?

C: In school? When I have a presentation, I am very concerned with my pronunciation, so I tend to double check my pronunciation before it. [I also use it] when I chat with my friends. For example, when I don't understand what they say, I type [the word or phrase] in Google translator...

C: I think because I live here, I am concerned more about details that I would never be concerned in Korea. For example, when I need to order some food in Korea, you would just say “저는 이거랑 이거 주세요” [I want this and this, please], but here, I just don't know what to say. How would you say “주세요” in English. So, I hear what people say and they all said “can I get a something” or “can I have” so I now I know how to order food... I also learn these things by watching YouTube.

C: 저는 여기 사니까요, 한국에서는 필요없는 거도 좀 신경 쓰는 거 같아요. 막 예를 들어서 한국에서 음식 주문할 때 “저는 이거랑 이거 주세요” 이러잖아요, 근데 여기서는 뭐라고 해야 할지를 모르겠는 거예요. “주세요”를 어떻게 영어로 하는지. 그래서 다른 사람들이 말할때 잘 들었어요 그러니까 다들 “can I get a something” “can I have” 이러더라구요. 그래서 저도 이렇게 해요. 유튜브에서도 이런거 배우고요.

(Cindy, 3rd interview, 2017)

Cindy also mentioned that it was a such a relief that she had a smartphone with her when she is outside of school. This “relief” was common among female participants. Having a mobile phone and the assurance to be able to get help from it whenever and wherever they needed, provided additional emotional support to them. Having a smartphone resulted in a positive reaction toward the use of their mobile phones.

The smartphone, for Kaye, enabled her to avoid stressful in-person interactions. For example, Kaye often shopped online using her phone as it did not require in-person conversations. She mentioned that she did not shop often but when she needed to, she used her phone.

R: Okay, so let's see. So, you use your cell phone for online shopping and when you do online shopping, do you do online shopping often?

K: No.

(Kaye, 5th interview, 2017)

I asked her if shopping online made returning items harder. She said: “But you can email it back” (Kaye, 5th interview, 2017). Also, she added: “I can return anything really easily from my experience.” (Kaye, 5th interview, 2017).

Participants in this study presented their struggles with their identity and personality changes which resulted from their perceived limited English proficiency. Their concerns about their competence in speaking English led them to rely on mobile devices as an external resource to avoid situations in which they felt isolated. Their use of mobile devices enabled them to avoid

face-to-face interactions, especially in group projects, and a way to disguise who they really were, English learners who had questions about how and what to do in these projects.

Mobile devices, especially smartphones, also served as an aid that allowed them to be involved in situations. In any case, female participants relied on their mobile devices, especially their smartphones, to engage in social and academic settings.

This finding showed that all participants were strategic in their use of mobile devices. They showed identity-building and strategic intentions in the use of mobile devices. Participants' mobile practices in school revealed that they covered or shifted their ESL identities by continual check-ups on unknown words, especially by Googling how to properly pronounce such words. Research on accent and ESL identity (McCrocklin & Link, 2016) has shown that there may be links between accent and identity of ESLs. In McCrocklin and Link's study, students showed no fear of loss of their natural accent and many wanted to speak like native speakers. They also found that students also chose to acquire a native-like pronunciation as their language learning goal. Participants in the study revealed that their participants assimilated speech patterns, producing words in a native-like way by continually checking words using their smartphones.

Participants also used mobile devices, especially smartphones, in group projects for strategic intentions. At the same time, they used their smartphones to disguise their personalities, they also used them to avoid fear of losing their identity due to their perceived limited English proficiency. Anna and Kaye's use of their smartphones in a group chat showed that both of them did not want to be a "burden" to others. Instead of "bothering" other group members, they chose their smartphone to fill in the blanks in their vocabulary understanding. They negotiated the space between their knowledge of language and culture through their smartphones. Prieto-Arranz et al. (2013) called this negotiated space a "third virtual space." Prieto-Arranz et al. (2013)

argued that the use of the “third virtual space” such as blogs for ELs opens a door into cultural realities that the participants are often not familiar with. Therefore, this space can create a meaningful motivation for transnational communication. They suggested that promoting such translational space combined with a suitable transcultural methodology may offer a small yet pertinent support to the overall formation of a new generation of technology-familiar ESL students. In this current study, this finding showed that mobile devices could assured participants and provide an emotional asylum to them when they were struggling with cultural or linguistic differences in their academic and social interactions in the US.

Summary

In summary, findings indicated that all participants used mobile phones for language learning. Participants’ mobile device practices ranged from using basic features of the mobile phone such as recording and taking photos to the use of various specialized applications (e.g., academic English learning). All female participants commonly used recording features on their smartphones to boost their English listening proficiency, and all four participants utilized the phone camera feature to capture class dynamics easily. Findings also revealed that participants utilized various applications for language learning. They all used Quizlet and YouTube to check their vocabulary memorization or pronunciation. Their mobile device practices were inextricably linked to their social practices through their use of mobile phones. One unique social behavior of participants was that they learned new vocabulary while they were texting friends. Cindy mentioned that she learned many new words from texting and she said that those words could not have been learned elsewhere.

Further, findings showed participants’ intentions in the use of mobile devices. All four participants commonly stated that mobile devices, especially their smartphones, were small and

convenient. As they could take them anywhere, their smartphones were the primary device by which they could access the Internet in most situations. In common, all participants used mobile devices, especially their phones, because they were easy to carry and accessible from anywhere. When they needed an instant check-up, their mobile phone was a priority item they could access, as it was easy to search and always available to them. Anna and Kaye used mobile devices for academic purposes as they provided beneficial features that were not available in other devices. For Anna, the smartphone was her backup device when she needed to work on any group projects with others. For Kaye, her mobile phone provided a Q & A session with peers who were taking the same GRE course. Although all participants agreed about the necessity of mobile phones, they presented different opinions on how to use them properly and why people use them.

Furthermore, findings suggest that participants' school transition from their home country to the US resulted in a shift in their personality and identity, and their mobile devices provided the emotional support they needed. Participants' intention to use mobile phones sometimes masked their insecure personality to help them assimilate into a community to which they wished to belong.

Despite the fact that many people think that teenagers use their mobile phones mainly for entertainment purposes and 69% of phone-owning teenagers reported that their phone helps them entertain themselves (the Pew Report, 2010), all participants showed identity-building and strategic intentions in the use of mobile devices, including some degree of learning English using their phones. High school participants reflected social behaviors with their phones as they connected with friends and even teachers in and out of school. Participants showed that they have emotional support from their phones as they connect to the familiar world around them. In

the following chapter, each of the findings will be further explored by aligning them with what has been found in the literature.

CHAPTER 5

DISCUSSION

This chapter highlights the findings of the current study and uses them as a basis for the conclusions and subsequent recommendations. The present dissertation study examined four ELs' mobile device literacy practices. The purpose of the study was to explore participants' usage of mobile devices in their learning activities in and out of school. In addition, this study aimed to examine their usage patterns with multiple mobile devices, specifically, which devices they used and why they used certain features or applications for learning and social communications. The need to research this area comes from the increased use of mobile devices as tools for learning language, and my own personal experience learning English through more traditional means (e.g., books, websites, magazines). As an English learner who grew up in a pre-smartphone/mobile device generation, I wanted to understand the current trend of adolescent and adult ELs using various mobile devices and how these devices can help them learn a new culture and language. Since ELs' actual utilization of mobile devices in learning and socializing has not been extensively studied compared to teenagers' mobile device usage (Cummins, 2000), this study investigated the teenage and young adult EL populations in particular to extend the current literature in this area. While the number of participants was limited, insights regarding mobile device usage in learning can be gleaned and implications can be generated.

In the following sections, I discuss the study's findings, guided by the research questions. Further, I will focus on a discussion on the importance that access to mobile devices plays in ELs' ability to engage in social and academic learning, both face-to-face and online collaboration. Implications are presented at the end of this chapter and will also highlight the current status of ELs' mobile device usage.

Mobile Devices and Critical Literacy Practices

Literacy Practices of ELs and Mobile Devices. Dictionaries define literacy as ability to read and write. However, for many years, scholars and educators have proposed an idea that literacy is described not as just an internal cognitive state of one's reading and writing process. Rather, literacy is deeply connected to one's social practices (Heath, 1984; Street, 1993). This notion of literacy is not singular, and it implies that we have multiple literacies which different cultural groups have different ways of thinking and meaning-making process. Street (1993) proposed that the meaning of literacy is defined by the socio-cultural contexts in which it is established. This view of using texts through social and cultural ways of doing things adds to our understanding that literacy is multiple and subject to individual understandings. However, the notion of literacy as multiple social and cultural practices causes a great challenge to the American educational system where literacy is taught mainly as testable skills through standardized tests and numbers on the tests represented literacies of the student (Lee, 2011).

This view of literacy marginalizes ELs as it ignores the fact that there are multiple literacies which are associated with their social practices and cultural influences. Heath (1984)'s study showed that how a little understanding of the cultural influence on a child's behavior can mislead an understanding of the child's literacy practices. Often times, the child can be negatively misjudged in practicing his or her school life. Similarly, ELs' different cultural backgrounds also bring challenges for them as they attempt to adjust to the common practices or views of literacy in schools. With little knowledge of their cultural influences on their school behavior and literacy, sometimes ELs can be misjudged as being at-risk. While ELs have struggled to adjust to the "literacy practices" in their school, which values reading and writing practices, ELs' multiple literacies, including their social and cultural backgrounds, can be easily

ignored. Many ELs face great challenges as they attempt to fill in the blanks regarding knowledge of and experience with socio-cultural contexts of US schools.

Mobile devices, which have become ubiquitous within our society and now a part of people's everyday social practices, have shifted how literacy and cultural practices are viewed and realized. Technology practices always involve more than just using mobile devices. People gain meaning through the social, cultural, and historical practices of different groups. Users of current and emerging technologies are interacting, contributing, consuming, and shaping information while they use these tools (Gee, 2010). Although use of mobile devices and software are not "new", people find the "new" platform to explore how to use them and develop different literacy practices. People use mobile devices to virtually navigate a range of social situations from interacting with real people to cyber characters.

For ELs, this recent view of literacy as part of one's practices, allows them to use mobile devices make meaning through immediate access to information that helps them achieve their goals and communication with their social groups. Mobile devices, especially for mobile populations, are vital to ELs who immigrate to the US. These devices are a necessary part of developing literacy practices that position them to be successful in school. Further, as mobile devices have found their ways into the classrooms, ELs must have knowledge of how to use them for their own purposes—language, vocabulary, pronunciation—even when some websites they find important (YouTube) are blocked in school. Mobile devices serve as a good bridge for connecting ELs social practices and the multiple literacies that ELs can present. Thus, mobile device use in ELs' school learning has become even that much more important. The first step in examining the best way to use mobile devices in a learning environment is to understand ELs' perceptions of their use. Findings from this study suggest that participants had positive attitudes

in utilizing mobile devices. They stated that mobile devices further provided them opportunities to advance—and enhance-- their learning and their ability to make visible what they know. In the following section, participants' perceptions of using mobile devices along with their detailed mobile literacy activities will be discussed.

Critical Literacy (CL) and Mobile Devices. Hammond and Macken-Horarik (1999) define critical literacy as “the ability to engage critically and analytically with ways in which knowledge, and ways of thinking about and valuing this knowledge, are constructed in and through written texts” (p. 529). They argue that there are things such as ideologies, identities, and power relations that work critically to benefit some people and not to benefit others. In this sense, they claim the role of critical literacy is to support students in developing insights into the ways how those factors work in society and in which language works to establish and challenge those relations. For ELs, this is essential as critical literacy opens up options for them to defy or challenge the status they are in as ELs in school. Findings from this study show that participants in this study present how EL participants utilized mobile devices to get help, consume, or challenge their current status as ELs.

Janks (2010) articulated four orientations of critical literacy that provide insight into the social and literacy practices of ELs' use of mobile devices: access, domination, diversity/power, and design/redesign. These orientations take seriously the relation between power and language in literacy education, and provide a framework to study how ELs must often take the initiative to supplement their own learning, especially when websites are blocked, or they feel the need to assimilate to “fit in.” *Access* to mobile devices provides opportunities for ELs to participate in group projects, ask questions about their learning, and secure information they need on demand. *Domination* makes visible beliefs that maintain and reproduce status quo, especially around why,

for example, these four participants felt the need to disguise their identities and shift their personalities to “fit in.” When ELs have access and understand how dominance works (e.g., knowing how to learn through mobile practices), access invites *diversity*, or the “different ways of reading and writing the world in a range of modalities [that] are a central resource for changing consciousness” (Janks, 2010, p. 24). Mobile devices enabled ELs to communicate across modalities (e.g., texting, SnapChat, Quizlet) to fit in so as not to “burden” to their groupmates. These tensions are important to ELs use of mobile devices as they open up questions and discussions that bring into play *design/redesign*. That is, through mobile devices, ELs interpret, construct, and convey meanings drawing upon the available semiotic resources such as apps, websites, peers, etc. Interactions with others through mobile devices positioned participants to take more control over how they presented themselves and how this presentation engaged them in critical literacy.

In terms of *access*, participants had positive attitudes especially toward two features of mobile devices: mobility and convenience. In terms of mobility, all participants in this study showed that they utilized mobile devices as learning tools in and out of school and stated that mobile device mobility enabled them to learn anywhere and anytime. In terms of convenience, participants noted that the devices could be accessed nearly all of the time in school, with some exceptions. One specific example was when one teacher’s refusal to allow John to take photos of class notes which would have benefitted John as it had in his other classes. This study’s findings show that access and ease are critical to ELs’ learning.

Mobility and convenience of smartphones also allowed all participants to access their devices for a quick final check-up or review in school or to find meanings of unknown words and concepts. As Kaye said, she used her smartphone on her way to school or on the bus during

the commute to do an instant check on her English vocabulary memorization for her GRE test. All participants indicated that they were astute in the use of mobile devices and found them convenient and easy to access information. Findings from this study confirm the findings of previous studies by other researchers. Hashim et al. (2016) found that the success of mobile learning for ESL purposes depends on learners' acceptance of the technology, and the results showed that students had positive attitudes toward using mobile devices to learn English. Other studies showed a correlation between positive attitudes toward using mobile devices for learning and the actual outcomes of learning tell us that learners who have positive experiences and attitudes toward the use of mobile devices perform better in learning by using mobile devices (Godwin-Jones, 2011; Lai, 2016).

Janks (2000, 2010) described how language works to position readers in the interests of power. In addition to this, she explained that critical literacy views "language, other symbolic forms, and discourse more broadly, as a powerful means of maintaining and reproducing relations of dominance" (2000, p.176). The participants' identity and gender worked as "a powerful means of maintaining and reproducing relations of dominance." That is, this study found that mobile devices played a central role in the participants' adaptation into American culture and their ability to adjust their identities to fit particular situations. In situations where participants needed help in shifting their lives into a new culture, they had all experienced a stressful transition, with the exception of John. All female participants reported that they had struggled due to the adjustment to a new language and culture. Anna mentioned that she relied on her smartphone for an emotional support when she struggled in her adjustment to a new school life in the US: "When others chatted, I would be very isolated and awkward if I didn't have my phone. At least I could pretend to do something because I had my phone" (Anna, 3rd

interview, 2017). Cindy also mentioned, “I pretend to do some work using my phone. It is just awkward to sit there without any friends to talk to, you know. I would be seen as a total outsider.” (Cindy, 2nd interview, 2017). It is notable that the gender effect, evident in participants’ interviews, shows that female participants expressed a relationship between their mobile phones and identities more than John. Female participants expressed anxiety about their group work in class as they thought they could be a burden to others and because of this, female participants actively used their phones for following up with group messages if there were any words that they did not understand. Although the population in this study was small and cannot be extrapolated to all gender-related mobile phone use, it is noteworthy that one male saw the phone as a tool for learning, studying, and communicating rather than as a tool of identity. Gordon et al.’s (2017) study showed that mobile phones are understood as cultural tools. Their research with college students in three different countries (Oman, Ukraine, and the US), they found a link between mobile phones and identity showed that women tended to utilize their phones as identity-relevant. Further, they found that women were more prone to treat their mobile phones as objects that related to identity expression. This study provides some evidence to corroborate Gordon et al.’s study between mobile use and EL identity and adaptation.

The transition from their home country to the US led participants to adjust themselves, or sometimes cover their identities as ELs. This is the power that Janks (2010) argued comes with dominance in language. Female participants, in particular, felt that because of who they were, they had to use their mobile devices to hide who they were. Power of being born in America, with an American accent, and language proficiency prompted female participants to disguise themselves. To participants, mobile devices helped them deal with this power as well as provided the emotional support and extra help with adaptation that they needed. Cindy utilized her mobile

phone to constantly check her pronunciations. As she did not enjoy the fact that she distinctly stood out due to her accent, she spent extra time on practicing and checking her pronunciation, or recording peers' presentations, to learn how to speak more naturally. Anna also used her smartphone to cover her identity as "hard-working Asian student" in school. Her way of using her smartphone instead of a school tablet in the cafeteria exemplified her struggle to assimilate and to resist standing out as a typical Asian student in school. Hiding from others at lunch by using a smartphone rather than a school tablet or a laptop suggests that ELs believe they must fit in, rather than contribute to a larger sense of the importance of multiple language use. This finding corroborates research of Park (2010) that also suggests the need for ELs to "hide" their identities and language in institutional settings as they were not only physically relocated to an American sociocultural and institutional environment, but they were also cognitively relocated into different social settings.

Requiring ELs to hide their identities and give up much of their culture to participate as learners in schools is troubling. Zapata & Laman (2016) pointed out that teachers should promote, and honor students' emerging bilingualism and not ignore the linguistic resources that every student brings to the task. Students who are not English native speakers can facilitate their bilingual and biliterate identities by bringing their native language, identity, and culture to the school contexts and this allows students to be involved in active literacy practices. Researchers have also pointed out that EL students have many challenges in adjusting to the dominant discourse of school, which is measured by test scores and reading levels that both require solid English proficiency to succeed in the classroom (Nieto & Bode, 2009; McCloud, 2015; Souto-Manning, 2009). By using multiple approaches, such as building relationships or making visible

their native language discourse in school, ELs navigate institutional demands as the indications of success.

Because of this, many researchers attempt to find a relationship between mobile devices, especially mobile phones, and the users' identities to see if mobile devices can actually help them to build or change their identities. Researchers have shown that individuals across cultures, and of different genders, value their phones in various identity-relevant ways, and users make different phone-related activities and choices, so these activities and choices serve the process of identity formation (Baron and Campbell, 2012; Hjorth, 2006). The present study corroborates this research. Conversations with the participants in this study demonstrated that a smartphone is used in various identity-relevant ways. Anna's disguise of doing school assignments using a smartphone instead of school tablets, and Cindy's and Kaye's cases of using smartphones to get help in a group discussion, also indicate that in their school lives, mobile devices are used in showing or covering their identities and reducing a sociocultural gap between American and their native cultures.

In terms of *diversity*, and in this study, without *power*, Janks (2010) argued that managing the relationship between language and power should be particularly considered for teaching students, and in this case, ELs. Diversity with power enables people to express different ways of communicating and interpreting the many different types of texts using a range of modalities to change consciousness. Luke (2012) also argued that the current language and literacy education should take an approach to shed light on the struggles that marginalized groups, difference of gender, language, culture, race, and sexual orientation. Participants, like those in this study, are marginalized in schools, and often need additional help to succeed in school. Mobile devices can help them reduce the power relation that they might have in the class.

According to the Pew report (2018), roughly nine in ten American adults use the Internet, and especially among young adults, Internet usage is nearly ubiquitous. In addition to this, one in five American adults are “smartphone only” Internet users, meaning that they own a smartphone but do not have traditional home broadband service. Considering that the majority of people in the US communicate online these days, more and more online sites of learning have developed that require one to use mobile devices. The plethora of online sites that users can easily access lead students to depend on them to engage in all sorts of online activities.

The findings in this study reveal that ELs explored multiple navigations outside of textbooks and in-class materials. Participants navigated multiple resources, including websites, online lectures, and applications, using their mobile devices to receive appropriate aids for their schoolwork. As most of these resources were written in English, participants paid extra attention, time, and energy to their schoolwork. As the interviews indicated, all female participants recorded their class lectures and took extra time to reorganize their notes at home. However, teachers seemed not to consider the multiple modes that ELs must navigate simultaneously, which thus pushed participants to record their entire classes. Yet, ELs were conscious of the different ways in which they needed to communicate.

The benefit of using mobile devices for this study’s participants allowed them to generate meaningful outcomes in several ways. First, findings from this study uniquely presented mobile devices as a resource support tool for participants’ social and academic work. Their various uses of smartphones showed that the features of smartphones helped them to be successful in school. Participants in this study sought extra help from outside sources, especially online and through their mobile devices. Their practices allowed them to navigate online sources more easily and conveniently. The participants used mobile devices not only to interact with people, but also to

find additional resources. Participants' use of the basic features of smartphones, such as recording and taking photos, showed that mobile devices provide extra help with their academic resources.

Second, participants used mobile devices as academic resources for learning languages. The challenges that ELs face in regular classrooms may prevent them from applying their pre-existing knowledge to topics they learn about in the classroom (Kim, 2015). Anna and Cindy's constant checking of the pronunciations of unfamiliar words using Google and YouTube, and Kaye and John's utilization of the memorization practice application Quizlet explained that mobile devices provided that extra resource for pronunciations and vocabulary building. In this sense, this study highlights the pedagogical advantages of mobile devices through Vygotsky's (1978) the theory of the Zone of Proximal Development (ZPD) to generate positive learning outcomes. Participants used their mobile devices to supplement their knowledge of vocabulary, pronunciation, and content. Further, they used their mobile devices to communicate with others to find out information. For example, Cindy texted her friends to use expressions she learned on YouTube (Cindy, 5th interview, 2017) and Anna also expressed that she used smartphones to communicate with her friends (Anna, 1st interview, 2017). Vygotsky (1978) argued that knowledge is formed through conversation and interaction with other peers, and believed that in knowledge construction, people use language as a tool to create meaning and successful learning from scaffolding.

Third, from time to time, participants reported that they needed an external resource for their learning, and for the challenges that ELs have in content classes, especially when they had to simultaneously navigate the multiple modes that educators expected of their students—both native and non-native English speakers. Various resources, including Google Translate, were

bridges to learning content written in English, as participants were able to copy and paste content into this software for conversion into their native languages, and thereby understand the content better. During our interviews, participants expressed their frustrations about their lack of familiarity with certain historical topics. Both Anna and John picked US History as their most challenging course, as they were not familiar with all the topics that other students were supposed to know. They used their phones to navigate unknown information such as Googling such information or certain terms. Anna and Cindy were active users of Google Translate and Kaye constantly looked up meanings of words in class whenever she found unknown words. Mobile devices allowed participants instant access to resources when they need particular help. Anna's interview revealed that she they found more useful information from outside sources than in the textbooks or teachers' lectures. John and Anna's use of the website Khan Academy and Kaye's participation of online GRE classes also evidence the importance that outside resources and on-demand access supported their learning. ELs in this study often found more information on their mobile devices than they could find in textbooks. Anna's reason for using mobile devices indicated that she could find more information online than the textbook provided. Participants' various reasons for using mobile devices showed that they actively sought extra help from outside sources, especially online and on their mobile devices, which allowed them to navigate online sources more easily and conveniently.

Participants also utilized multiple modes, including mobile devices, to reduce the gap of unfamiliar topics presented in school. Participants like Anna and John reported that allusions found in literature, history, and culture, not part of participants' current understandings and knowledge, were difficult for them. For participants, listening to teachers' lectures who often used PowerPoint, was challenging. They had to listen, read bullet points, watch embedded video,

read photos, all within the short period of time relegated to each PPT slide. However, most importantly, these modes carry cultural information that participants were unfamiliar.

As technology advances bring new software, the different ranges of modes that educators can use to teach are becoming more sophisticated. At the same time that they learn content, culture and language, ELs must navigate visual, aural, and language modes through which content is delivered. As a compounding issue, designers and creators of multi-media forms of communication may leave out essential steps, presuming that the viewer understands what the designer-communicator is saying. Thus, mobile devices can provide ELs with immediate access to some of the information that may not be part of a teacher's instruction, as teachers presume most students know of these events (Hew & Brush, 2007). Shin, Cho, and Albers (2016) found in their study of three native Korean English teachers who attended live web seminars or viewed archived seminars, that navigating multiple modes was challenging for Korean teachers, especially in real time, as they could not follow the chatting, PPT, and lecture at the same speed as other native speakers would do.

Many researchers (Green, 2013; Hirvela & Du, 2013; Phakiti & Li, 2011) have pointed out the difficulty of content written in English for ELs in navigating school content. This study confirms findings from these other studies and extends insights into the significance of mobile devices to provide access to texts in many modes as a means to fill in information that textbooks and teacher lectures and notes may not. Consider, the example of civil rights activist, Rosa Parks. She is often depicted in textbooks, sitting at the front of the bus, with the description that simply states that she was "tired." Yet these same books often leave out the photos and videos that show this was an organized movement to fight for equal rights. These historic moments are often not a part of ELs' previous learning, and even though textbooks provide "facts," these facts are

embedded with cultural, political, and social beliefs of those who write these textbooks. Scholars like Shannon (1996) argued that the poverty and social disadvantages relate to literacy research and policy issues and how that posits the poor, the public, students and teachers as agent in redistribution of economic, cultural, political capital in the US.

Thus, having access to mobile devices to flesh out the simple facts provides ELs with the cultural knowledge associated with historical knowledge, lessens the power in diversity, and helps them address the dominance that prevails in school content and practices. When all auxiliary materials that accompany content textbooks are considered, it is understandable that ELs sometimes need extra resources to overcome their challenges with content comprehension.

Often, ELs whose native language is not English need extra help in and outside of school to successfully adjust in regular classrooms. ELs often enter schools with varied levels of English and individual and different support needs. Thus, it is important to understand that ELs take ownership of mobile device as learning tools not just entertainment which can be explained as *design/redesign* of mobile device usage. The findings in this study showed that mobile devices enabled participants to interpret, construct, and convey meanings through mobile apps, websites, peers, etc. This notion of design/redesign through these semiotic resources afforded participants' to convey their learning, take snapshots of notes/lectures, or ask questions around their learning required in their classes. They were able to access resources ancillary to their content books, record teachers' lectures, take notes using their cameras, and check their pronunciation accuracy using multiple apps. Thus, mobile devices served as more than just an entertainment tool for ELs. Mobile devices enable them to compensate for their non-native-ness and allow them to participate in class presentations without feeling like outsiders, but rather like insiders who have adjusted to regular classrooms. Shannon (1995) argued that when more than one language or

various languages exist together, one will often be perceived as superior, desirable, and necessary, whereas the other will be seen in the opposite manner. The high school participants in this study expressed concerns about being identified as non-native speakers due to their accents when speaking English and accessing their phones to study course content during lunch. These participants appreciated being able to monitor their language use before presenting in public, as this allowed them to be seen as more like other English speakers. Sometimes, their non-native use of English may visibly show their EL-ness more than they wish. Living as an international student in the US was challenging for participants because tests used to show knowledge of student performance were administered in English. With English being the only language currency that is used in tests, ELs often fail to meet the law's annual progress requirements (Butler & Stevens, 2001). As such, ELs often feel isolated and neglected for using different languages (Menken, 2009). Participants in this study tried to narrow this gap of showing their non-native-ness or EL-ness by, for example, getting instant help from mobile phones, such as by checking their pronunciation. However, having said this, the push toward relinquishing some of their own EL-ness is troubling. The question, what Discourses around ELs are in place in English-speaking settings, specifically schools, that encourage—and even force--ELs to “hide” their EL-ness? Why is it that their second language and culture are often not valued as resources in school? These questions are clearly important in how ELs are perceived and treated in schools.

The findings also brought attention to the various digital tools that participants used to engage in class more actively and to be more productive learners. In line with Gee's (2010) argument that users of new technology tools interact, contribute, consume, and shape information, the four participants in this study engaged in various mobile activities as part of their literacy and social practices. They interacted with peers and teachers using mobile devices,

consumed new knowledge they encountered from using the devices, and then used this to shape their academic learning in and out of school. When Cindy saw unfamiliar acronyms from chatting with her friends, she Googled them using her phone to clarify their meanings. Anna also Googled new words and searched YouTube to get a clear pronunciation of the words she encountered from messaging with her classmates. Mobile device immersion of participants can make ELs more productive and active learners in seeking information.

As this study found, critical to participants' success was the use of their mobile phones to take photos of teachers' notes and to record lectures. For Anna, she found that recording feature helped her maintain good grades. She used the recording feature when she had review sessions for the tests (Anna, 2nd interview, 2017). For Kaye, the recording feature enabled her to capture information from a professor who spoke quickly so she could not understand the contents fully (Kaye, 2nd interview, 2017). This finding confirms the findings of other studies. Liu and Chen (2015) found that mobile photo-taking activity achieved a more constructive performance than that of the control group in that the mobile photo-taking task improved the learners' phrase ability in a long term. Also, other researchers (Wong, 2012; Wong & Looi, 2010) encountered a similar result from using mobile photo-taking features to enhance ELs' English vocabulary-memorizing skills. In this study, participants' active learning involved the importance of mobile devices in capturing information to support their learning. They took photos, recorded lectures, and recorded their voices to check their pronunciations, which lead to more profound learning as learners were encouraged to engage in productive learning activities.

Through mobile device use, ELs may have more opportunities to learn independently. Many researchers (Craig, Paraiso, & Patten, 2007) of mobile learning argue that mobile technology is beneficial for students learning languages because such technology can help the

students engage in classroom activities. In this study, participants' various utilizations of mobile devices and their features support researchers' claims that mobile technology works for helping ELs engage in classes. In addition to this, the participants' reasons for using mobile devices indicated the benefits that mobile devices can offer. For example, Kaye's usage of different learning applications in her phone such as Quizlet showed how she could memorize English vocabulary on the way school or home while she was sitting on the school shuttle bus and she could not be restricted by physical places for learning languages.

However, many traditional classrooms do not offer a system of navigating multiple modes including using mobile devices (Murray & Olcese, 2011). Most high schools have banned the use of mobile devices, especially mobile phones, in the classroom. The high school participants in this study explained that the school prevented the online access of websites that they often used for getting help in English. For example, they could not access YouTube, even though it was their most frequently used website for checking unknown words and pronunciation. ELs sometimes need to rely on asking for additional resources, such as searching for websites to understand content that they are not familiar with. In this case, it is critical that the school remove its firewall that prevent ELs from accessing online resources to negotiate language and content. In this sense, it is critical that the schools' firewalls that prevent ELs from accessing online resources to negotiate language and content. Often, ELs express frustration that they cannot get the instant help in school that they can receive at home by browsing multiple resources. Kim's (2015) report on ELs research project processes in a high school setting indicated that when ELs were given a research project in a biology class that required an online search, almost half of participants (44.4%) reported that searching and finding information was especially hard. A majority of the participants in this study thought that this difficulty was caused

mainly by a lack of English vocabulary in general, and insufficient background knowledge on their topic. Also, they found it complex to summarize information and put it in their own words. To overcome these challenges, the students may wish to have someone who knows the project and the topic and could help them when their teacher is not available. Thus, this study provides some evidence to suggest that schools understand the need for ELs to have access to online resources and devices to support their learning. In this sense, mobile devices provide ELs with the necessary help that they need when their teachers are not available, yet they still need instant help to search for information.

This study offers evidence that software in different language modes supported by mobile devices may enable many ELs to perform searches on topics in their native languages so that they have a clear understanding of the concept of the project before they start working in English. Findings from this study suggest that ELs often need help in finding precise information and looking up vocabulary and pronunciation. Anna explained that she typed words that she heard in Google in order to get a precise spelling of the words (Anna, 2nd interview, 2017). Cindy also mentioned that if she did not know how to pronounce certain words, she typed words in Google so that she could hear the correct pronunciation of the words (Cindy, 4th interview, 2017). As high school participants faced challenges in navigating simultaneously multiple modes in English and searching for information, so too do university students like Kaye. She, too, had trouble following a professor's lecture as it was too fast to understand for her. She had to work doubly hard to record the lectures, take notes, and study them after the lectures. Anna and Cindy used their phones to record and capture lectures in class to listen repeatedly to the audio file and review their sessions later. Thus, there can be no doubt that opening up mobile device spaces in classrooms for ELs is essential for their success.

Lai (2016) presented statistics which showed that a key factor in promoting the active usage of mobile immersion could be the attitudes of learners and how they handle the platform. Active learners would enhance learning outcomes. Additionally, the learner attitude and group dynamics could be an important area that motivates or demotivates a student to use mobile immersion as a habit. Godwin-Jones (2011) argued that the ubiquitous affordability of smartphones allowed ELs access to various features of smartphones that helped them in organizing and keeping up with their classes. This study contributes to the knowledge base around ELs' attitudes around their use of mobile devices.

Implications for Practice

Several important implications for practice arose from this study: 1) rethinking what constitutes literacy practices, especially with ELs; 2) teaching matters; and 3) support systems should be integrated and comprehensive.

Rethinking EL Literacy Practices

With growing numbers in the ownership of mobile devices among teenagers and young adults, including the EL population, changes must be made to the educational system to support mobile device access and use that ELs need to navigate the linguistic and cultural expectations in schools. Teacher education must include knowledge of a range of applications and use of mobile devices that all students might benefit from in content classes (Kim, 2015; O'Bannon, B., & Thomas, K., 2015). Curriculum developers and professional bodies should provide guidelines and resources for teachers to assist them in adopting multi-representational approaches (e.g., PPTs, audio, video, image), and consider more carefully the benefits of educating teachers in using such approaches through professional development. This would ensure that teachers would be conscious of individual student needs and begin to facilitate a more student-centered approach

to teaching and learning. This incorporation of mobile devices in teaching would also benefit teachers' own personal knowledge of technology as well. Teachers can have an opportunity to consider a broad range of perspectives, not just a single perspective offered in the textbook, and encourage their students review one question that leads to another when searching information and perspectives on topics.

Rethinking Assumptions about Mobile Devices as an Entertainment Tool

Many educators expressed their concerns about using constant mobile devices in classrooms. Recent study on exploring perceptions in mobile phone policies with 1226 elementary, middle, and high school teachers, parents, and students in China (Gao et al., 2017) revealed that majority of teachers thought that the use of mobile phones during classes distracted students from learning. This study contributes to other literature—and public opinion-- that a number of people do not agree on the use of mobile devices in school and for academic purposes. Educators assume that students use mobile devices, especially cellphones, as primary for an entertainment tool. This dissertation study, however, provides evidence that participants used mobile devices for a range of educational and academic purposes. As the interview excerpts indicated, participants, all of whom were ELs, in this study utilized multiple apps and features of their smartphones as supplementary academic resources alongside their classroom resources. Thus, educators should re-think their current understanding of mobile devices as entertainment tools and see how mobile devices can provide access and support for all students—not just ELs-- in their classes, and how they could support students, who now grow up with mobile devices as an everyday tool in their social and academic practices.

Teaching Matters

Teachers may also find ways to support and encourage ELs' pre-knowledge in content, and to connect their past experiences to their current experiences in the US contexts. For example, US history teachers can create assignments that compare and contrast other cultures' history in relation to US history. Teachers can allow students to make these connections. While curriculum in schools is often limited to particular subject areas like US history, teachers could consider projects that encourage students to connect historical events between countries within timeframes and how mobile devices can encourage broad and international perspectives. Also, teachers can use ELs' current knowledge about navigating mobile devices to help them gain success in this context. Kearney et al. (2015) investigated teachers' utilization of various pedagogical features of mobile learning to understand contemporary mobile learning pedagogies in education. Given the self-evident autonomy and choices which young people exercise with and through their mobile devices in their lives beyond school, this is an aspect of teachers' practice which deserves urgent attention and understanding.

Integrated and Comprehensive Support System

Findings in this study suggested that high school participants were prohibited from accessing the Internet freely on their school tablets in school due to firewalls. As a result, they had to "ask for extra help" from their smartphones. This can limit their attainment of the face-to-face help that they need, especially for EL students, who require extra time and energy to browse resources in English. Further, not all Internet resources are academically accessible to ELs because of the linguistic and cultural differences. Teachers may need to be aware of situations where EL students need extra help, and it is also necessary to encourage teachers to ask students

about their applications to gain a clear understanding of what they need and what applications they use in asking for help.

Teachers should consider the multiple modes that ELs must navigate simultaneously. Navigating through multiple modes in the class (lecture, PowerPoints, spoken language, video) is challenging for ELs, especially if the content is something with which they are not familiar (e.g., US history). For ELs, being able to search outside resources and use multiple features on their mobile devices can enable them to pause the lecture and replay it to better understand the content and take notes. In addition to this, teachers can easily reduce the background knowledge gap between ELs and other students by introducing extra resources that ELs can use through their mobile devices. Realistically, it is nearly impossible for teachers to consider every EL's needs and understand exactly what they are and are not familiar with.

Thus, it is critical for teachers to understand their needs and actively find ways to incorporate multiple resources in the classroom. In O'Bannon's and Thomas's (2015) study of 245 pre-service teachers in the US, almost half (45%) supported the use of mobile phones in the classroom, while one-fourth (25%) did not support it, and one-third (30%) reported uncertainty. The ban on mobile phone use in the classroom has made it impossible for educators to evaluate their instructional potential, or lack thereof. Now that we have an increasing number of individuals who own mobile phones, and a clearer image of the perceived benefits and obstructions associated with mobile phone use, teachers, schools, and administrators need to reflect on the resources that they offer to ELs. To emphasize the benefits and diminish the drawbacks associated with mobile device learning, teacher preparation programs need to instruct pre-service teachers on how to use them effectively in the classroom. Furthermore, there needs to

be more emphasis on using technologies and professional development for teachers. As more and more online courses are offered to students, both at the high school and university levels, it is important to harness mobile devices as learning, and language-learning, tools.

Implications for Research

Based on this research, additional research is warranted on the extent to which English learners rely on textbook/mobile devices. For more and more students, website searches are common for their academic purpose, not only for entertainment. Thus, additional research that studies how and when students of all nationalities access information on mobile devices may suggest further implications for classroom teachers. Also, studies that investigate the extent to which ELs perceive mobile devices as learning tools or entertainments or what kinds of applications they use for those purposes must be further researched. By providing further study on different utilization of learning apps, educators can learn how to incorporate certain apps in their curriculum. It is also important to investigate the resources available and prepare the class for ELs learning as such research could provide researchers, educators, and teachers with some additional insights on current status of mobile resources available to ELs and how this can be further developed to help ELs. For example, a more extensive use of classroom environment application of mobile devices may provide additional information concerning the conclusion of this study.

Furthermore, a similar study with different ethnic groups and different socio-economic status may provide diverse views on EL populations and their use of mobile devices. This investigation was limited to Asian English learners, all of whom showed little difficulty in having access to mobile devices and were proactive in their use of these devices to learn language and content. Research has indicated that using mobile devices may reduce a digital gap

between teens in the US (Brown et al., 2011), thus, the continued research on mobile devices as a bridge to diverse adolescent EL groups should provide additional insights to educators.

Limitations of the Study

Several limitations are noted in this study. First, an evident limitation of the dissertation study would be an inability to transfer the results to a larger or another ethnic population. This case study examined only a few students and specifically an Asian EL population, as one would expect with this methodology (Yin, 2003). In addition to this, with this limitation in mind, however, I established methodological transparency for future researchers and readers. I triangulated data sources and provided thick descriptions of the data to gain credibility and validity of the study. Second, due to the nature of the realistic qualitative inquiry, the effort and choice to highlight themes in the data was subjective. The same data set that I interpreted could yield different interpretations from another researcher and I might have unintentionally overlooked some important themes. As part of a conscious effort to reduce misinterpretations, I read the transcripts and coded data multiple times to develop a coding manual. During the data analysis process, I also invited peers in different stages of data analysis and they provided me comments and fresh looks on reading data. These peers were native Korean speakers, and they could help me with cultural and linguistic interpretations. Even though they were not Chinese speakers, they are a part of an Asian culture and were able to help me understand Kaye's statements.

Despite these limitations, this dissertation study hopefully sheds light on how some Asian EL teenagers and young adults use mobile devices in and out of school and how their mobile devices act a role in their identities.

Conclusion

Referring to the results of the study, this study presented findings that showed that mobile devices played an essential role to the participants' lives in and out of school. Their utilizations of diverse apps, features, and sources of mobile devices demonstrate great potentials for mobile technologies in educational purposes. In addition to this, it is important to note that participants in this study showed that language is not always learned in classroom. Their continued learning of the language involved self-study using mobile devices. When we consider the number of online courses offered every year and increasing numbers of EL populations in the US schools, the current study has made significant contributions to the existing literature. This study offers diverse views in actual mobile devices usage between EL teenagers and young adults.

References

- Achiba, M. (2003). *Learning to request in a second language: A study of child interlanguage pragmatics*. Clevedon, UK: Multilingual Matters.
- Agca, R. K., & Ozdemir, S. (2013). Foreign language vocabulary learning with mobile technologies. *Procedia - Social and Behavioral Sciences*, 82, 781-785. doi: 10.1016/j.sbspro.2013.06.147
- Ajayi, L. (2009). English as a second language learners' exploration of multimodal texts in a junior high school. *Journal of Adolescent & Adult Literacy*, 52(7), 585-595.
- Albers, P. (2006). Imagining the possibilities in multimodal curriculum design. *English Education*, 38(2), 75-101.
- Albers, P., & Harste, J. C. (2007). The arts, new literacies, and multimodality. *English Education*, 40(1), 6-20.
- Albers, P., Vasquez, V. M., & Harste, J. C. (2008). A classroom with a view: Teachers, multimodality, and new literacies. *Talking Points*, 19(2), 3-13.
- Ally, M., Schafer, S., Cheung, B., McGreal, R., & Tin, T. (2007). Proceedings from the 6th Annual International Conference: *Mobile Learning*, Melbourne, Australia.
- Alvermann, D.E. (2008). Why bother theorizing adolescents' online literacies for classroom practice and research? *Journal of Adolescent & Adult Literacy*, 52(1), 8-19.
- Anaraki, F. (2009). Proceedings from: *International Conference on Computer Engineering and Technology*, Singapore. Retrieved from <http://www.journal.au.edu>
- Anderson, M. (2015). Technology device ownership: 2015. The Pew Research Center. Retrieved from <http://www.pewInternet.org/2015/10/29/technology-device-ownership-2015/>

- Angay-Crowder, T. (2016). *L1 and L2 doctoral students' intertextuality and academic literacies at the GCLR web seminars* (Doctoral dissertation). Retrieved from https://scholarworks.gsu.edu/mse_diss/35/
- Antenos-Conforti, E. (2009). Microblogging on Twitter: Social networking in intermediate Italian classes. In L. Lomicka, & G. Lord (Eds.), *The next generation: Social networking and online collaboration in foreign language learning*, (59), San Marcos, TX: CALICO Texas State University.
- August, D., & Hakuta, K. (Eds.). (1997). *Improving schooling for language-minority children: A research agenda*. Washington, D.C.: National Academies Press.
- Bailey, K.M. (1983). Competitiveness and anxiety in adult second language learning: Looking at and through the diary studies. In H.W. Seliger & M.H. Long (Eds.), *Classroom oriented research in second language acquisition* (67-103). Rowley, MA: Newbury House.
- Banister, S. (2010). Integrating the iPod Touch in K-12 education: Vision and vices. *Computers in the Schools*, 27, 121-131.
- Baron, N., & Campbell, E. (2012). Gender and mobile phones in cross- national context. *Language Science*. 34, 13–27.
- Baxter, P., & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. *The Qualitative Report*, 13(4), 544-559. Retrieved from <http://nsuworks.nova.edu/tqr/vol13/iss4/2>
- Belcher, D. (1999). Authentic interaction in a virtual classroom: Leveling the playing field in a graduate seminar. *Computers and Composition*, 16(2), 253-267.

- Benson, L., Elliot, D., Grant, M., Holschuh, D., Kim, B., Kim, H.... & Loh, S(2002). Proceedings from: *World Conference on Educational Multimedia, Hypermedia and Telecommunications*. Chesapeake, VA: AACE.
- Bernard, H.R. (2002). *Research Methods in Anthropology: Qualitative and quantitative methods*. 3rd edition. Walnut Creek, CA: AltaMira Press.
- Black, R.W. (2007). Fanfiction writing and the construction of space. *E-Learning*, 4(4), 384-398.
- Black, R. W. (2009). Online fan fiction, global identities, and imagination. *Research in the Teaching of English*, 397-425.
- Bloomberg, L., & Volpe, M. (2008). *Completing qualitative research: A roadmap from beginning to end*. Thousand Oaks, CA: Sage Publication.
- Bogdan, R. & Biklen, S. K. (1982). *Qualitative research for education: an introduction to theory and methods*. Boston, MA: Allyn and Bacon.
- Bogdan, R. C., & Biklen, S. K. (2003). *Qualitative Research for Education: An introduction to Theories and. Methods (4th ed.)*. New York: Pearson Education
- Borup, J., West, R. E., & Graham, C. R. (2012). Improving online social presence through asynchronous video. *The Internet and Higher Education*, 15(3), 195-203.
- Bourdieu, P. (1977). *Outline of a Theory of Practice* (Vol. 16). Cambridge: Cambridge University Press.
- Bourelle, A., Bourelle, T., Knutson, A. V., & Spong, S. (2016). Sites of multimodal literacy: Comparing student learning in online and face-to-face environments. *Computers and Composition*, 39, 55-70.
- Brown, K., Campbell, S. W., & Ling, R. (2011). Mobile phones bridging the digital divide for teens in the US?. *Future Internet*, 3(2), 144-158.

- Bruns, A., Cobcroft, R. S., Smith, J. E., & Towers, S. J. (2007). Proceedings from: *Mobile Media*, Sydney, Australia. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.92.200&rep=rep1&type=pdf> learning technologies
- Burston, J. (2011). Realizing the potential of mobile phone technology for language learning. *The IALLT Journal*, 41 (2), -15.
- Butler, F. A., & Stevens, R. (2001). Standardized assessment of the content knowledge of English language learners K-12: Current trends and old dilemmas. *Language Testing*, 18(4), 409-427.
- Chen, B.M. & Denoyelles, A. (2013). Exploring students' mobile learning practices in higher education. *Educause Review*, 7. Retrieved from <https://er.educause.edu/articles/2013/10/exploring-students-mobile-learning-practices-in-higher-education>
- Chen, H.R., & Huang, H.L. (2010). User acceptance of mobile knowledge management learning system: *Design and analysis*. *Educational Technology & Society*, 13(3), 70-77.
- Cheng, X. (2000). Asian students' reticence revisited. *System*, 28(3), 435-446.
- Choi, J. (2009). Asian English language learners' identity construction in an after-school literacy site. *Journal of Asian Pacific Communication*, 19(1), 130-161
- Churcher, K., Downs, E., & Tweksbury, D. (2014). "Friending" Vygotsky: a social constructivist pedagogy of knowledge building through classroom social media use. *Journal of Effective Teaching*, 14(1), 33-50.
- Clough, G., Jones, A. C., McAndrew, P., & Scanlon, E. (2008). Informal learning with PDAs and smartphones. *Journal of Computer Assisted Learning*, 24(5), 359-371.

- Cobcroft, R. (2007). Literature review into mobile learning in the university context. Retrieved from <http://eprints.qut.edu.au/archive/00004805/>
- Coiro, J. (2003). Exploring literacy on the Internet: Reading comprehension on the Internet: Expanding our understanding of reading comprehension to encompass new literacies. *The Reading Teacher*, 56(5), 458–464.
- Comas-Quinn, A., Mardomingo, R., & Valentine, C. (2009). Mobile blogs in language learning: making the most of informal and situated learning opportunities. *ReCALL*, 21(1), 96-112.
- Conway, P. F., & Amberson, J. (2011). Laptops meet schools, one- one draw: m- learning for secondary students with literacy difficulties. *Support for Learning*, 26(4), 173-181.
- Cook-Gumperz, J. (Ed.). (1986). *The social construction of literacy*. Cambridge: Cambridge University Press
- Craig, D. V., Paraiso, J., & Patten, K. B. (2007). Proceedings from: *Society for Information Technology and Teacher Education International Conference*. Chesapeake, VA.
- Retrieved from http://74.125.155.132/scholar?q=cache:5fPrzkP7CMJ:scholar.google.com/+eLiteracy+and+literacy:+Using+iPods+in+the+ESL+classroom&hl=en&as_sdt=10000000 000000
- Crow, R., Santos, I. M., LeBaron, J., McFadden, A. T., & Osborne, C. F. (2010). Switching gears: moving from e-learning to m-learning. *Journal of online learning and teaching*, 6(1), 268.
- Creswell, J. W. (2014). *A concise introduction to mixed methods research*. Thousand Oaks, CA: Sage Publications.

- Crescente, M. L., & Lee, D. (2011). Critical issues of m-learning: design models, adoption processes, and future trends. *Journal of the Chinese Institute of Industrial Engineers*, 28(2), 111-123.
- Cui, J. (2011). Research on high school students' English learning anxiety. *Journal of Language Teaching and Research*, 2 (4), 875-880. doi: 10.4304/jltr.2.4., 875-880
- Cummins, J. (2000). Academic language learning, transformative pedagogy and information technology. *TESOL Quarterly*, 34(3), 537-548.
- Dashti, F. A., & Aldashti, A. A. (2015). EFL college students' attitudes towards mobile learning. *International Education Studies*, 8(8), 13-20.
- Davies J. & Merchant G. (2007). Looking from the inside out: Academic blogging as new literacy. In Lankshear C., Knobel M. (Eds.), *A new literacies sampler* (167–198). New York: Peter Lang.
- Dennen, V. P. (2008). Pedagogical lurking: Student engagement in non-posting discussion behavior. *Computers in Human Behavior*, 24(4), 1624-1633.
- Dubé, L., Bourhis, A., & Jacob, R. (2005). The impact of structuring characteristics on the launching of virtual communities of practice. *Journal of Organizational Change Management*, 18(2), 145-166.
- Duff, P. (2008). *Case study research in applied linguistics*. New York, Routledge.
- Dunlap, J. C., & Lowenthal, P. R. (2009). Tweeting the night away: Using Twitter to enhance social presence. *Journal of Information Systems Education*, 20(2), 129-135.
- Education Week (2018). Retrieved from <https://www.edweek.org/ew/articles/2016/11/09/what-is-digital-literacy.html>
- Ellis, R. (2004). Down with boring e-learning! Interview with e-learning guru Dr. Michael W.

- Allen. Learning circuits. Retrieved from. http://www.astd.org/LC/2004/0704_allen.htm
- Eppard, J., Nasser, O., & Reddy, P. (2016). The next generation of technology: Mobile apps in the English language classroom. *International Journal of Emerging Technologies in Learning*, 11(4), 21-27.
- Ferdous, F. (2012). A case study of first-year non-English undergraduate students' English learning anxiety in Bangladesh. *Journal of Education and Practice*, 3(9), 1-11.
- Flewitt, R. (2006). Using video to investigate preschool classroom interaction: education research assumptions and methodological practices. *Visual communication*, 5(1), 25-50.
- Gall, J., Gall, M.D., & Borg, W.T.(2005). *Applying educational research* (5th ed.). Boston: Pearson Education.
- Gao, Q., Yan, Z., Wei, C., Liang, Y., & M, L. (2017). Three different roles, five different aspects: differences and similarities in viewing school mobile phone policies among teacher, parents, and students. *Computers & Education*, 106, 13-25.
- Garcia, G. E., & Godina, H. (2004). Addressing the literacy needs of adolescent English language learners. *Adolescent literacy research and practice*, 304-320.
- Gardner, R.C. (1985). *Social psychology and second language learning. The role of attitudes and motivation*. London, England: Edward Arnold.
- Gee, J. (2003). *What video games have to teach us about learning and literacy*. New York: Palgrave, Macmillan.
- Gee, J. P. (2004). *Situated language and learning: A Critique of traditional schooling*. London: Routledge.
- Gee, J. P. (2009). *New digital media and learning as an emerging area and" worked examples" as one way forward*. Cambridge, MA: MIT Press.

- Gee, J. P. (2010). A situated-sociocultural approach to literacy and technology. In Baker, E., *The new literacies: Multiple perspectives on research and practice*, 165-193. New York: Guilford Publications.
- Ghandoura, W. A. (2012). A qualitative study of ESL college students' attitudes about computer-assisted writing classes. *English Language Teaching*, 5(4), 57-64.
- Godwin-Jones, R. (2008). Emerging technologies: Web-writing 2.0: Enabling, documenting, and assessing writing online. *Language Learning & Technology*, 12(2), 7-13.
- Godwin-Jones, R. (2011). Emerging technologies mobile apps for language learning. *Language Learning & Technology*, 15(2), 2-11.
- Gordon, C., Al Zidjaly, N., & Tovaes, A. V. (2017). Mobile phones as cultural tools for identity construction among college students in Oman, Ukraine, and the US. *Discourse, Context & Media*, 17, 9-19.
- Gough, P.B. (1972). One second of reading. In J.F. Kavanagh & I.G. Mattingly (Eds.), *Language by ear and by eye: The relationships between speech and reading*. Cambridge, MA: MIT Press.
- Graff, H. J. (1986). The history of literacy: Toward a third generation. *Interchange*, 17(2), 122-134.
- Grbich, C. (2012). *Qualitative data analysis: An introduction*. Thousand Oaks, CA: Sage Publication.
- Green, S. (2013). Novice ESL writers: A longitudinal case-study of the situated academic writing processes of three undergraduate in a TESOL context. *Journal of English for Academic Purposes*, 12(3). 180-191.
- Guba, E. G., & Lincoln, Y. S. (1989). *Fourth generation evaluation*. Sage Publication.

- Haag, J. (2011). From elearning to mlearning: the effectiveness of mobile course delivery. In *IITSEC 2011 conference*. Retrieved from https://www.researchgate.net/publication/267689670_From_eLearning_to_mLearning_The_Effectiveness_of_Mobile_Course_Delivery
- Hakuta, K. (2000). How long does it take English learners to attain proficiency? *University of California Linguistic Minority Research Institute*. Retrieved from <https://eric.ed.gov/?id=ED443275>
- Hashim, H., Yunus, M. M., & Embi, M. A. (2016). Pre-University English as Second Language (ESL) learners' attitude towards mobile learning. *Creative Education*, 7(8), 1147.
- Heath, S. B. (1983). *Ways with words: Language, life and work in communities and classrooms*. Cambridge: Cambridge University Press.
- Heckathorn, D.D. (1997). Respondent-Driven Sampling: A New Approach to the Study of Hidden Populations. *Social Problems*, 44 (2),174–199.
- Hew, K. F., & Hara, N. (2007). Knowledge sharing in online environments: A qualitative case study. *Journal of the American Society for Information Science and Technology*, 58(14), 2310-2324.
- Hirvela, A., & Du, Q. (2013). “Why am I paraphrasing?”: Undergraduate ESL writers' engagement with source-based academic writing and reading. *Journal of English for Academic Purposes*, 12(2), 87-98.
- Hjorth, L. (2006). Fast-forwarding present: The rise of personalisation and customisation in mobile technologies in Japan. *Southern Review: Communication, Politics & Culture*, 38(3), 23.
- Huang, H., Chern, C., & Lin, C. (2009). EFL learners' use of online reading strategies and

- comprehension of texts: An exploratory study. *Computers & Education*, 52(1), 13-26.
- Janks, H. (2000). Domination, access, diversity and design: A synthesis for critical literacy education. *Educational review*, 52(2), 175-186.
- Janks, H. (2010). *Literacy and power*. New York, NY: Routledge.
- Kearsley, G. (1995). The Effectiveness and Impact of Online Learning in Graduate Education. *Educational Technology*, 35(6), 37-42.
- Keegan, D. (2002). The Future of Learning: From eLearning to mLearning. *ZIFF Papiere 119-Fern Universitat*, 4-170.
- Korucu, A. T., & Alkan, A. (2011). Differences between m-learning (mobile learning) and e-learning, basic terminology and usage of m-learning in education. *Procedia-Social and Behavioral Sciences*, 15, 1925-1930.
- Kiernan, P., & Aizawa, K. (2004). Cell phones in task-based learning: Are cell phones useful language learning tools? *ReCALL Journal*, 16(1), 71-84.
- Kim, S. (2015). Enablers and inhibitors to English language learners' research process in a high school setting. *Research Journal of the American Association of School Librarians*, 18.
- Kim, S. K., & Lim, K. (2010). A case study on the effects of microblogging as a learning activity to enhance ESL students' cultural knowledge and motivation to write in English. *Multimedia-Assisted Language Learning*, 13(3), 155-174.
- Kirkland, D. E. (2009). Standpoints: Researching and teaching English in the digital dimension. *Research in the Teaching of English*, 8-22.
- Knobel, M. & Lankshear, C. (2014). Studying new literacies. *Journal of Adolescent & Adult Literacy* 58(2), 97-101. doi: 10.1002/jaal.314

- Kress, G., & Jewitt, C. (2003). Introduction. In C. Jewitt & G. Kress (Eds.) *Multimodal Literacy* (1- 18). New York: Peter Lang.
- Kress, G. (2003). *Literacy in the new media age*. London: Routledge.
- Kukulska-Hulme, A., & Shield, L. (2007). An overview of mobile assisted language learning: Can mobile devices support collaborative practice in speaking and listening? Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.84.1398&rep=rep1&type=pdf>
- LaBerge, D., & Samules, S.J. (1974). Toward a theory of automatic information processing in reading. *Cognitive Psychology*, 6, 293-323.
- Lai, A. (2016). Mobile immersion: an experiment using mobile instant messenger to support second-language learning, *Interactive Learning Environments*, 24(2), 277-290, doi: 10.1080/10494820.2015.1113706
- Lam, W.S.E. (2009). Multiliteracies on instant messaging in negotiating local, translocal, and transnational affiliations: A case of an adolescent immigrant. *Reading Research Quarterly*, 44 (4). 377-397.
- Laouris, Y., & Eteokleous, N. (2005). We need an educationally relevant definition of mobile learning. *Proceedings from:mLearn* Retrieved December 20, 2005, from <http://www.mlearn.org.za/papers-full.html>.
- Larson, L. C. (2009). Reader response meets new literacies: Empowering readers in online learning communities. *The Reading Teacher*, 62(8), 638-648.
- Lankshear, C., & Knobel, M. (2003). *New literacies changing knowledge and classroom learning*. Philadelphia, PA: Open University Press.

- Lee, C. J. (2011). What do we mean by literacy? Implications for literacy education. *The Journal of Educational Thought (JET)/Revue de la Pensée Educative*, 255-266.
- Liu, P., & Chen, C. (2015). Learning English through actions: a study of mobile-assisted language learning, *Interactive Learning Environments*, 23 (2), 158-171, doi: 10.1080/10494820.2014.959976 <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.84.1398&rep=rep1&type=pdf>
- Lee C. (2007). Affordances and text-making practices in online instant messaging. *Written Communication*, 24(3), 223–249.
- Lella, A., & Lipsman, A. (August 21, 2014). *The U.S. Mobile app report*. Retrieved from <http://www.comscore.com/Insights/Presentations-and-Whitepapers/2014/The-US-Mobile-App-Report>
- Leu, D. J. (2000). Literacy and technology: Deictic consequences for literacy education in an information age. In M. L. Kamil, P. Mosenthal, P. D. Pearson, and R. Barr (Eds.) *Handbook of Reading Research, Volume III* (743–770). Mahwah, NJ: Erlbaum.
- Leu, D. J., Kinzer, C. K., Coiro, J. L., & Cammack, D. W. (2004). Toward a theory of new literacies emerging from the Internet and other information and communication technologies. *Theoretical models and processes of reading*, 5(1), 1570-1613.
- Lichtman, M. (2012). *Qualitative Research in Education: A User's Guide: A User's Guide*. Thousand Oaks, CA: Sage Publication.
- Lim, S. S. (2010). ‘Your phone makes you, you’: Exploring the youth script in teen magazine representations of mobile media. In *Youth, society and mobile media in Asia* (7-70). Routledge.

- Ling, R. (2004). *The mobile connection: The cell phone's impact on society*. Amsterdam: Morgan Kaufmann Publishers.
- Liu, M., Navarret, C., Maradiegue, E., & Wivagg, J. (2014). Mobile learning and English language learners: A case study of using iPod Touch as a teaching and learning tool. *Journal of Interactive Learning Research*, 25(3), 373-403.
- Liu, N. F., & Littlewood, W. (1997). Why do many students appear reluctant to participate in classroom learning discourse?. *System*, 25(3), 371-384.
- Luke, A. (2012). Critical literacy: Foundational notes. *Theory into practice*, 51(1), 4-11.
- Marsh, J. (2006). Global, local/public, private: Young children's engagement in digital literacy practices in the home. In K. Pahl & J. Rowsell (Eds.), *Travel notes from the New Literacy Studies: Instances of practice* (19–38). Clevedon, UK: Multilingual Matters.
- Mason, J. (2002). *Qualitative researching*. Thousand Oaks, CA: Sage Publication.
- McCrocklin, S., & Link, S. (2016). Accent, identity, and a fear of loss? ESL students' perspectives. *Canadian Modern Language Review*, 72(1), 122-148.
- Meeker, M. (2016). Internet trends 2016- code conference [PowerPoint slides]. Retrieved from <http://www.kpcb.com/Internet-trends>
- Menken, K. (2009). No Child Left Behind and its effects on language policy. *Annual Review of Applied Linguistics*, 29, 103-117.
- Merchant, G. (2012). Mobile practices in everyday life: Popular digital technologies and schooling revisited. *British Journal of Educational Technology*, 43(5), 770-782.
- Merchant, G. (2015). Keep taking the tablets: iPads, story apps and early literacy. *Australian Journal of Language and Literacy*, 38(1), 3-11.
- Merriam, S. B. (1988). *Case study research in education*. San Francisco: Jossey-Bass.

- Merriam, S. B. (1998). *Qualitative research and case study application in education*. San Francisco: Jossey-Bass.
- Merriam, S. B. (2002). Introduction to qualitative research. *Qualitative research in practice: Examples for discussion and analysis, 1*, 1-17.
- Mills, K. (2010). A review of the “digital turn” in the new literacy studies. *Review of Educational Research, 80*(2), 246-271.
- Moore, B. (2008). Using technology to promote communities of practice (CoP) in social work education. *Social Work Education, 27*(6), 592-600.
- Morita, N. (2004). Negotiating participation and identity in second language academic communities. *TESOL Quarterly, 38*(4), 573-603.
- Murray, O. T., & Olcese, N. R. (2011). Teaching and learning with iPads, ready or not?. *TechTrends, 55*(6), 42-48
- Nah, K. C. (2010). The use of the Internet through mobile phones for EFL listening activities. In *ALAK 2010 Annual Conference* (197).
- Nah, K-C., White, P., & Sussex, R. (2008). The potential of using a mobile phone to access the Internet for learning EFL listening skills within a Korean context. *RECALL Journal, 20*(3), 331-347.
- Nelson, G., & Temples, A. L. (2011). Identity construction as nexus of multimembership: Attempts at reconciliation through an online intercultural communication course. *Journal of Language, Identity, and Education, 10*(2), 63-82.
- Neuhauser, C. (2002). Learning style and effectiveness of online and face-to-face instruction. *The American Journal of Distance Education, 16*(2), 99-113.

- New London Group. (1996). A pedagogy of multiliteracies: designing social futures. *Harvard Educational Review*, 66(1), 60–92.
- Nguyen, T. N. & Kellogg, G. (2005). Emergent identities in on-line discussions for second language learning. *Canadian Modern Language Review*, 62(1), 111-136.
- Nichols, M. (2003). A theory of eLearning. *Educational Technology & Society*, 6(2), 1–10
- Nieto, S., & Bode, P. (2008). *Affirming diversity: The sociopolitical context of multicultural education* (5th ed.). Boston, MA: Pearson Education.
- Norton, B. (1995). Social identity, investment, and language learning. *TESOL Quarterly*, 29(1), 9-31.
- Norton, B. (2000). *Identity and language learning: Gender, ethnicity and educational change*. London: Longman/Pearson Education.
- Noy, C. (2008). Sampling knowledge: The hermeneutics of snowball sampling in qualitative research. *International Journal of social research methodology*, 11(4), 327-344.
- Nyíri, K. (2005). The Mobile Phone in 2005: Where Are We Now? *Proceedings of Seeing, Understanding, Learning in the Mobile Age*. Retrieved from http://www.fil.hu/mobil/2005/Nyiri_intr_tlk.pdf.
- Oberg, A., & Daniels, P. (2013). Analysis of the effect a student-centered mobile learning instructional method has on language acquisition. *Computer Assisted Language Learning*, 26(2), 177-196. Retrieved from <http://www.tandfonline.com>
- O'Bannon, B., & Thomas, K. (2015). Mobile phones in the classroom: Preservice teachers answer the call. *Computers & Education*, 85, 110-122.

- Olufadi, Y. (2015). A configurational approach to the investigation of the multiple paths to success of students through mobile phone use behaviors. *Computers & Education*, 86, 84-104.
- Park, S. (2010). *A feminist approach to understanding ESL identity development: A case study of Korean women in US universities*. (Doctoral Dissertation). Retrieved from https://digitalrepository.unm.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1033&context=educ_llss_etds
- Patton, M.Q.(1990). *Qualitative evaluation methods*. (2nd ed.) Thousand Oaks, CA: Sage.
- Petrova, K., & Li, C. (2009). Focus and setting in mobile learning research: A review of the literature. *Communications of the IBIMA*, 10(26), 219 - 226.
- Pew Research Center Report (2010). Retrieved from <http://www.pewInternet.org/2010/04/20/teens-and-mobile-phones/>
- Pew Research Center Report (2015). Retrieved from <http://www.pewInternet.org/2015/04/09/teens-social-media-technology-2015/>
- Pew Research Center Report (2018a). Retrieved from <http://www.pewInternet.org/2018/05/31/teens-social-media-technology-2018/>
- Pew Research Center Report (2018b). Retrieved from <http://www.pewInternet.org/fact-sheet/mobile/>
- Phakiti, A., & Li, L. (2011). General academic difficulties and reading and writing difficulties among Asian ESL postgraduate student in TESOL at an Australian University. *RELC Journal*, 42(3), 227-264.

- Prieto-Arranz, J., Juan-Garau, M., & Jacob, K. (2013). Re-imagining cultural identity: transcultural and translingual communication in virtual third-space environments, *Language, Culture and Curriculum*, 26(1), 19-35.
- Rahmati, A., & Zhong, L. (2013). Studying smartphone usage: Lessons from a four-month field study. *IEEE Transactions on Mobile Computing*, 12(7), 1417-1427.
- Ritchie, J., Lewis, J., & Elam, R. G. (2013). Selecting samples. *Qualitative research practice: A guide for social science students and researchers*, 111.
- Rivera C, Vincent C, Hafner A, & LaCelle-Peterson M. (1997). Statewide assessment programs: Policies and practices for the inclusion of Limited English Proficient students (No. ERIC/AE Digest Series EDO-TM-97-02) Washington, DC: Department of Education; 1997.
- Rubin, H., & Rubin, I. (2012). *Qualitative interviewing: The art of hearing data*. (3rd ed.) Thousand Oaks, CA: Sage Publication.
- Saidouni, K., & Bahloul, A. (2016). Teachers and students' attitudes towards using mobile-assisted language learning in higher education. *Arab World English Journal*, 3, 123-140.
- Saldaña, J. (2009). *The Coding Manual for Qualitative Researchers*. Thousand Oaks, CA: Sage Publication.
- Salmi, A., & Sharafutdinova, E. (2008). Culture and design in emerging markets: the case of mobile phones in Russia. *Journal of Business & Industrial Marketing*, 23(6), 384-394.
- Sanders, J., & Albers, P. (2010). Multimodal literacies: An introduction. In P. Albers & J. Sanders & (Eds.), *Literacies, the arts & multimodalities* (1-43). Urbana, IL: National Council of Teachers of English.

- Schram, T. H. (2006). *Conceptualizing and proposing qualitative research*. Upper Saddle River, NJ: Pearson Merrill Prentice Hall.
- Schwandt, T. A. (2000). Three epistemological stances for qualitative inquiry: Interpretivism, hermeneutics, and social constructionism. In N.K. Densin & Y.S. Lincoln (Eds.), *Handbook of qualitative research* (189-213). Thousand Oaks, CA: Sage.
- Shannon, P. (1996). Poverty, literacy, and politics: Living in the USA. *Journal of Literacy Research*, 28(3), 429-449.
- Shannon, S. M. (1995). The hegemony of English: A case study of one bilingual classroom as a site of resistance. *Linguistics and Education*, 7(3), 175-200.
- Sharma, S.K., & Kitchens, F.L. (2004). Web Services Architecture for M-Learning. *Electronic Journal on e-Learning*, 2(1), 203-216.
- Shin, J., Cho, A., & Albers, P. (Nov, 2016). Examining NNES EFL teachers' professional development through online web seminars. Presentation at the Literacy Research Association Conference. Nashville, TN
- Shulman, L.S. (1981). Disciplines of inquiry in education: An overview. *Educational Researchers*, 10(6), P.5-12+23.
- Souto-Manning, M. (2006). A critical look at bilingualism discourse in public schools: Autoethnographic reflections of a vulnerable observer. *Bilingual Research Journal*, 30(2), 559-577.
- Stake, R.E. (1978). The case study method in social inquiry. *Educational Researcher*, 7(2), 5-8.
- Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: SAGE Publications.

- Stake, R. E. (2005). Qualitative case studies. In Denzin, Norman K. & Lincoln, Yvonna S (Eds.) *The sage handbook of qualitative research* (443-466). Thousand Oaks, CA: SAGE publication.
- Stald, G. (2008). Mobile identity: Youth, identity, and mobile communication media. In D. Buckingham (Eds.) *Youth, identity, and digital media, The John D. and Catherine T. MacArthur Foundation Series on Digital Media and Learning*. (143-164). Cambridge, MA: The MIT Press.
- Stein, P. (2000). Rethinking resources in the ESL classroom. *TESOL Quarterly*, 34(2), 333-336.
- Street, B. V. (Ed.). (1993). *Cross-cultural approaches to literacy* (Vol. 23). Cambridge: Cambridge University Press.
- Street, B. (2003). What's "new" in new literacy studies? Critical approaches to literacy in theory and practice. *Current issues in comparative education*, 5(2), 77-91.
- Street, B.(2005). At last: Recent applications of new literacy studies in educational contexts. *Research in the Teaching of English*, 39(4), 417-423.
- Swan, K. (2003). Learning effectiveness online: What the research tells us. *Elements of quality online education, practice and direction*, 4, 13-47.
- Thibaut, P. (2015). Social network sites with learning purposes: Exploring new spaces for literacy and learning in the primary classroom. *Australian Journal of Language and Literacy*, 38(2), 83-94
- Todd, R. W., & Tepsuriwong, S. (2008). Mobile mazes: Investigating a mobile phone game for language learning. *CALL-EJ Online*, 10(1), 10-1.
- Toohey, K. (2000). *Learning English at school: Identity, social relations and classroom practice*. Clevedon, UK: Multilingual Matters.

- Triacca, L., Bolchini, D., Botturi, L., & Inversini, A. (2004). MiLE. *Proceedings from: EDMEDIA*. Lugano, Switzerland
- Van Maanen, J. (1979). Reclaiming qualitative methods for organizational research: A preface. *Administrative Science Quarterly*, 520-526.
- Walsh, S. P., White, K. M., & Young, R. M. (2009). The phone connection: A qualitative exploration of how belongingness and social identification relate to mobile phone use amongst Australian youth. *Journal of Community & Applied Social Psychology*, 19(3), 225-240.
- Wheeler S., Wheeler D. (2009). Using wikis to promote quality learning in teacher training. *Learning, Media and Technology*, 34(1), 1–10.
- Wong, L. H. (2012). Mobile-assisted language learning “Move, Idioms!”: Investigation of students’ out-of-school idiom learning and artifact generation activities. *Modern Distance Education Research*, 2012(2), 67–73.
- Wong, L. H., & Looi, C. K. (2010). Vocabulary learning by mobile-assisted authentic content creation and social meaning-making: Two case studies. *Journal of Computer assisted Learning*, 26, 421–433.
- Vygotsky, L. S. (1978). *Mind in society*. Cambridge, MA: Harvard University Press.
- Yamat, H., & Bidabadi, F. S. (2012). English language learning anxiety among Iranian EFL freshman university learners. *Research Journal of Applied Sciences*, 7 (8), 413-420.
- Yi, Y. (2007). Engaging literacy: A biliterate student’s composing practices beyond school. *Journal of Second Language Writing*, 16(1), 23-39
- Yin, R. K. (1984). *Applied social research methods series Case study research: Design and methods*. Thousand Oaks, CA: Sage Publication.

Yin, R. K. (2003). *Case study research: Design and methods* (3rd ed.). Thousand Oaks, CA: Sage Publication.

Zapata, A., & Laman, T. T. (2016). " I write to show how beautiful my languages are": Translingual writing instruction in English-dominant classrooms. *Language Arts*, 93(5), 366.

APPENDIX A

Participant Email Letter of Invitation

(Date)

Dear (Participant),

Hello. My name is Aram Cho, and I am in the Doctoral program in Language and Literacy Education at GSU. I would like to invite you to participate in a study that I am conducting around the perceptions of English learners about their use of mobile devices (including a smartphone) as a language and literacy practice tool. I invite English learners across nationality and from around the world to participate in this study. I invite students whose ages are between 13 to 21 and those who came to the US less than 3 years ago. Participants will be involved in five interviews, approximately 30-60 min. in length. Participants will also be asked to member check researchers' accuracy of data transcription and analysis, which will take approximately two hours.

The purpose of the study is to understand English Learners' motivation, perspectives on using mobile devices in their language practices. Your participation is valuable in understanding the experiences that English Learners identify as significant in their mobile learning in everyday lives. Specifically, this study seeks to investigate the following questions: 1) To what extent is the EL motivated to learn the target language using mobile devices? 2) What aspects of mobile devices do ELs use to learn language? 3) What digital behaviors do ELs exhibit when using different types of mobile devices (e.g., preferences, features, etc.)? 4) What language learning processes and social interactions are observable as ELs use mobile device-assisted language software/programs?

This study attempts to contribute to the field in that few studies are available that directly address English Learners' experiences while in using their mobile devices in their language and literacy practices.

If you are interested in participating in this study, you will receive a letter of Informed Consent prior to the start of this study. All information you provide as a participant will remain confidential. Thank you for your consideration in volunteering to participate in this important study. I look forward to your reply.

Sincerely,

Aram Cho

If you have more questions please feel free to contact acho5@student.gsu.edu

APPENDIX B

Pre-Survey Questionnaires for the Interview

Category A: Personal Information

Age :

Gender:

Nationality:

Category B: Exposure to Mobile devices

1. Do you own a mobile device?
 - a. Yes
 - b. no
2. What kinds of mobile devices do you own? (Please choose all applied devices)
 - a. Smartphone
 - b. Tablets (iPads, Galaxy Tab, etc.)
 - c. PDA
 - d. E-Readers (Kindle etc.)
3. How long have you used mobile devices (including your cellphones)?
4. A typical day, how much time do you spend in using mobile devices in school?
 - a. None
 - b. Less than one hour
 - c. Between 1-2 hours
 - d. Between 2-3 hours
 - e. More than 3 hours
5. A typical day, how much time do you spend in using mobile devices outside of the classroom?
 - a. None
 - b. Less than one hour
 - c. Between 1-2 hours
 - d. Between 2-3 hours
 - e. More than 3 hours
6. What types of features do you use with your mobile devices?
 - a. Youtube
 - b. Social Media (Facebook, Instagram, Twitter, etc.)
 - c. Listening to music
 - d. Taking photo
 - e. Instant Message
 - f. Game
 - g. Any learning applications

APPENDIX C

Interview Protocol

Note: The point of the interviews will be to obtain an in-depth understanding of the study's participant population and answering the research questions; 1) To what extent is the learner motivated to learn the target language using mobile devices?, 2) What is the role of mobile devices to in EL's language learning? Especially, what aspect of learning is perceived through mobile learning?, 3) How do ELs behave when using different types of mobile devices, what are their mobile preferences, and what features of mobile devices do ELs?, and 4) What language learning processes and social interactions are observable as ELs use mobile device-assisted language software/programs? Each interview will take 30-60 mins.

Interview #1: About general experiences and background information

1. Please let us know when you came to the US and how your learning of English or using English in everyday life.
2. What is your experience in learning English (In your country or in the US)?
3. What areas of English learning (reading, writing, listening, and speaking) do you feel the most difficult? And why?
4. Tell about experiences (positive or negative) that you remember when you learn English.

Interview #2: About general experiences of using mobile devices (including a smartphone)

1. Talk about your overall experiences in using mobile devices.
2. How often do you use your mobile devices (including a smartphone)?
3. How often do you use your mobile devices in school?
4. How often do you use your mobile devices in out-of-school?
5. What kinds of activities do you do with your mobile devices (including a smartphone)?
6. What was the easiest part of using mobile devices (including a smartphone)?
7. What was the most challenging part of using mobile devices (including a smartphone)?

Interview #3: Understand participants' literacy practices

1. How do you learn or practice your English?
2. How do you think your language skills improved using/not using mobile devices?
3. Talk about what you do with your mobile devices.
4. Which were your favorite strategies practicing English?
5. Which were your favorite activities using mobile devices?

Interview #4: Invite participant to demonstrate their use of language software on their mobile devices

1. Talk about experiences that you have when you used any applications or features related to language/English?
2. What do you think about using applications/software for your language practices?
3. Talk about experiences that you have when you used English with your mobile devices. When do you use English? When you do use your first language?

Interview #5: value of mobile learning

1. Why do you use mobile devices?
2. What do you think about using mobile devices in practicing or learning language?
3. Talk about experiences that you were first introduced by smartphones, mobile devices.
4. Talk about experiences that you remember that were positive. What made them positive?
5. Talk about experiences that you remember that were not so positive. What made them not so positive?

APPENDIX D
Letter of Informed Consent

Georgia State University
Department of Middle and Secondary Education

Title: Navigating mobile learning: English Learners' language learning and literacy practices

Principal Investigator: Dr. Peggy Albers, professor of Language and Literacy

Student Principal Investigator: Aram Cho, doctoral student

Dear Participant:

Please read this Consent Form. If you agree to participate in this research study and be audio recorded, please reply to this email and write "I consent to participate in this study." If you choose not to participate, please reply to the email and write, "I do not consent to participate in this study." Please include your full name under your consent or do not consent statement. Thank you.

I. Purpose:

You are invited to participate in a research study. The purpose of the study is to investigate the following research questions: 1) To what extent is the EL motivated to learn the target language using mobile devices? 2) What aspects of mobile devices do ELs use to learn language? 3) What digital behaviors do ELs exhibit when using different types of mobile devices (e.g., preferences, features, etc.)? 4) What language learning processes and social interactions are observable as ELs use mobile device-assisted language software/programs? You are invited to participate because you are English Learner who stayed in the US less than 3 years. There will be five interviews of approximately 30-60 minutes each. You will be asked to member check data and analysis that relates to your interviews. Member checks will take approximately one hour. You will be asked to keep journals for your usage of mobile devices. Total participation is approximately ten hours. All data collection will occur spring, 2017.

II. Procedures:

If you decide to participate in this study, you will be asked to participate in five audio-recorded interviews which will be transcribed. Each interview will take no more than an hour of your time. To member check, I will invite you to review each of the transcripts for accuracy. I anticipate that this review will take approximately 20 minutes of your time (total 1 hour). You will incur no costs for these interviews. You will not be compensated for these interviews. The choice of how you wish to be interviewed will be up to you. Dates and locations for interviews will be scheduled at your convenience.

III. Risks:

In this study, you will not have any more risks than you would in a normal day of life.

IV. Benefits:

Participation in this study may not benefit you personally. Overall, I hope to gain information about daily mobile usages of English Learners and their language and literacy practices using mobile devices.

V. Voluntary Participation and Withdrawal:

Participation in research is voluntary. You do not have to be in this study. If you decide to be in the study and change your mind, you have the right to drop out at any time. You may skip questions or stop participating at any time. Whatever you decide, you will not suffer any negative consequences.

VI. Confidentiality:

I will keep your records private to the extent allowed by law. Only the student PI will have access to the information you provide. Information may also be shared with those who make sure the study is done correctly (GSU Institutional Review Board, the Office for Human Research Protection (OHRP) and doctoral committee members). I will use codes to identify your information (e.g., F2014_P1_Oct [Fall 2014_Participant 1_October Interview]) rather than your name on records. The information you provide will be stored on a secure, password-protected computer. The code sheet to identify research participants will be stored separately from the data to ensure privacy on a secure, password-protected computer. This code sheet will be destroyed at the end of the study. Your name and other facts that might point to you will not appear when I present this study or publish its results. The findings will be summarized and reported in group form. You will not be identified personally.

VII. Contact Persons:

Contact Aram Cho (Student PI) at 404-698-8622, acho5@student.gsu.edu or Dr. Peggy Albers (PI) if you have questions about this study. If you have questions or concerns about your rights as a participant in this research study, you may contact Susan Vogtner in the Office of Research Integrity at 404-413-3513 or svogtner1@gsu.edu.

Aram Cho (Student PI)
Doctoral Student, Language and Literacy
College of Education
MSE Department
Georgia State University
Atlanta, GA 30303

acho5@student.gsu.edu

Peggy Albers, Ph.D. (PI)
Professor, Language and Literacy
College of Education
MSE Department
Georgia State University
Atlanta, GA 30303

malbers2@gsu.edu

VIII. Copy of Consent Form to Subject: Please keep this email as documentation of your consent.

APPENDIX E
PARTICIPANT JOURNAL

Participant's reflective Journal #1

How do you feel about using mobile phone?

Any experience during the weekend about learning English/using English (via mobile devices) that you remember?

Any feeling about the interview we had?

Positive or Negative?

Any comment?

APPENDIX F

CODING MANUAL

1. General Mobile Device Usage

1-1 Smartphone

1-1-1 Duration of using

1-1-2 Occasion of using

1-2 Tablet

1-2-1 Duration of using

1-2-2 Occasion of using

1-3 Laptop

1-3-1 Duration of using

1-3-2 Occasion of using

2. Detailed Utilization of Mobile Device for academic purposes

2-1 Using Embedded Features

2-1-1 Recording

2-1-2 Camera

2-2 Using outside applications

2-2-1 Quizlet

2-2-2 Youtube

2-2-3 Google Translate

2-2-4 Khan Academy

2-2-5 One-Note

2-2-6 Other websites

2-3 In school related usage

2-3-1 In class activity

2-3-2 Homework/ Assignment

2-3-3 Exam/Test/Quiz

2-4 Out of school related usage

2-4-1 Review/Preview

2-4-2 Communication with friends

3. Perception of using Mobile Devices in learning

3-1 Benefits of mobile devices

3-2 Limitations of mobile devices

4. Social/Communication with Mobile Devices

4-1 Texting

4-2 Social Medias

4-3 Youtube

5. Sense of English language learner

6-1-1 Difficulties being ELs

6-1-2 Self Portrait as ELs

6-1-3 Overcome

6-2 Emotional support from mobile devices