Learning from twenty-first century second language learners: A case study in smartphone use of language learners

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Learning from twenty-first century second language learners: A case study in smartphone use of language learners

by

Lindsey Kurtz

A thesis submitted to the graduate faculty in partial fulfillment of the requirements for the degree of

MASTER OF ARTS

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Program of Study Committee:

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Abstract

This study reports on language learners’ daily use of smartphones to supplement their language learning. Three non-native speakers of English completed smartphone use logs and were interviewed over a six-week period in order to understand their attitudes and habits regarding their smartphone use. The purpose of this study was to give voice to contemporary language learners about their use of this technology so that their regular use of it may be understood. The study reports that these learners made regular use of the smartphone as a dictionary, as a study tool for standardized tests and for communication purposes across various times and locations.
CHAPTER 1: INTRODUCTION

A Japanese student uses an English pronunciation application on his mobile phone to solve a misunderstanding with his roommate. An American student studying Spanish reviews vocabulary lists of words on her phone while riding the bus home. A Chinese student studying at an American university uses the dictionary on his phone to look up the ingredients in packaged food he is trying to buy.

Each of these language learners, in their varying geographic, academic, and personal contexts are engaging with their environment through the use of mobile technology; they are tapping into the powerful potential these devices have to take their language learning from something they do in the classroom to an activity they can engage in anytime, anywhere, across their lifetimes.

Not only are students engaging with smartphone technologies and capabilities, but educators, too, engage with these twenty-first century technologies and increasingly expect their students to enter the classroom very technologically adept, reflected in the fact that technology competencies and goals have entered into teaching standards. For example, the National Educational Technology Standards (NETS) published by the International Society for Technology in Education (ISTE) set out objectives for K-12 educators and students which enable technology in the classroom to help students learn effectively and live productively in today’s increasingly digital society. Included in these standards are the ability for students to use technology to demonstrate creativity and innovation; communication and collaboration; research and information fluency; critical thinking, problem solving and decision making; digital citizenship; and technology
operations and concepts (ISTE, 2007). In response to the recognition that “preparing students for the information society should be one of the fundamental aims of today’s education” and that many technology standards, such as the NETS mentioned above, do not link English language teaching or learning to technology, TESOL has also produced a set of standards for technology standards for English language learners and teachers (Healey, Hegelheimer, Hubbard, Iannou-Georgiou, Kessler, & Ware, 2008). These standards focus on providing guidance for educators in the basic competencies that learners with access to a wide variety of technologies should have. That technology standards such as NETS and the TESOL Technology Standards have been thoughtfully constructed demonstrates that as technology is changing the way people live, educators and researchers have begun to rethink the way learning and teaching are approached.

Pushing the drive to reconsider technology in teaching and learning is how these devices are transforming the way people live. In a world of increasingly ubiquitous technology consumption, the mobile phone is the most commonly purchased electronic device in the world (John & Wheeler, 2008). In America, fully one third of all adults own a smartphone of some kind (Pew Research Center). Some sections of the world, such as the city of Shanghai, where in 2009 cell phone ownership was a high as 119.9 percent, even boast more than 100 percent mobile phone ownership, with people owning more than one cell phone (Gu, Gu, & Laffey, 2011). In developing areas as well, particularly in sub-Saharan Africa, countries are “by-passing the fixed network technology to install cellphone networks to rural areas. These offer the opportunity for people in rural communities not only to make phone calls, but to gain the advantages of mobile services such as text and multimedia messaging” (Sharples, Taylor, & Vavoula,
In a global sense, then, people increasingly have access to technology which allows them to instantly share text messages, multimedia and parts of their lives with communicants at great distances; they can also expect and receive immediate feedback.

Those who have access to not only cell phone networks, but also smartphone technology and coverage can expect additional services. A smartphone can be defined as a mobile phone equipped with capabilities such as more advanced computing and connectivity than a traditional phone; smartphones have essentially become palmtop devices that combine the capabilities of a phone and a personal digital assistant (PDA) (Rae, 2005). Usually this includes Internet service and the ability to access and download applications (or apps) to perform various social, entertainment, learning or life management functions on the phone. As more and more people, and thus more and more language learners, have access to these devices, the investigations into the use of these and other mobile technologies in language learning and teaching is an increasingly dynamic field. The area of mobile learning research “attempts to understand the evolving habits and requirements of mobile learners, as well as exploiting the capabilities of the devices” (Kukulska-Hulme & Shield, 2008, p. 249). By using mobile learning research to understand the habits of mobile learners, the hope is we will better be able to adapt instruction and curriculum design to suit their changing needs.

While the goal of mobile learning research may be to provide learners with the tools and practices which allow for efficient and effective language acquisition, the extent to which this goal has thus far been realized is arguable. Mobile technologies have been called ‘catalysts for change’ and it has been claimed that they offer the potential for ‘pedagogical innovation’ (Conole, de Laat, Dillon, & Darby, 2008). While these
assumptions may be reflected in rhetoric and policies, however, the extent to which actual changes to practice has been undertaken is quite arguable (Conole et al., 2008). Before changes to practice can take place, a solid understanding of the affordances and limitations offered by the technology is necessary, as well as both the appropriate theoretical and practical applications. A key understanding is that educators and researchers need to gain insight into the practices of learners already in place; it is with this knowledge that they can go about bridging the gap between where learners are and the best practices for smartphone use in language learning.

**Statement of the Problem**

In order for mobile technologies to be beneficial to (language) learning, the activities learners are engaging in must be pedagogically sound. A great deal of the studies that have been carried out have attempted to reach this goal through a great deal of teacher control – by sending out SMS texts to students at a time dictated by the instructor, for example Stockwell (2007, 2008). Far fewer, (see Conole et al., 2008; Rosi Sole et al., 2010; Song & Fox, 2008; for notable exceptions) have explored the ways learners themselves have utilized smartphones as one component of their language study. Turning the inquiry to independent use is important because the roles of student and teacher are rapidly changing in the twenty-first century. The relationship is less likely to be one of expert imparting knowledge onto the novice, but instead a partnership where the teacher offers guidance and support as the learners explore and construct meaning on their own. In order to do this with mobile technologies, it is important to know what learners are already doing. Studies of this nature have heretofore been lacking in the literature.
Objective and Scope of the Study
This study intends to explore the ways English Language Learners (ELLs) are using their smartphones for language-learning purposes. Their level of sophistication, or lack thereof, in the applications, activities and resources accessed can help determine the appropriate amount and direction of the assistance they need to make mobile learning most effective. As Kukulska-Hulme (2010) points out:

A culture of listening to learners will involve finding out about their current practices with mobile technologies and seeking to extend them or channel them in the right direction. Language learners and teachers will need to understand and be equipped for self-directed, situated learning. (p. 11)

A primary goal of this study is to listen to learners, find out about their current practices and gain insight into how to guide them in the right direction. Thus far mobile learning seems to belong more to learners than teachers, even though most learners will struggle without a teacher’s direction (Kukulska-Hulme 2009b, p. 162). Researching what these learners are actually doing with their devices outside of the classroom can help teachers and software designers offer this guidance to students, ultimately helping them use their mobile devices as an effective bridge between different learning locations (Kvakik, 2005; Oblinger & Oblinger, 2005).

Research Questions
In order to explore how learners are using their smartphones for language learning purposes, the following research questions guide the study:

RQ1: How, when, and where do learners use their smartphone for language learning outside the classroom?
RQ2a: *How do learners see themselves using their smartphones for language learning?*

2b: *What are learners’ perceptions about the role their smartphone plays in their language learning?*

Research question one investigates the behavior of learners as they use their smartphones for language study. It seeks to look at exactly which programs or software learners access, where, when, and why. The data collected pertaining to this research question will be used to discuss different motivations of smartphone users and their behavior.

The second research question aims to shed light on how learners perceive they are using their smartphones in their language study and the reasons they give for these practices. This information is important because it will give insight into the qualities of smartphones learners find beneficial to their language acquisition.

Research question 2b again considers learner perceptions in the role smartphones play in their own language learning. Data collected pertaining to this research question can be used to identify what learners believe is beneficial about mobile learning and also what smartphones do not currently offer learners for effective learning.

**Structure of the Study**

This study is organized into four chapters containing a review of relevant literature on the topics covered in this thesis (chapter 2), a detailed account of selected methodology for the research (chapter 3), the results in response to RQ1, RQ2a, and RQ2b (chapter 4) and the implications and limitations of this research, as well as recommendations for future research on Mobile Assisted Language Learning (chapter 5).
CHAPTER 2: LITERATURE REVIEW

This chapter presents an overview of the relevant literature and theoretical framework for this study. It begins with a discussion of language learning in the twenty-first century and how this necessitates further understanding of informal learning. Learner autonomy is then explored, followed by a discussion of what Mobile Assisted Language Learning (MALL) is, what relevant research has found, and MALL’s relationship with learner autonomy and constructivism. The chapter concludes by examining the gap this study aims to fill.

Language Learning in the Twenty-First Century

The world we live in today is becoming increasingly connected and global. Businesses view a global presence and understanding of the global market as vital to survival and people in general are viewed as more mobile than ever before (Selwyn, Gorard, & Furlong, 2006). Colleges and universities offer extensive opportunities for study abroad or international studies classes. With this international emphasis, the study of an additional language can be a great asset. This is particularly true in countries where English is not a first or official language. English language teaching is big business, in both these countries and English-speaking countries. For example, there are currently 40,000 Chinese undergraduate students attending university in the United States, which is the largest population of international students at universities in America (Bartlett & Fisher, 2011). Students arrive in another country with varying cultural, academic, and language needs, which they can seek to address through various avenues.

Learners address their needs through the use of the various technologies available to them. Among electronic technologies available to learners are computers, MP3 players,
mobile phones, televisions, or personal digital assistants. Along with more mobile lifestyles, today’s technology offers the opportunity for people to engage in language learning from their home, through a computer, or increasingly wherever they are, through a phone. No longer must learners be enrolled in a formal language class or immerse themselves in another culture in order to enjoy the pursuit of another means of communication. Today’s technology allows many learners to engage in language learning completely or partially on their own. Learners have access to a vast variety of tools that allow them to supplement their language learning. The access learners have to such tools intensifies the need for an understanding of informal learning and how to help learners self-teach.

**Informal learning – “the submerged bulk of the iceberg”**

Informal learning (or, in the words of Tough (1973), *self-teaching*) is nothing new. It is something that can be viewed as a normal part of adult human experience. It can be viewed as learning which “we undertake individually or collectively, on our own without externally imposed criteria or the presence of an institutionally authorized instructor” (Livingstone, 2000, p. 493). This type of learning tends to be less structured than formal, classroom-based education and primary responsibility for learning rests in the hands of the learners (Marsick & Watkins, 1990). Informal learning can really take place anywhere and in any form, from learning new skills to perform a job better to learning how to garden. In fact, some research estimates that as much as 90 percent of new learning in the workplace has been acquired through informal learning (Lohman, 2000; Lovin, 1992). More than simply anything beyond the confines of formal education, informal learning has been called the submerged bulk of the iceberg of adult learning, in
terms of both significance and visibility (Tough, 1977). Even so, its importance is rarely discussed (Selwyn, Gorard, & Furlong, 2006).

Learning, in fact, “occurs as a result of a lot more than merely the infusion of digital tools” (Van ‘T Hooft, 2009, p. 171). Learning across many contexts occurred long before the appearance of digital technologies and continues today both with and without the use of digital technologies. With the emergence of digital technologies, though, interest in how these technologies may help foster lifelong, informal learning and what governments and educators can do to promote this has intensified. The extent to which these devices are used and how they are used will need to be understood. Sharples et al (2007) refer to a Vavoula (2000) study which found that more than half (52%) of “everyday learning episodes involved one or more pieces of electronic technology: mobile and fixed phones, laptop and desktop computers, televisions and video recorders” (n.p.). Twelve years and multiple generations of technology later, many learners have grown up with these sorts of electronic technologies as an integral part of their learning, both in and out of the classroom. Educators must understand how these technologies are being used in everyday learning episodes in order to effectively teach learners and prepare them for success in today’s information society.

To some, lifelong informal learning is viewed as essential for twenty-first century citizens and countries. Part of this has to do with a general shift in the discussion of education professionals to a more learner-centered approach (John & Wheeler, 2008; Tough, 1977). Part of this has to do with advances in technology and how they change what is possible. Still another piece of the puzzle is the fact that the potential for information and communication technologies (ICTs) “to allow people to learn at all
stages of life has been seized upon as a ready means of establishing inclusive ‘learning societies’. New technologies are purportedly ushering in a new age of lifelong learning, which can be centred around the individual learner while remaining cost-effective for the educational provider” (Selwyn, Gorard, & Furlong, 2006, p. iii). Often, such claims are accompanied by claims about technology-based lifelong learning as an underpinning of countries’ competitiveness in today’s global knowledge economy. There exist, then, acknowledgements from individuals, educators, and political institutions that engaging in lifelong learning benefits not only the individual but also the society as well.

As the role of informal learning in education and across the span of a human life continues to increase, the link between informal learning and autonomy will also become increasingly vital.

Learner Autonomy

Increased learner autonomy has been proposed as a potentially beneficial outcome to embracing emerging technologies in pedagogically sound ways for language learning. The current study will also approach MALL investigation through the lens that learners engaging in language learning activities on their smart phones are potentially developing autonomous learning skills. It is important, though, to first explore the different ways autonomy has been discussed and used in language education literature and then to define the way it is understood and used in this study because, as Benson and Voller (1997) explain, the different usages and underlying perspectives related to autonomy make it unlikely that applied linguistics will arrive at a single agreed definition of the term.

Benson (1997) identifies three versions of autonomy, ‘technical,’ ‘psychological,’ and ‘political,’ where ‘technical’ autonomy is understood to mean “simply the act of learning
a language outside the framework of an educational institution and without the intervention of a teacher,” ‘psychological’ autonomy, “the capacity for learners to take more responsibility for their learning,” and ‘political’ autonomy, which defines the concept in terms of “control over the processes and content of learning” (p. 19). To a large extent, the learner can exert control over Bensons’s first two types of autonomy because they require only the responsibility the learner takes upon him or herself.

Political autonomy, on the other hand, paints a more complex picture as it involves, to a certain extent, the control which other institutions and authority figures have made available for the learner to make.

The capacity for learners to take more responsibility for their learning, or ‘psychological’ autonomy, is important because it concerns itself with what is internal to the learner and the responsibility learners take for their own learning. When learners engage in learning activities outside of their required coursework, this tenet of autonomy is what they are demonstrating. It is also closest to a common definition of autonomy, such that “it is central to any understanding of learner autonomy that the learner needs to assume responsibility for her learning process” (Schwienhorst, 2008, p. 13). Indeed, the capacity to foster learner autonomy is one oft-cited potential benefit to the use of smartphones in language learning. Smartphones are “ideal for individualized informal learning” and language educators should “encourage and assist the autonomy this enables and provide means for learners to combine formal and informal learning” (Godwin-Jones, 2011a, p. 8).

Thorough exploration leads to individual learners identifying the most successful strategies for learning for themselves. It is Schwienhorst’s (2008) experience that
“learners will only experiment … if, on the one hand, they have easy-to-use tools and materials for experimentation… On the other hand, they also need a pedagogical framework that brings these materials and tools within reach of their autonomy, so that they see at least part of them as personally meaningful and relevant” (p. 23). Tools, then, need to be developed with a certain level of intuitiveness in mind, and educators with the goal of fostering independent and autonomous learning need to scaffold and provide learners with enough training to feel a task or tool is manageable.

The degree to which learners will find tools easy to use will vary based upon their personal comfort with the specific technology and with technology in general. In the case of smartphones, for example, factors such as any type of familiarity with the device, ownership, length of ownership and general inquisitiveness about the device may play a role in the ease of use of smartphones for learners. If language learners are to use their smartphones as language learning tools, the tasks and applications for language learning need to be easy to use, fronted with learner training to enhance ease of use and, in response to Schwienhorst’s second point, there needs to be a pedagogical framework in place which places autonomous use of the smartphone within the learner’s reach. Without guidance and a proper pedagogical framework, the anytime, anywhere possibilities of mobile technologies may be lost.

Those anytime, anywhere possibilities in mobile learning are exciting because of the idea of mobility.

Putting the mobile in Mobile-Assisted Language Learning

In the mobile learning, also called m-learning, literature, there are various ways in which the idea of mobility has been discussed, so it is important to understand what is
actually mobile. First, though, it may be prudent to consider why mobility is important to (language) learning. The idea of mobility is, in fact, closely linked to the nature of learning (Naismith et al., 2004). The relationship between mobility and learning isn’t a concept that has emerged because of new technology. This relationship has also been discussed in the literature in terms of the close relation of learning to the context and the situation in which the learning need arises (Brown et al., 1989; Lave and Wenger, 1991). The benefits of just-in-time, situated learning (Goodyear, 2000) illustrates another example of the discussion of this relationship, as does the idea that knowledge is information in context. Since mobile devices enable the delivery of context-specific information they are well placed to enable learning and the construction of knowledge (Nyiri, 2002).

It is also important to also consider exactly what is mobile, not just the idea that learning and mobility are connected. “Mobile” could refer to the technology, the student, or the content. It could also be understood in terms of time-shifting or boundary-crossing. Vavoula and Sharples (2002) suggest that there are three ways in which learning can be considered mobile: in terms of space (the workplace, at home, at places of leisure), in terms of different areas of life (work demands, self-improvement, or leisure), and in terms of time (during the day, night, week days, weekends). In this understanding, learning and mobility really are understood to occur anywhere, at any time, in any facet of life. What is powerful about mobile devices such as personal smartphones is that many people tend to carry these devices with them all the time, so they are available for use for learning anytime and anywhere.
On the contrary, strict interpretations of defining mobility in learning exist, such as claiming that: “A portable device that supports learning may be freely moved, but learner is mostly stationary, even though they are using a mobile device. Although the device is mobile and portable, the learning as an event cannot be described as mobile” (Ahonen et al, 2004, cited in Cavus & Ibrahim, 2009). Because a learner may be physically stationary at a certain point in time while still utilizing the technology in various times and locations, we will discuss mobile learning here instead using a looser interpretation of the concept mobile. For the purposes of this discussion, “mobile learning” will refer to learning mediated via handheld devices, potentially available anytime, anywhere, whether that learning is formal or informal (Kukulska-Hulme & Shield 2008). Or, in the words of Pachler (2009):

Mobile learning…is not about delivering content to mobile devices but,

instead, about the processes of coming to know and being able to operate successfully in and across new and ever changing contexts and learning spaces.

And, it is about understanding and knowing how to utilise our everyday life worlds as learning spaces (p. 1).

Understanding the contexts that prompt learners to use their devices is an important step in understanding how learners use their devices. The contexts learners encounter in their daily lives and use their smartphones in, though, are complex and difficult to capture in m-learning research; mobile devices offer great potential for learning in context, yet more research remains to be done in this area (Kukulska-Hulme, 2009a).

In addition to understanding the contexts in which the devices are used, it is also important to understand what the devices offer learners and what their limitations are.
**Devices**

MALL research has examined numerous “mobile” devices for their language teaching and learning potential. These various devices each offer their own affordances and limitations for learning. What many of them do have in common is that they are intended originally for uses other than learning, such as for entertainment, personal information management, or personal communication (Greenfield, 2009; Kukulsk-Hulme & Traxler, 2005). For these devices to be successful learning tools, the properties of the technology and appropriate educational theories and pedagogy need to be considered. To date, though, there are “currently very few successful implementations to consider as the best practice” (Cavus & Ibrahim, 2009).

A useful classification of mobile technologies using two orthogonal dimensions – personal vs. shared and portable vs. static – is provided by Naismith *et al* (2004). A modified version of their representation is provided in Figure 2.1

*Figure 2.1 Naismith et al’s mobile technology classification*
The first quadrant in Figure 2.1 shows devices that can be thought of as both personal and portable, or those devices which are most usually associated with mobile learning. In this classification system, since these devices are normally used by a single user at a time, they are considered personal, although due to their networked nature, information and content can easily be shared. The devices are also considered portable because they are easily moved from one place to another.

The other quadrants are included to “show the complete space of possibilities engendered” by the classification system (Naismith et al, 2004, p. 9), but technologies in quadrant four would not generally be considered mobile. This classification system is useful for the reason Naismith et al mention, but also to reassess mobile technologies as they continue to develop. For example, with the increasing popularity and ubiquity of smartphones, there is little difference between a handheld computer and a mobile phone (Godwin-Jones 2011a). As another example, with the advent of the iPhone 4’s FaceTime, videoconferencing is now available on mobile phones, making it more portable and more easily applied to mobile learning.

Any investigation into MALL literature needs to consistently consider the characteristics of the technologies being reported on. When considering previous studies, it is important to note what a “game-changer” the launch of Apple’s iPhone was. As Godwin-Jones (2011a) comments, “what used to be phones with added-on computing capabilities have morphed into mini-computers which can also make phone call. These devices go a long ways toward solving the issues arising from early efforts in mobile assisted language learning” (p. 2). With this statement, Godwin-Jones taps into an important issue to consider in the rapidly evolving area of MALL. Indeed, Kukulska-
Hulme (2010) points to new activities on mobile devices emerging during the period 2005-2010, as shown in Table 2.1. Though this timeframe includes years before the launch of the iPhone which Godwin-Jones calls such a game-changer, this table illustrates how rapidly the activities which mobile devices support develop and the extremely broad range of activities available to users of these devices. As smartphones continue to develop, it may be that they will provide users with more applications and activity and connectivity options. The degree to which these activities are useful for language learning will, of course, vary and need to be explored through a solid grounding in theory and pedagogy.

Table 2.1

Kukulska-Hulme’s (2010) “New activities emerging during the period 2005-2010

<table>
<thead>
<tr>
<th>Social/community interaction</th>
<th>Mobile Internet access</th>
<th>Multimedia uses</th>
<th>Location-based activity</th>
<th>User-created content</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The use of social apps on the phone (e.g. Facebook)</td>
<td>• Browsing websites</td>
<td>• Watching movies and TV shows</td>
<td>• Using GPS to find places</td>
<td>• Filming an event to create a resource</td>
</tr>
<tr>
<td>• Being part of microblogging communities (e.g. Twitter)</td>
<td>• Reading news</td>
<td>• Listening to audio books, podcasts, and vodcasts</td>
<td>• Using location-based services</td>
<td>• Creating podcasts</td>
</tr>
</tbody>
</table>

Table 2.1

With regards to this table, it is also important to point out that some of these activities may already be, to some users, slightly out of date, or older applications of the technology. Other capabilities, such as video chat sessions, have become available since 2010 and therefore are not included in this table. That these specific activities emerged in
a five-year period and already may appear out of date highlights how rapidly the technology evolves. Just because smartphones now have the capability to support these activities, however, does not necessarily mean that language learners are utilizing them, or using them for language learning if they are using them for personal consumption.

When considering the results and assertions made in MALL research, it is important to consider that, in many cases, the affordances and limitations offered by the specific technologies discussed in the literature may have already changed. For example, while Thornton and Houser (2002) reported limited screen size to be a drawback the use of mobile devices in language learning, Godwin-Jones (2011b) points out that today, for iPhone and iPad application developers, working with a smaller screen size actually forces designers to be more “efficient in their content presentation and navigational structure.” It may also be that one learner is perfectly happy to read from a mobile phone screen while for another this presents a major barrier; learners may react to and possibly adopt mobile technologies as learning tools at different speeds, just as they did with computers as learning tools (Stockwell, 2007). Rapidly evolving technology requires that MALL researchers and practitioners keep abreast of affordances made by current technologies.

Mobile phones have been particularly popular in the CALL literature on mobile learning, with a primary reason being its widespread infiltration of the market (Hashemi & Ghasemi, 2011). As mobile and smartphones gain in popularity and capability, they will continue to merit further examination for their language-learning potential. In order to look forward, it is worthwhile to do so with an understanding of the research that has been conducted in the past, with an eye toward lessons that may be learned from it.
Where MALL’s been

As an emerging technology in language learning, mobile phones have inspired lofty expectations for their effectiveness as well as elicited a good deal of discussion as to limitations in their implementation.

One difference in the implementation of MALL from the earlier investigations into and implementations of CALL is that, unlike computers, mobile phones are already an established technology in use in the language learning community (Stockwell, 2008). The extent to which cell phones have permeated the market is quite astounding; fully 83 percent of adult Americans own a cell phone of some kind (Pew Research Center). Further, 35 percent of adult Americans own a smartphone, according to a May, 2011 poll (Pew Research Center). Smartphone ownership is even higher among college-age students; according to a survey of students at Ball State University, 69 percent owned a smartphone of some kind (Lytle, 2012). It also appears that learners as well as application designers have noticed the language-learning potential of these devices. To see evidence of this, one must only look at a website such as Claire Bradin Siskin’s Language Learning Applications for Smartphones, or Small can be Beautiful¹, which lists and gives access information for many language learning applications for various smartphones.

While this burgeoning market is exciting for using mobile phones in language learning, there is also the potential for a disconnect between what teachers expect learners to be capable of and what learners actually are capable of. For this reason, it is important to know how (and, indeed, if) learners tend to use these personal devices for language learning and how to best go about guiding them toward best practice for their own needs, learning objectives and learning styles.

¹ [http://www.edvista.com/claire/pres/smartphones/]
Some educators and researchers seem willing to embrace the technology as revolutionary for language teaching and have gone so far as to say MALL is “progressively changing” the way foreign languages are taught and studied (Abdous, Camerena & Facer 2009, p. 89). Others have claimed that, as opposed to being banned in the classroom, someday cell phones may be required (McNicol 2004). While these expectations or predictions may seem hard to imagine, they stem from the exciting idea that through mobile devices learning can take place anytime, anywhere. Kiernan and Aizawa (2004) argued that second language acquisition occurs best through a task-based approach where students aim to close some sort of gap; in a traditional classroom, however, students may sometimes remain too close to realize these goals using authentic tasks. Mobile technologies would be one way to distance the students so that task-based learning through authentic tasks can occur.

There are those, though, who remain unconvinced of the revolutionary power of mobile learning, or at least point out issues to be addressed for successful, effective use of mobile technologies in language learning. Stockwell (2007) reported that when students were given the option to study vocabulary using either a desktop computer or a mobile phone, the vast majority opted for the computer. He further points out in a special edition of ReCALL dedicated to MALL that language learners seem reluctant to use their mobile phones for their language learning purposes, opting instead to use them for personal reasons (2008, p. 255). While some may point to smartphones in language study as a way to make connections and bridge the gap between the classroom and personal lives (Ros i Sole et al, 2010, Godwin-Jones, 2011b), the benefits are only
realized if learners can learn to view their personal devices as a sometime tool, not merely a personal toy.

Multiple other studies have documented issues with implementing mobile phones in the language classroom. Table 2.2 outlines both cited benefits and limitations in the use of mobile phones in language learning.

Table 2.2

*Summary of Benefits and Limitations of Mobile Phones in Language Learning*

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Studies</th>
<th>Limitations</th>
<th>Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student enjoyment and motivation</td>
<td>Cavus &amp; Ibrahim, 2009; Rau, Gao &amp; Wu, 2006</td>
<td>Physical frailty</td>
<td>Perry, 2003; Jackson, 2002</td>
</tr>
<tr>
<td>Co-constructing learning through collaborative activities</td>
<td>Pachler, 2007; Kukulska-Hulme &amp; Shield, 2008</td>
<td>Importance of keeping batteries charged</td>
<td>Perry, 2003</td>
</tr>
<tr>
<td>Portability</td>
<td>Naismith <em>et al</em>, 2004</td>
<td>Disruptive functions</td>
<td>Mifsud 2003</td>
</tr>
<tr>
<td>Social interactivity</td>
<td>Naismith <em>et al</em>, 2004</td>
<td>Screen size</td>
<td>Thornton &amp; Houser, 2002; Cheng, Hwang, Wu, Shadiev &amp; Xie, 2010 Kukulska-Hulme, 2010</td>
</tr>
<tr>
<td>Immediacy</td>
<td>Naismith <em>et al</em>, 2004</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2.2

**Limitations**

Interesting to note is that the limitations primarily deal with the hardware itself – the size of the screen, how long one can use a device before the battery dies, the physical
trauma a device can withstand and still function. The good news for MALL, as will be discussed below, is that some of these issues, if they have not already been addressed by advancements in the technology, could potentially be addressed by the mobile phone business itself, as companies compete to sell more marketable products.

Unlike the other limitations in Table 2.2, Kukulska-Hulme (2010) points out an issue unrelated to the technology itself—one directly related to the teacher and learner interacting in a more informal way outside of class. These issues include student privacy (students may not wish to give out their personal mobile number or information) information overload, prohibition of use in some establishments, and lack of trusted guidelines on acceptable conduct. Teachers and students alike may be uncomfortable with mobile learning that involves teacher-learner interaction because as yet there are no trusted guidelines for acceptable or unacceptable behavior. Rau, Gao and Wu (2006), however, report in their study of vocational students in Taiwan that neither instructors nor students felt uneasy communicating through SMS and, in fact, this communication led to a more positive view of the instructor and course material, increasing the students’ motivation to learn, which the researchers had reported to be previously lacking. As mobile- and smartphone technologies become increasingly ubiquitous in the lives of both teachers and learners, these issues, and the involved participants’ changing attitudes towards them, will need to be addressed for MALL to be successful and instrumental in mainstream language learning.

Some drawbacks to using new and exciting mobile technologies in language learning may have nothing to do with the technology, task, or learners themselves; theft or even fear of theft could detract from learners and institutions alike promoting the use of mobile
devices for learning purposes. Wong and Looi (2010) reported providing their students in Singapore with mobile learning devices only to find parents never let students leave the house with the devices for fear of theft. This obviously hinders the anytime, anywhere capabilities of MALL. As the technology becomes more common, there is always the possibility that the probability or fear of theft will diminish, but for now it remains a concern for educators, whether they provide learners with the technology or learners use their own.

MALL will also have to concern itself with the tension of toy versus tool. Since there are so many commercial language-learning applications for smartphones and because the devices are first personal tools, there exists a distinct possibility for language learning activities utilizing smartphones to be viewed as “edutainment” instead of serious study (McNicol, 2004).

In addition to the limitations of smartphones in m-learning, great discussion has also surrounded the potential benefits these devices can offer learners.

**Benefits**

While many of the limitations mentioned in the literature refer to the physical characteristics of a smartphone, many of the suggested affordances of smartphones in language learning are more closely to the beneficial activities they are capable of fostering. For example, through GPS capabilities of a smartphone, learners can engage in location-specific activities (Naismith et al., 2004). This context sensitivity can make learning more immediate and meaningful to learners (Kress & Pachler, 2007; Naismith et al., 2004 Okabe & Ito, 2006; Ros i Sole et al., 2009; ). While a device’s portability and software capabilities may make a smartphone capable of mediating context-sensitive activities, this does not mean that learners are necessarily engaging in these activities. In
fact, the context in which a learning event or activity occurs with a mobile device has
been an understudied and difficult-to-pin-down facet of inquiries into mobile language
learning (Kukulska-Hulme, 2009b; Pachler, 2009).

Mobile or digital devices have also been discussed as a bridge between formal
and informal learning contexts. As Naismith et al (2004) point out:

Learning will move more and more outside of the classroom and into the learner’s
environments, both real and virtual, thus becoming more situated, personal,
collaborative and lifelong. The challenge will be to discover how to use mobile
technologies to transform learning into a seamless part of daily life to the point where
it is not recognised as learning at all. (n.p.)

This comment points to the bulk of MALL literature, which is composed largely of
supposition or musings as to what mobile devices can offer learners and educators. Much
less work has been done to actually examine whether these claims are true. To a large
extent, MALL inquiries have concerned themselves with teacher-initiated vocabulary
acquisitions.

Investigations of vocabulary acquisition

The past decade has created exciting discussion about the possibilities mobile- and
smartphones have to offer language learners and teachers as well as potential drawbacks
to their use as a language-learning tool. This discussion can also include investigations
into PDAs in language learning, both to provide a larger pool of literature from which to
draw discussion points and because current smartphones are equipped to act like the
mobile phones and the PDAs examined in the studies in question. A review of this
literature reveals that a large number of the studies dedicated to mobile devices in
language learning have involved the acquisition of vocabulary (Andrews, 2003; Cavus &
Ibrahim, 2009; Cooney & Keogh, 2007; Kiernan & Aizawa, 2004; Levy & Kennedy, 2005; Norbrook & Scott, 2003; Song & Fox, 2008; Stockwell, 2007; Wong & Looi, 2010). Many of these studies involved text messages with vocabulary items, pre- and post-tests of vocabulary, surveys and quizzes, or tasks to be completed through text message by learners to aid acquisition.

An exception to the instructor-initiated vocabulary acquisition study is one conducted by Song and Fox (2008), who used a case study approach to examine how students used PDAs over the course of a year and their incidental vocabulary acquisition in using them. Song and Fox were able to report that the participants engaged in a variety of dictionary uses with the PDAs they had been provided with, and concluded that the PDA use, sometimes in conjunction with a computer, was able to enhance their vocabulary learning. Since the participants were provided with the devices, however, the researchers were not able to comment on the way language learners use their own, personal devices for study purposes; this raises the question of how learners actually interact with their own devices.

Vocabulary-focused studies remain a large percentage of the exploration that has been undertaken in MALL. Not all of the research has focused on vocabulary acquisition, however.

Exceptions to the vocabulary acquisition-related MALL research

Notable exceptions to the general tendency to examine what mobile or smartphones can offer vocabulary acquisition do exist. Included in these studies is an investigation of everyday use of MP3 players by language learners (Ros i Sole et al. 2010). The study conducted by Ros i Sole et al. (2010) examined everyday use of MP3 players by learners of Icelandic and Serbian/Croatian. This study was important in giving learners a voice, and investigators found that integrating the device into the classroom
allowed the researchers to investigate more “personal and social aspects of MALL” (Ros i Sole et al 2010, p. 51). While the Ros i Sole et al (2010) study gives learners a voice, MP3 players do not have all of the capabilities a smartphone does and, again, in this study, participants were provided with devices for the purpose of examining them. The literature has consistently pointed out that ownership of the device is an important component in how learners interact with it (Conole et al, 2008; Hashemi, Azizinezhad, Najafi, & Nesari, 2011; Kukulska-Hulme, 2009b; Ros i Sole et al, 2010; ).

The educator- or researcher-oriented study has also been prevalent in MALL literature. As Mayes (2006) comments, “the majority of e-learning research is written from a practitioner’s perspective, with only a small minority allowing the learner’s voice to come through” (p. 3). This is particularly ironic in the case of mobile learning when one considers that “it is mainly learners who carry the mobile devices and move around with them, whilst the term ‘mobile teaching’ is hardly used at all” (Kukulska-Hulme & Traxler, 2005, p.25). One step toward giving the learners a voice and deciding how to plot a course for mobile teaching is to listen to learners in order to find out not merely their attitudes towards mobile devices, but, more importantly, how they use them.

The use of teacher-initiated mobile language learning can limit the anytime, anywhere possibilities of m-learning as well as lead to neglect of factors important to the student experience. Facer and Sandford (2010) comment that the question needs to be raised: of how we might begin to develop a better understanding of how individuals navigate and, most importantly, move between diverse locations and diverse learning networks.

Contemporary and familiar analyses of communities of practice and of situated learning, for example, need to be complemented by examination of the processes by
which individuals operate across multiple settings, and the barriers to participation and movement between networks. (p. 88)

Not only is it important, then, to understand how individuals navigate multiple settings and networks, but also new ways of researching these issues may need to be developed.

In a discussion of developing in language learners the types of traits educators have identified as important in the 21\textsuperscript{st} century, Kukulska-Hulme (2010) phrases the concern as such:

As mobile technology becomes ever more pervasive, the question arises as to whether it can enable learners to demonstrate or develop these traits. One way to approach this question is to look at how learners are already using their personal mobile devices for life and learning, to see if there is any kind of match between the nature of these mobile device uses and the characteristics that educators would wish to promote. (p. 6)

Kukulska-Hulme goes on to say that learners will likely need guidance in developing the best practices using mobile technologies to develop these traits. Some of the characteristics educators would like to promote in today’s learners have been outlined in technology standards such as the NETS and TESOL Technology standards and include issues such as the ability to move across multiple platforms, use technology ethically, and evaluate a resource’s usefulness for their purpose. In order to provide this guidance, it would be prudent to investigate the level and type of guidance that may be necessary. Understanding the smart phone and technology habits of learners may help educators understand how to help.
While various researchers have pointed to the need for research examining how language learners already use mobile devices for language study (Conole et al., 2008; Kukulska-Hulme, 2010; Sharpe et al., 2004), very few have actually undertaken this challenge, and the few studies that have tended to provide learners with the devices (e.g., Ros i Sole et al., 2010; Song & Fox, 2008). A thorough understanding of how learners currently appropriate the technology for their purposes is necessary because, irrespective of whether educators choose to utilize new technologies learners are engaging with them and will need guidance in how to best use mobile phones for effective lifelong language learning (Kukulska-Hulme, 2009b; Spikol, Kurti, & Milrad, 2009).

In order to provide that guidance, it is first necessary to understand where learners are. If what Kukulska-Hulme and Shield (2008) found is still true – that most use of mobile learning tends to be “pedestrian, uncreative and repetitive and tends not take advantage of the mobility, peer connectivity, or advanced communication features of mobile devices” (Godwin-Jones, 2011a, p. 7) – then designers (of curriculum, smartphone applications and learning tasks) and teachers need to work harder to use the technology in ways that allow it to reach its full potential as a learning tool.

The preceding discussion has demonstrated the growing body of literature exploring the benefits of mobile technology in language learning. In response to a cited need for and lack of such an investigation, the study at hand focuses on the experiences of individual language learners and the possibilities these devices offer learners.
CHAPTER 3: METHODOLOGY

Chapter 3 outlines the methodology used in the research study. The chapter covers, from institutional approval to data collection, a summary of study procedures. This chapter gives a description of the subjects participating in the study, the materials used, and a description of the setting in which the study took place. The final section of the chapter explains the analysis of data in terms the research questions. Qualitative research through a case study (Ros i Sole et al, 2010, Song & Fox, 2008) with focus on one particular participant was employed in this study.

Participants
Three subjects volunteered to participate in this study. All were students in Iowa State’s Intensive English and Orientation Program (IEOP), so all were international students actively taking English language classes at the time of this study. As students in the IEOP, each of the study participants expressed the goal of improving a test score to a level acceptable for admission into the university. For the participants preparing to take the Test of English as a Foreign Language (TOEFL), their goal was to achieve a score of 71 or higher on the Internet-based test (IBT) as this is the minimum score required by the university for admission (International Admission Requirements). The participant preparing for the International English Language Testing System (IELTS) needed a score of 6.0 for admission (International Admission Requirements).

All of the participants were also between the ages of 19 and 22 at the time of the study. Basic demographic information for the participants is outline in Table 3.1, including their first language (L1), smartphone, length of ownership of smartphone at the time of the study, age, and their semester of participation.
Table 3.1

<table>
<thead>
<tr>
<th>Participant (L1)</th>
<th>Smartphone (Length of Ownership at time of study)</th>
<th>Age</th>
<th>Semester (Primary method of communication)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KS (Chinese)</td>
<td>Samsung Infuse (2 months)</td>
<td>21</td>
<td>S12 (text message)</td>
</tr>
<tr>
<td>John (Chinese)</td>
<td>iPhone (4 months)</td>
<td>22</td>
<td>F11 (Email)</td>
</tr>
<tr>
<td>Sean (Chinese)</td>
<td>iPhone (4 months)</td>
<td>22</td>
<td>F11 (Email)</td>
</tr>
</tbody>
</table>

Since each of these participants was enrolled in the Iowa State University IEOP, they were taking the same courses, with some variance in level, and had similar motivation for studying in the IEOP. Each participant was enrolled in a writing, reading, grammar, and oral communication course of varying levels. Levels range from one to six in the IEOP, with one being the most basic level and six the most advanced. Students are all enrolled in one of each of these courses at the level according to their achievement in that particular skill. In other words, it is possible to take a level 3 reading course and a level 5 oral communication course simultaneously.

**Participant 1 – KS**

KS is a Chinese-speaking Malaysian. At the time of the study, KS was 21 years old. He reports that during the time of the study he was enrolled in a level 6 grammar class, level 5 reading and oral communication classes, and level 4 writing class.

He used a Samsung Infuse. KS shares that he chose the Infuse because “because one week ago I go to the Best Buy and …I sign the data plan … I can choose two phone. The first one is HTC and the other one is Samsung Infuse. And the HTC doesn’t have the secondary camera so I choose the Samsung Infuse” (interview, February 7, 2012). The
Samsung Infuse is approximately 5.2 inches long by 2.8 inches wide by .35 inches deep and weighs approximately 4.0 ounces.2

Although he is enrolled in the IEO and mentions briefly in one interview he needs a score of 71 to “pass” the TOEFL, KS’s test preparation does not play a large role in either the interviews or his use log.

Participant 2 – John

John is a 22-year-old male, native speaker of Chinese. During the study he was enrolled in a level 5 grammar class, level 5 reading class, level 3 oral communication class, and level 3 writing class.

John is an iPhone 4 owner. The iPhone 4 is approximately 4.5 inches long by 2.31 inches wide by .37 inches deep and weighs approximately 4.8 ounces.3 John chose the iPhone 4 because in China, his home country, he had heard from friends about the functions of the iPhone, which were, “better than any usual phone,” but the iPhone was prohibitively expensive in China, so he didn’t buy one until he came to the United States, where he found the prices cheaper (interview, November 29, 2011). He also considers that, “compared [to] the other smartphone in America, maybe iPhone is the most expensive… but, you know, I like the – maybe it’s just because the iPhone is so popular and everyone wanted to get that one” (interview, November 29, 2011). John also notes that compared to other smartphones, the iPhone has more applications one can download. He says he searches the Apple store frequently for more apps, about which he says, “a lot of the software is useful, so this is another reason I choose the iPhone” (interview, November 29, 2011).

3 http://support.apple.com/kb/SP587
Throughout the course of the study, John is very focused on studying to take the TOEFL; he discusses his preparation for the TOEFL at length in our interviews and his TOEFL study will show itself in John’s use log.

**Participant 3 – Sean**

Like the other participants, Sean was studying in the IEOP and was a native speaker of Chinese. At the time of the study he was 22 and enrolled in a level 4 grammar class, level 3 reading class, level 4 oral communication class, and level 4 writing class.

Sean used an iPhone 4. He chose the iPhone 4 as his first smartphone when he arrived in the United States because, “I think the iPhone is very… convenient, and is good for me to use because the camera is 5 [megapixels]” (interview, October 26, 2011). During the study, Sean was studying for, and took, the IELTS, which comes up several times in our discussions and his use log.

It was determined that the advantages in following these self-selecting participants who both owned their own smartphones and claimed to use them as learning tools outside of the classroom outweighed the disadvantages offered by such a small, restricted pool of subjects. Purposive sampling was intended to elicit “information rich case studies that manifest the phenomenon” (Mayes, 2006, in Conole *et al.*, 2008, p. 513). Through following students who claimed experience in using smartphones for their language study, enough information could be generated from these in-depth case studies to make inferences about their patterns of smartphone use as a language-learning supplement. This type of information would not be possible to gain from students who did not own smartphones or use them for language study.⁴

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⁴ Truly understanding how learners are using a particular technology also necessitates an investigation into *who is not* using the technology and *why* they are not using it (Selwyn, Gorard &
It was also necessary for participants to own their own smartphones because ownership of a device matters (Conole et al., 2008; Hashemi et al., 2011; Kukulska-Hulma, 2009; Ros i Sole et al., 2010). Ownership makes a difference in the way a device is used because of the familiarity and comfort level the user has with a device and because, increasingly, these devices are becoming a part of the identity of users (Conole et al., 2008; Ros i Sole et al., 2010). Investigating learner patterns in as close to their natural occurrence as possible was an important aim of this study, so it was critical that all participants own their own devices and report using them for language study.

Participants were informed of the procedures of the study, the risks, costs and benefits, and voluntarily chose to participate. They were told that in return for their time, for each interview session, they were entitled to twenty minutes of free tutoring from the investigator. The tutoring compensation for their time was intended to add incentive for participant engagement in this study, which was necessary as, in essence, these participants were co-researchers (Vavoula, 2009, p. 345). Participants were informed they could leave the study at any time.

Materials
The following section describes the relevant materials used in this study and provides a rationale for their use or creation. First, the use log participants filled out while participating in the study will be discussed, followed by a discussion of the use of computers, Google docs, and smartphones.

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Furlong, 2006), but I concern myself in this study only with those who are using the technology in order to understand everyday practices of users.
Use log—creation and rationale

In order to understand how ELLs are utilizing their personal smartphones for language learning purposes, it was necessary to obtain a snapshot into their patterns and behaviors of use. While researching learning is an undertaking challenging enough in and of itself, researching learning while mobile presents additional challenges (Van ‘T Hooft, 2009; Wali, Oliver, & Winters, 2009). As Van ‘T Hooft (2009) explains, “mobility expands learning across space and time and opens up many opportunities for learning that is neither sequential nor consistent. Mobile, networked, and digital tools broaden it even more” by providing, for example, increased connectivity to people and information, augmenting physical environments with digital layers, allowing for customization of learning, and offering tools to create, manipulate, and share a wide variety of electronic artifacts (p. 170). He also suggests that because of the increased flexibility and volatility of context, research questions and methods to strive to focus on spatial, temporal, user, and learner data. In order to address these issues, a use log was created. Participants were asked to chart when, where, what and why they completed an activity on their smartphone relevant to their language learning purposes.

While an application that elicited usage information directly from the smartphones was considered, this approach was dismissed as inappropriate for this study as that would have been more invasive of the participants’ privacy and potentially personal and sensitive activities and information stored on the smartphone, another important consideration in mobile learning research (Van ‘T Hooft, 2009; Vavoula, 2009). The use log would allow the investigator access only to those activities and information that pertained to English language acquisition. The logs would provide a point of
conversation for the interviews, from which the investigator could ask more detailed questions to probe in more depth the participants’ patterns of behavior.

In this study’s utilization of the use log, participants were, in effect, made co-researchers (Van ‘T Hooft, 2009; Vavoula, 2009; Wali et al, 2009). As such, it was critical they receive training in how and why they were being asked to log their smartphone activities (Van ‘T Hooft, 2009; Vavoula, 2009; Wali et al, 2009). Each participant was shown and received instructions in completing the usage log created by the investigator. Table 3.2 shows the sample use log participants were shown.

Columns were constructed to provide information pertaining to the various research questions. The first two columns were designed to elicit information relevant to RQ1. Data gathered from these columns could help the investigator make inferences about ELLs’ patterns of behavior when using their smartphone for language-learning purposes. For example, these columns were meant to give detailed information as to whether learners utilized their smartphones for language-learning purposes several times a day in short bursts, or more infrequently for longer periods of time.

Table 3.2
Sample use log shown to participants

<table>
<thead>
<tr>
<th>Date/Time</th>
<th>Location</th>
<th>Program Accessed</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/14/11 1:53PM</td>
<td>Cy-Ride</td>
<td>iPod</td>
<td>Listen to English podcast about American pronunciation to work on my pronunciation.</td>
</tr>
<tr>
<td>10/14/11 4:18 PM</td>
<td>Library</td>
<td>Google translator</td>
<td>Translate a sentence into English to help me with my homework. The sentence was, “今日リンジーと遊びに行く。” and I translated it to this, “Today I’m gonna hang out with Lindsey.”</td>
</tr>
</tbody>
</table>

Table 3.2
The third and fourth columns were designed to elicit information about what it is learners are actually accessing on their smartphones. Here they were asked to fill out what program they accessed and for what purpose. From this information, other inferences about the kinds of activities learners are engaging in (e.g., vocabulary acquisition) could be made. These columns were also designed to alert the investigator to new applications or programs participants were using so that during interviews the participants could show the investigator these programs and provide a step-by-step explanation of what they used the program for and how useful they felt it was.

**Computer and Google docs**

While this study aimed to investigate how language learners supplement classroom instruction with activities on their personal smartphones, computers and using the Internet on a computer were crucial to completion of the study. Participants were asked to complete their use log using Google Docs, an application available to them through their Iowa State CyMail account. For each participant, both the participant and investigator were allowed access to that participant’s use log. In this way, the investigator was able to monitor participants in how they filled out the chart. If several days had passed and a participant had not added anything new to the chart, they were contacted and reminded to make entries in their log.

Unfortunately participants were not able to edit the Google doc through their smartphones, making the computer a necessary component of the study. Participants used either their own or a university computer to update their use log.
Since this study was investigating smartphone usage among ELLs, it was absolutely necessary that each participant owned a smartphone and used it for language-learning purposes. Previous studies have reported that learners prefer to use their own devices when completing mobile learning tasks, so owning a smartphone was necessary for participation (Conole et al., 2008; Hashemi et al., 2011; Kukulska-Hulme, 2009b). The study also aimed to be exploratory in nature, so providing devices and instruction for using the smartphones would have been counterproductive to the motivation of the study.

The locations for the two components of the study took place in different locations. Participants were asked to complete the use log on their own, between interviews. In other words, this portion of the study was carried out at the participants’ convenience, whenever they used their smartphone for English purposes and recorded it in the Google Docs log using their computer. Based on interview data, this meant that the use log was typically updated in the participants’ living space (apartment or dormitory) or at the library, as this is where participants reported using computers.

Interviews were conducted in my office, in a building at Iowa State University. When other people were present in this room, an empty room on the same floor of this building was found, but participants always first met in my office. During these interviews, the use logs were referenced and participants were made aware they were being video recorded and that this video recording would be transcribed and used to later describe their patterns of use and beliefs about their smartphone.
**Procedures**
This section outlines the procedures followed during this study. Included in the discussion is receiving initial approval to conduct the study, gathering participants, and data collection.

**Study approval from IRB**
In order to carry out the research study, first approval of the study needed to be granted by the investigator’s three-member Program of Study Committee. Once this was granted, approval was applied for and obtained by the university’s Institutional Review Board (IRB).

**Gathering participants**
After this approval was granted, the director of the Intensive English and Orientation (IEOP) program at Iowa State University was contacted, as research involving IEOP students also needs to be approved through application. Once the IEOP Research permission was granted, IEOP instructors were contacted and asked for their permission for the researcher to come to their classrooms and present the study to their students using approximately ten minutes of the instructors’ class time. The study was presented to IEOP students in class and they were told they were eligible to voluntarily participate if they owned a smartphone and used it for English language study outside of class. Three learners participated in the Fall, 2011 semester and two participants participated in the Spring, 2012 semester.

One participant from each semester of data collection produced data use logs that consistently did not mark each entry for time; as such it was impossible to compare their data to that of the other participants who had logged the time of each access. These two participants will not be used to respond to research question one, for this reason. Relevant
comments from their interviews will be used to support results from the other participants regarding research question 2a and 2b. They will not be described in the same detail as the other three participants at the outset of the results section.

**Data collection**

Data collection was carried during the Fall, 2011, and Spring, 2012, semesters. Data was collected for six weeks in two ways – through weekly, semi-structured interviews with participants carried out by the investigator and through smartphone use logs that participants filled out using Google docs. The use log was created and used to provide a glimpse into the lives of the study participants – how and when they used their smartphones for English study purposes and where they were at the time of use.

Each participant participated in an initial interview to discuss their habits in using their smartphone to study English and their beliefs about smartphones in language learning. Participants also received instructions in completing the use logs in Google Docs during this initial interview. See Appendix B for complete participant use logs and Appendix C for one of the participant’s interview transcripts.

For the next six weeks of the study, participants met with the investigator at an arranged time to discuss the use log they had completed during that week. These semi-structured interviews typically lasted between ten and twenty minutes. A semi-structured interview was most appropriate for this study because while the investigator had a general idea of the topics to cover in each interview, and questions to ask, in order to allow the real voice and experience of the participants to come through, there needed to be flexibility in the interviews to probe for the most interesting and relevant data (Richards, 2009). Participants were asked questions about the various activities they carried out, their motivations for carrying out these activities and why the smartphone
was a tool they utilized in their language study. These interviews were transcribed and analyzed by the investigator.

**Analysis**

Data obtained from each participant went through a process of interpretive analysis and triangulated in order to share their experiences and habits in using their smartphone as a language-learning tool. The central purpose in this analysis is to extract and generalize from the complexity of data the participants’ experience in using this technology to support their study (Conole et al, 2008) in order to answer the research questions.

**Table 3.3**

*Summary of research questions and data sources*

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Data Source</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a How do learners think they are supplementing their language learning with their smartphone?</td>
<td>Learner interviews</td>
<td>Thematic coding, derived from learner comments</td>
</tr>
<tr>
<td>1b. What are learners’ perceptions about the role their smartphone plays in their language learning now and in the future?</td>
<td>Learner use log</td>
<td>Coding of use log for location and time Thematic coding</td>
</tr>
<tr>
<td>2. How, when and where do learners use their smartphone for language learning outside the classroom?</td>
<td>Learner interviews</td>
<td>Thematic coding</td>
</tr>
</tbody>
</table>

To respond to research question 1, both the participant use logs and interviews were used. Relevant excerpts were used from the interviews to give the participants a voice and to supplement data gathered from the use logs. All participants’ use logs were analyzed interpretively in terms of the number of smartphone accesses participants reported, the average number of accesses per day, the purpose of accesses, the programs accessed, and the location of the participant at the time of access. Each participant’s log
was considered individually and in terms of its relationship to the activities undertaken by other participants. These analyses allowed a response to RQ 1.

Based on participant data and Davis and Davis’s (1993) supposition that learning best occurs during the day (30% in the morning, 30% during the afternoon, 30% in the evening) (Cavus and Ibrahim, 2007), in order to analyze participants’ behavior as related to time, the data was coded for smartphone access that occurred in the morning (defined as 8:00AM-11:59AM), afternoon (12:00PM-4:59PM), evening (5:00PM-7:59PM), and late night (anything between 8:00PM and 8:00AM). The late night category was necessary because, for some participants, a lot of their study entries were made at this time.

In the case where a participant logged in his chart a span of time, e.g. 2:58-6:20P.M. (John use log, November 11, 2011), the data was coded for the first entered time; in this example, the entry was counted as an afternoon access because his use began during the afternoon period, even though it ran into the evening period.

Again, based on patterns emerging from the data, in order to analyze location, participant entries were coded for occurring either at school, home, in transit, or other. School encompassed both the library and any classroom buildings. This category was also further analyzed for the frequency of access in the library and each classroom building noted. While some participants lived on campus in a dormitory and, thus, technically at school, these entries were marked in the home category because of the personal nature of the space as well as participants’ beliefs about this space as being ‘home.’
The *transit* category included all occurrences of entries either on Iowa State University’s bus system (Cy-Ride) or when a participant noted he was moving from one location to another, as in, “walk to cafeteria” (John use log, November 12, 2011). Again, while technically located physically on campus, the access of the smartphone occurred due to the participant’s movement at the time of access and so was coded as an in *transit* access.

Access locations that did not fall into these three, prominent categories were coded *other*. These entries account for only 3 of the 245 total entries logged in this study and do not affect the data in any meaningful way, other than being anecdotally interesting.

In order to respond to research questions 2a and 2b, the interviews conducted with participants were transcribed and analyzed. It was through these interviews that the learners’ voices were really allowed to come through, in response to the need for this in the literature (Conole *et al.*, 2008; Kukulska-Hulme, 2010; Oblinger & Oblinger, 2005). The interviews were analyzed interpretively and used to respond to RQ 2. Excerpts demonstrative of participant perceptions and beliefs were used to discuss findings in regards to these questions and to create a profile of the learners, in order to share their experiences and typical behaviors.
CHAPTER 4: RESULTS AND DISCUSSION

The following chapter discusses results of the data analysis based on the participant interviews and use logs. First, there is a brief discussion of the data collected, followed by a discussion of each case. The chapter concludes by discussing each research question in terms of the participants as a whole, but with particular focus on KS. Table 4.1 presents the data collected from each participant, including the dates of participation in the study, the number of entries they logged and the number of interviews conducted with the participant.

Table 4.1

Summary of collected case study data

<table>
<thead>
<tr>
<th>Participant</th>
<th>Weeks of participation</th>
<th>Entries in log</th>
<th>Interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>KS</td>
<td>4 (2/6/12~3/9/12)</td>
<td>154</td>
<td>5</td>
</tr>
<tr>
<td>John</td>
<td>6 (11/4/11~12/12/11)</td>
<td>67</td>
<td>4</td>
</tr>
<tr>
<td>Sean</td>
<td>5 (10/25/11~12/1/11)</td>
<td>15</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 4.1

As can be seen from Table 4.1, KS provides substantially more log entries than any of the other participants. Thus, the discussion of learner behavior using personal smartphones will begin with and focus primarily on KS’s experience. The other participants will be examined as they provide a context against which to compare KS’s experience and for the insights brought through during their interviews.

Participant 1– KS

A breakdown of the data collected from KS can be found in Table 4.2. Both the log data and the interview transcripts illustrate that KS was very habitual in his
smartphone use. He faithfully logged each activity (e.g., looking up each word), so his patterns of behavior emerge quite clearly. KS consistently uses his smartphone for English study purposes during the day (morning or afternoon access) while he is on campus or traveling to or from campus. He is also very consistent in the activities for which he uses his smartphone; he accesses Google to define words and uses MusicPlayer to listen to music with fairly equal frequency, and SoundPronunciation with far less frequency. The following discussion will examine his patterns and interview data more closely, focusing on his experience with his Infuse, his attitudes towards both the computer and smartphone as study tools, a typical day of smartphone use, and KS’s experience with texting in English.

Table 4.2

<table>
<thead>
<tr>
<th>At a glance</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Days with entries Entries</td>
<td>Morning 84 (55%)</td>
<td>School 75 (49%)</td>
</tr>
<tr>
<td>Days with entries Entries</td>
<td>Afternoon 63 (41%)</td>
<td>Library 49</td>
</tr>
<tr>
<td>Most entries in one day</td>
<td>Evening 1 (1%)</td>
<td>Class buildings 26</td>
</tr>
<tr>
<td>Most entries in one day</td>
<td>Late night 5 (3%)</td>
<td>Home 6 (4%)</td>
</tr>
<tr>
<td>Average entries per day</td>
<td>Time</td>
<td>Location</td>
</tr>
<tr>
<td>23</td>
<td>Morning</td>
<td>School 75 (49%)</td>
</tr>
<tr>
<td>154</td>
<td>Afternoon</td>
<td>Library 49</td>
</tr>
<tr>
<td>13</td>
<td>Evening</td>
<td>Class buildings 26</td>
</tr>
<tr>
<td>6.70</td>
<td>Late night</td>
<td>Home 6 (4%)</td>
</tr>
<tr>
<td>13</td>
<td>Time</td>
<td>Location</td>
</tr>
<tr>
<td>6.70</td>
<td>Time</td>
<td>Location</td>
</tr>
</tbody>
</table>

Summary of use log entries collected from KS

Table 4.2

KS participated in the study during the Spring, 2012 semester. As he had only very recently arrived in the United States and purchased a smartphone for the first time, there appeared to be, for him, a steep learning curve in discovering how his smartphone could best help him, as he shares below:
This is my first time to use the smart phone. Like I came to US at 29 of December and I, in my country, when I was in my hometown in my country, I use, I didn’t use the smart phone. And, at the beginning, I think this is very difficult and confuse, confusing, like how to use the smartphone because of the function.  
(interview, February 14, 2012)

Despite expressing that the smartphone was a little confusing for him to figure out at first, KS logged the most entries in his use log of any participant, with 154 entries between February 6, 2012, and March 9, 2012. KS provided an extremely interesting case study, because, as his log demonstrates, his study habits are like clockwork – regular, dependable, and nearly the same every day. KS nearly always uses his phone in the mornings and either on campus or in transit to or from campus. This is because, as he says, “If I have my laptop … I don’t use the smart phone…if I want to Google some meaning … I will use my computer” (interview, February 14, 2012). This statement only begins to demonstrate KS’s beliefs about how to use the computer and smartphone for study; in KS’s eyes, the computer is still a better tool for English study than the smartphone.

*Computer > Smartphone*

Both the interviews with KS and his use log illustrated that KS used his Infuse only when he doesn’t carry his laptop or a paper dictionary with him. KS chose not to carry his laptop or a “big paper dictionary” to school, so he primarily used his smartphone to perform functions these tools would normally perform when he was not at home. Because of this, KS’s entries into his use log were all, with the exception of the first day he logged activities, at school or when he was in transit.
When at school or on the move, KS did see great value in using his Infuse to study English because, “This is very convenient. … I don’t need to put, I don’t need to bring … big paper dictionary to my class every day and my smart phone is very small, very thin” (interview, February 5, 2012). For KS, the phone’s portability was one of the most important reasons to use it; if given the chance, there are other tools he would use to study English, but being able to have his smartphone with his at all times made it useful.

KS also distinguished between the smartphone and computer in the software or applications he chooses to seek out and download to the device. The Infuse is linked to the Android Market, which makes available over 150,000 apps to users, but KS did not appear to make use of the Market very often. He said, “I have apps … in my Infuse, but I didn’t use it. I just use the message, text message … there are a lot of application of English on my computer because if I want to learn English I will use my computer. The smartphone I just use to check the dictionary” (interview, February 14, 2012). In fact, during the study, the only app KS downloaded was the pronunciation app.6

There are also certain characteristics of the smartphone that make it, for KS, an inferior study tool. As he explained, “I don’t like to use the touch screen actually I prefer to use the keyboard mouse. And the screen is bigger” (interview, March 6, 2012). While KS preferred the computer to the smartphone as a study tool, there were occasions when he chose to use the smartphone.

When KS did put the smartphone to use, he was very habitual in his use. He used the phone primarily for lexical inquiries, typically when he was working on a task for a school assignment. To look up a word, KS used the Google tool bar on his screen to

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6 In his log KS refers to this as “Sound Pronunciation” (KS use log, February 23, 2012) but in the interviews he calls this “Free Pronunciation Checker” (interview, March 5, 2012)
search for word definitions or translations; a Google search bar on the default Samsung Infuse screen allows users to search Google without having to open a browser.

KS said he used this function any time he needed to find the meaning of a word or find a word he wanted to use in an essay or activity, when he was in class or studying: “In class, if possible I will use the, I will use my smart phone to check the dictionary and sometimes, like, when I, like write an essay, and I don’t know a certain word, I will check the dictionary” (interview, February 7, 2012). Sixty-eight examples of this exist in KS’s log.

While KS logged 68 instances of looking up the meaning of a word, it is necessary to mention that he was not searching for new words each time. That is, he looked up various words multiple times. These words included claustraphobia, compadre, throng, threshold, dilemma, fantasize, prospect, and stake. When asked about why he looked up some words more than once, KS explained, “It’s because the word is very difficult … And I can’t memorize it clearly and … like in my class there is some relation between this between the chapters, like in chapter one there is a word claustraphobia, but in chapter two, three, they will also have this word. ” (interview, March 20, 2012). These words appeared, then, to be words KS was encountering while working on homework for his IEOP classes. KS was encountering them multiple times in his classes and looking them up multiple times. What is disconcerting about KS’s method for looking up these words by Googling them is that sometimes he received different definitions each time he looks them up and some of the definitions Google returns for him are questionable. For example, when KS looked up fantasize on February 13, 2012, he chose “extremely good” as the definition. While KS appeared to be looking
up the definition of a verb, he doesn’t record finding the definition of a verb. Word class
and definition errors can be a hindrance to the perceived usefulness of a tool if learners
and teachers find that they do not provide reliable information.

Additionally, sometimes when KS looked up the same word multiple times, the
definitions he recorded each time were not the same. When he searched *compadre* on
February 6, 2012, the definition returned was, “a way of addressing and referring to a
friend or company,” and on February 17, 2012, the definition he recorded was, “a
friendly way to address somebody” (KS use log).

In other instances, the multiple searches did not occur over several weeks, but on
consecutive days or even in just a matter of minutes. KS recorded Googling *dilemma*
four times in the course of the study, on February 27, 2012, March 6, 2012, and twice on
March 7, 2012 in a span of four minutes. This repetition suggests that these words were
more difficult for KS to remember. It also demonstrates that since he was Googling the
word each time, he did not keep a record or word lists of words he was working to
acquire. KS reported that after looking up a word, what he did to keep track of the
information varied depending on the word’s level of difficulty for him: “Sometimes I will
take a note… the definition. The word is very difficult so I will take the notes. That is
very easy so I will just see the definition and do nothing” (interview, February 14, 2012).

With this statement, KS did not seem to have very definite strategies for acquiring
English vocabulary using his phone. Rather, when he was trying to complete a task and
noticed he needed the definition or translation of a word, he searched for it. Rarely, it
seemed, did he record these definitions because he did not have a particular strategy for
doing so.
While KS was not very habitual in how he kept record of definitions of words he had looked up, he was extremely patterned in his daily use of the smartphone.

_A day in the life of KS’s Infuse_

As previously mentioned, KS was very regular in his smartphone use. Each day in the log shows largely the same pattern. Table 4.3 is an excerpt of one day of KS’s use log. Each day in KS’s log started around roughly 8:40AM when he took the Cy-Ride from his dormitory to his first class; at this time KS logged that he listened to music in English. While on the bus, KS reported that he tried to remember lyrics that he has previously memorized: “I will read the lyrics in my home, in my dorm. And then I will try to try to remember the to memorize the lyrics and then I just listen to the music in the Cy-Ride” (interview, March 6, 2012).

Table 4.3

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/7/12 8:40AM</td>
<td>Cy-Ride</td>
<td>MusicPlayer</td>
<td>Listening to “rolling in the deep”</td>
</tr>
<tr>
<td>2/7/12 8:45AM</td>
<td>Cy-Ride</td>
<td>MusicPlayer</td>
<td>Listening to “when you’re gone”</td>
</tr>
<tr>
<td>2/7/12 8:48AM</td>
<td>Cy-Ride</td>
<td>MusicPlayer</td>
<td>Listening to “girlfriend”</td>
</tr>
<tr>
<td>2/7/12 8:40AM</td>
<td>Cy-Ride</td>
<td>MusicPlayer</td>
<td>Listening to “rolling in the deep”</td>
</tr>
<tr>
<td>2/7/12 8:45AM</td>
<td>Cy-Ride</td>
<td>MusicPlayer</td>
<td>Listening to “tiktok”</td>
</tr>
<tr>
<td>2/7/12 12:00PM</td>
<td>Library</td>
<td>Web, Google</td>
<td>Define “stumped” and I get the meaning is “to ask a question they cannot be solved.”</td>
</tr>
<tr>
<td>2/7/12 12:01PM</td>
<td>Library</td>
<td>Web, Google</td>
<td>Define “supplementing” and I get the meaning is “to add something in order to improve it.”</td>
</tr>
<tr>
<td>2/7/12 12:03PM</td>
<td>Library</td>
<td>Web, Google</td>
<td>Define “maritime” and I get the meaning is “connected to sea.”</td>
</tr>
<tr>
<td>2/7/12 12:05PM</td>
<td>Library</td>
<td>Web, Google</td>
<td>Define “dominant” and I get the meaning is “more”</td>
</tr>
</tbody>
</table>

7 Although February 7 is one of two days where KS recorded his highest amount of entries, it is still typical of his pattern of use and the additional entries help to illustrate these patterns.
Following his morning classes, KS typically studied in the library for a short time, where he used Google to look up words as he worked. The latest entry for this day was 12:14 PM, which was typical of a day for KS; the latest entry KS recorded in the log for using his Infuse at the library was 12:30 PM on February 9, 2012.

After his time at the library, KS typically did not record using his Infuse again for English study until the next morning as he rode the bus to class. The only exception to this pattern was the very first day entered in the log, where KS reported using his Infuse several times in the evening to Google words. Not captured in this log was any time KS received or sent a text message in English, which he did not consider English “study,” but he commented on how he believed his texting abilities in English have improved since he first arrived in the United States.

Texting in English
While texting in English was never an entry KS made in his use log, perhaps because of the perceived distinction between language learning and language use, KS did report texting in English quite often. He reported texting in English with his friends in America for two main reasons: his phone did not support Chinese characters and he was
the only Malaysian student in the IEOP and therefore English was necessary for him to communicate with some of his classmates.

After being in the United States for nearly two months, KS had already noticed a difference in the speed and ease with which he texted in English:

Before I … came to US, in Malaysia I always use Chinese typing for my friends, for my Chinese friend, but … after I came to US, I almost text the message by English and then I find that… I can type the message in a very short period, very fast. And I don’t need to … think a long time … how to spell word or, and the grammar. (interview, February 21, 2012)

Although initially contacted via email, KS chose to interact with me to set up interviews and report problems via text message. A sample screen shot of a text message exchange is provided in Appendix C.

KS provided an interesting case study to examine how language learners supplement their language study using their smartphones because he was so regular in what he did. He had very clearly found that, for him, using Google to look up vocabulary words, listening to music in English to pass time on the bus, and later using a pronunciation software to help him learn how to pronounce words, was helpful. His choice to use the smartphone only when it was not convenient for him to have his laptop or paper dictionary with him was a theme which emerged from the other participants in the study as well, although not to the rigid regularity with which KS adhered to it. KS’s tendency to use his smartphone primarily for lexical inquiries also appeared in each of the other participants’ smartphone study patterns. KS’s motivation for inquiring about these words appeared to be more related to his coursework than other participants, though, as
evidenced from his comments about the vocabulary words that appear in multiple chapters of his text books. The other participants, John and Sean, had other motivations for their activities.

**Participant 2 – John**

John was a 21 year-old Chinese male who used an iPhone 4. Talkative and energetic his interviews elicited great insight into the entries made in his chart. John consistently expressed great pressure to “pass” the TOEFL so that he could move on to further studies.

Table 4.4

*Summary of use log entries collected from John*

<table>
<thead>
<tr>
<th>At a glance</th>
<th>Time</th>
<th>Location</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Days with entries</td>
<td>Morning</td>
<td>School</td>
<td>48 (72%)</td>
</tr>
<tr>
<td>Entries</td>
<td>Afternoon</td>
<td>Library</td>
<td>31</td>
</tr>
<tr>
<td>Most entries in one</td>
<td>Evening</td>
<td>Class</td>
<td>17</td>
</tr>
<tr>
<td>day</td>
<td>Late night</td>
<td>buildings</td>
<td>13 (19%)</td>
</tr>
<tr>
<td>Average entries</td>
<td></td>
<td>Home</td>
<td>5 (7%)</td>
</tr>
<tr>
<td>per day</td>
<td></td>
<td>Transit</td>
<td>1 (2%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other</td>
<td></td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>26 (39%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>67</td>
<td>14 (21%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>14 (21%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.23</td>
<td>13 (19%)</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.4

Table 4.4 gives an overview of the data collected from John’s use log. While he averaged only 2.23 entries per day, John appeared to use his iPhone extensively for study and the number of entries he did make offered a picture of a fairly balanced approach to the use of his iPhone to supplement his English study. As far as time is concerned, John accessed his iPhone for English purposes fairly regularly throughout the day. Each of the time categories accounted for at least 19 percent and no more than 39 percent of John’s entries. For him, then, the iPhone really did appear to be a tool he constantly had with him and chose to use at all times.
As far as location is concerned, John made nearly half of his entries at school and nearly half of all of his entries (46%) were logged in the library. The heavy concentration of entries in the library may reflect the intense period of test preparation John was undergoing. It is also interesting to note that John makes several entries in his log while in class, suggesting that the instructors John has allow students, at least at times, to use their phones as a dictionary.

**Choosing the iPhone**

John had never owned a smartphone before coming to America, as he explained:

> When I was in my country, you know the price of the iPhone is so expensive so most of the people will not choose it and maybe we use, the very normal, maybe it’s also called smartphone but it’s not as smart as this, so it’s not a convenience for use it in my country to do such things in here, like the review words or just the download some programs to listen some English. This things didn’t happen in ordinary phones. So since I use this iPhone I think it’s very humanized …

> sometimes I think this look just the same as the computer. You know this is, many things ah, I can do, ah, I mean in my country, these things I can only do in my computer or in my book. This is more convenient. (interview, December 16, 2011)

Convenient and convenience consistently came up in John’s interviews, as he viewed the iPhone as a tool which made his study a more integrated part of his life. In fact, in part due to his smartphone ownership, John has come to view English study as more than just study:

> You know many Chinese students like me they can use the computer to learn something, and they also can have the class like IEOP, but the advantage I have is
that I can also learn English in the spare time, like when I get in the bus, or have a rest or have a meal. This time I can also learn English, but they can’t… It’s more like a hobby. (interview, November 4, 2011)

With this thought, John tapped into how his smartphone has helped him turn his English study from something he does during class and as home to something he views more as a hobby. In this way, his use of his smartphone has helped him develop greater potential for the type of learning that has been discussed as crucial for learners in the 21st century (Selwyn, Gorward, & Furlong, 2006; John & Wheeler, 2008).

**Smartphone vs. Computer**

A recurring theme in John’s comments was convenience. Again and again he mentioned the convenience of using his iPhone to study English. As with other participants he used the iPhone when it was more convenient than having his laptop with him. As he said:

If talking about convenience, I mean, when you walk out in the street or have a meal in the cafeteria, you know it’s not convenient to have a computer to listen to some English, so I can use the iPhone to listen some English. But compared some specific practice, like practice my listening, and I need to do some practice, iPhone can’t meet with my requirement, so I must use the computer. (interview, November 4, 2011)

John noted that for some tasks, like reading passages and answering follow-up questions, it was easier for him to use the computer because it was not convenient to use the iPhone due to the need to scroll on the touch screen so often. For this reason he preferred reading longer passages on the computer.
For other activities, such as listening, sometimes the computer was again more convenient than the iPhone:

As for the listening, sometimes I listen, listening the up-scale words, I need to look, the, look [at] the script. But if I use iPhone, I can’t do that on iPhone, these two things at same time, so I must use the computer. (interview, November 4, 2011)

While some researchers have pointed out that the iPhone’s ability to handle one application at a time may help focus learners on a task (Godwin-Jones, 2011a), in this case John found this characteristic of the phone to be a hindrance for his purposes.

On the other hand, John found scrolling on the iPhone’s screen easier than searching through a book for an answer:

This is more easy. If I use … some book edited by some Chinese people, like you need to turn over these pages, turn to the former pages to review the words. I don’t like it. You just use the phone and you slide, slide this. It’s more easy. It’s more easy for me. And sometimes you know in my phone is also have some games since I feel boring about the review some words I can play… I can take a break and go back. And if I use a book, sometimes this is not happen. (interview, December 16, 2011).

John appreciated the portability of the iPhone and how it allowed him to learn wherever he is, and the fact that for him, information was more easily accessible than paging through a book, but there are activities he still prefers to use a computer for. The situations and ways in which John chose to use his iPhone also differ according to his
specific needs at the time; this was particularly evidenced by John’s preparation for taking the TOEFL.

_Under the TOEFL influence_

Even more so than other participants, John continually expressed in his interviews and in his log, his intense focus on TOEFL. Because he was so busy preparing to take this test, John said this affected how he used his smartphone. “Sometimes I don’t have so much time to use any other way to know the English” (interview, November 11, 2011). Leading up to taking the TOEFL in mid-November, John focused a lot of his English study on preparing for the TOEFL. He did this because he feels “great pressure” and because:

In my class, I heard from some classmate tell me that seven people take the TOEFL test. … All these people they didn’t pass the TOEFL test. When I heard this news, I thought ‘Oh my God!’ … I need to face a great pressure. …I don’t want to another semester for studying English. (interview, November 11, 2011)

Based on the entries in his use log, John tended to prepare for the TOEFL by studying vocabulary and listening. To look up words he did not know, John used the dictionary function on the YouDao Chinese website and he likes to use the Voices of America (VOA) app on his iPhone to practice his English listening. John shared that he felt he must particularly focus on listening to improve his test score:

At the beginning of the semester, maybe, what surprised me was that maybe it’s just that I can use my phone for many rest time … it’s just the at the beginning of the time I think I have more spare time, so this is surprised me. I think this is very convenience. Since from the middle of the semester I need to prepare for my test, what surprised me is just I can practice my listen. … I found that I have a big
problem about my listening so I try my best to practice this. Smartphone is very useful to practice listening. (interview, December 16, 2011)

Between November 11, 2011, and November 18, 2011, John made nine entries specifically mentioning the TOEFL. Between November 16 and November 18 the only entries he made were related to the TOEFL.

Following the test, with entries on and following November 23, 2011, John’s entries changed rather dramatically. While he still accessed his iPhone for looking up new words and reviewing word lists, he also began entering other, more recreational activities, such as watching movies. As he said, “Since I have taken the TOEFL test, I have changed my way to study the English. Maybe it’s ah, more funny, like when I see the movie, I will use my iPhone to check the, to look up the new words” (interview, November 18, 2011). As for the rest of what he did with his smartphone, John said, “basically most of the time I use the iPhone just to learn some pronunciation when I recite some paragraph, some articles” (interview, December 2, 2011). John’s experience in particular highlighted that not only will each learner individualize their smartphone use to their own learning needs, but as those needs change, they will adapt them accordingly.

YouDao website and dictionary

The YouDao website and dictionary were a favorite tool of John’s. He had downloaded the YouDao iPhone application. YouDao is also a website, similar to Google or Yahoo, in that it is both a search engine and a news source. One may use it as a dictionary and if one has a user name and password, word lists can be stored for later
review. Figure 4.1 shows a screenshot of the results of looking up *throng* using the YouDao iPhone application.⁸

**Figure 4.1**

Since John, and another participant introduced later, reported use of YouDao as an important component of their language study, I briefly investigated it to gain a sense of the learner experience.⁹ Both the website and the iPhone application, are in Chinese, but offers English study options. Because it was a word one of the participants looked up, and therefore indicative of the kind of search a language learner at the intermediate level like these participants would make, on the day I accessed YouDao, I looked up the word *throng*. Figure 4.2 illustrates the results of this search. On the smartphone application, as

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⁸ Since I did not want John to incur any cost for the study, I downloaded the YouDao dictionary to my iPhone and took the screen shots of the application used in this write-up. Since I do not speak or read Chinese, I sought the help of a colleague who is a native speaker of Chinese and highly proficient in English; she explained for me the layout of the website, how to navigate, and the English-Chinese translations provided by YouDao.

⁹ Since I do not speak or read Chinese, I sought the help of a colleague who is a native speaker of Chinese and highly proficient in English.
on the website, the first return when searching the dictionary for a word is the direct Chinese to English translation broken down by word class. The searcher may also obtain more information by tapping the characters below the translation, where they could find information about the following, English phrases or idioms using the search word, including a Chinese translation; bi-lingual sentences; and entries from two other dictionaries, Collins and the 21st Comprehensive Chinese-English Dictionary.

Figure 4.2

![Image of dictionary search results]

throng  [θrɔŋ, θroŋ]

n. 人群；众多
v. 群集；挤满
v. 喧闹而至；群集
adj. 拥挤的

Figure 4.2 – Results of YouDao search for *throng*

Some of the features of this dictionary can be very helpful to learners. See, for example, the authentic sentences using the search term, in Figure 4.3.
Figures 4.3 and 4.4 illustrate the use of idioms using the term “throng.” Of less use is inaccurate information, as illustrated in Figure 4.4, which depicts phrases or idioms using “throng.” For example, it appears that entry nine is attempting to make reference to Sisqo’s “Thong Song.” While an ‘error’ as simple as making a mistake between referring to the “Thong Song” and “The Throng Song” may not cause grave miscommunication, it does highlight the need for learners to be trained in evaluating the learning materials they are accessing, whether they’re accessing them in a paper dictionary, online dictionary via the computer, or on a smartphone app.

The need for learner training for how to evaluate the tools they are accessing via their smartphones emerged from other participants who did not report use of the YouDao dictionary. KS used the Google toolbar right on the default home screen of his Infuse and since he very fastidiously recorded his definition searches and their results, it was possible to see when the first definition Google gave him (the one he said he usually used) could have been misleading. For example, on February 2, 2012, KS Googled...
impose, for which he was given (and presumably used) the meaning “to introduce” (KS use log). This definition never appeared in my Google search for impose and also is not included in the Oxford English Dictionary definition of impose. Although KS did demonstrate to me his Google search and definition selection process, a simple example like this demonstrated the need for the type of guidance Kuluklska-Hulme (2010) suggests learners will need in using mobile phones for language study.

**Selecting apps to download**

John stated that he did not want to “waste his money,” so he sometimes chose not to use his iPhone and did not download apps he had to pay for. In the case of the above example, which is both a website and an iPhone app, John recorded the times he used the iPhone app to search for a word, although he sometimes recorded “computer” in his log. He explained that these were times he was using his computer, yet took out his smartphone to lookup a word.

When browsing apps in the App Store on his iPhone, John considered price an important criteria:

Comparing the same program that is free that is not free, I think I would rather choose the free one. So when I wanted to use some programs I will search this programs in the Apple\(^1\) store, find the list of this program. If something’s free I will download this first. If something’s not free, choose the cheapest one … but the function of the program is also important. You know for some free programs, you know there are not so many function for the, not so many, uh maybe it’s just ah some … just like for some free program, there’s nothing after materials you

---

\(^1\) On the phone screen, this icon appears as “App Store,” but John calls it the Apple Store. “Apple Store” is a separate app available for download which sells Apple products.
can have, or just a part of the materials. So this is the big problem. If I want to learn more I need to download some more program. (interview, December 2, 2011)

John also became frustrated because sometimes the free programs did not have as much material. In evaluating the apps using both cost and content as criteria for usefulness, though, John demonstrated just how important the phone was to him as a study tool.

While occurrences of this use of his iPhone never made it into the use log, one of the more intriguing ways John used his phone was as a shopping aid. In his final interview, John discussed how often he used the phone to either help him explain what he was looking for to a sales associate or to translate ingredients or instructions from the packaging of an item so that he does not need to ask a sales associate for clarification.

John explained:

The first time I come to America and go to the Walmart, I say I needed to buy something like this, face, face secure – I’m not sure whether this is right or not. I don’t know how to explain this to the people who work in Walmart … and they help me to find out it. So I can use the smartphone to translate it. (interview, December 16, 2011)

While he did call the translation “bad,” and still couldn’t entirely explain the product he was searching for, he still found this use of the smartphone very useful.

Later, John said:

Generally when I go shopping I just use it to see the instruction on the product… so I need it to look up some confusing words … so most of the time I just need it
to look up the confusing words and I don’t need to ask the people working there to help me. (interview, December 16, 2011)

Using the iPhone as a shopping aid may not have appeared in the use log because John did not consider it study, or because he simply forgot to enter it into the log. Either way, using his iPhone to help him perform daily tasks while living in a foreign country demonstrates how powerfully the iPhone’s portability and connectivity can help a language learner live in a target language context. In relation to shopping, the situations John describes illustrate both how his smartphone was able to help him communicate with other speakers of English, and in another context provide him with the necessary assistance so as not to need to ask for help.

**Participant 3 – Sean**

Sean was a Chinese male who used an iPhone 4 and participated in the study during the Fall 2011 semester. Sean differed from the other participants in that he was focused on taking the IELTS as opposed to the TOEFL. Of the participants, Sean also used his smartphone for different purposes and in innovative ways. Table 4.5 breaks down a basic summary of Sean’s use log.

**Table 4.5**

*Summary of Sean’s use log entries*

<table>
<thead>
<tr>
<th>At a glance</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Days with entries</td>
<td>12</td>
<td>Morning</td>
</tr>
<tr>
<td>Entries</td>
<td>15</td>
<td>Afternoon</td>
</tr>
<tr>
<td>Most entries in one day</td>
<td>3</td>
<td>Evening</td>
</tr>
<tr>
<td>Average entries per day</td>
<td>1.25</td>
<td>Late night</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>At a glance</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Days with entries</td>
<td>12</td>
<td>Most entries in one day</td>
</tr>
<tr>
<td>Entries</td>
<td>15</td>
<td>Average entries per day</td>
</tr>
<tr>
<td>Most entries in one day</td>
<td>3</td>
<td>School:</td>
</tr>
<tr>
<td>Average entries per day</td>
<td>1.25</td>
<td>Library</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Class buildings</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Home</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Transit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other</td>
</tr>
</tbody>
</table>
With so few entries, it is difficult to draw conclusions about Sean’s typical patterns, but he seems to study primarily later in the day and at school, particularly the library. The following discussion will focus primarily on information gleaned from Sean’s interviews with supporting evidence drawn in from his use log where relevant.

*Sean’s iPhone use to study English*

Sean was rather erratic in the ways he recorded and discussed using his phone. The uses that came up in his log and in his interviews included word translation, watching videos, listening to music, looking up information about the IELTS, reviewing word lists, checking email, talking to Americans on the phone and looking up sources for a homework project.

Other activities he said he did on the phone included checking email and listening to music. Sean said he listened to music, “When I’m boring… have nothing to do so I listen to music” (interview, December 7, 2011). This experience was backed up by the Pew Research study that found that 70 percent of smartphone users use their smartphone to alleviate boredom.

While only one entry in Sean’s use log referred to texting or talking to Americans (or any other user of English) on the phone, Sean mentioned several times in his interviews texting and talking on the phone in English. He said he texted American friends in English, but “not very often,” maybe just for “basketball or the Halloween” (interview, November 2, 2011). Sean also sometimes texted his Chinese friends in English, but said this was “maybe just for kidding and just for fun,” (interview, November 2, 2011). Sean also said he talked on the phone in English maybe “twice a week or once a week,” and considered it a good way to practice both listening and speaking skills (interview, December 7, 2011). While Sean considered the traditional use
of a telephone a good way to practice listening and speaking skills, this study cannot quantify the extent to which he made any gains in acquisition due to speaking and texting friends on his phone.

**“Traditional tools” vs. smartphone**

As each of the other participants also did, Sean discussed the decisions he made when choosing to use the smartphone over a more “traditional” tool like the computer or a book. Many of the issues Sean raised, like screen size and ability to run more than one program or browser at a time, were also raised by other participants. For Sean, it was also always about convenience. He explained, “sometimes use the computer, because sometimes it’s … more convenient… Like at home … the speed of the Internet on the computer is much better… and the screen is bigger.” What is ironic here is that the log says he is actually at home, yet choosing to use his phone instead of his computer, which he claimed may sometimes be a better learning tool. His reasoning for this is, “Maybe when I do my homework I don’t use my computer because when I’m using computer I may, I may, um, search, um, lots of other website instead of study so I prefer to study without computer” (interview, December 7, 2011).

Choosing the phone for study instead of the computer the smartphone limits other distracting supports suggestions that using smart phones for study can help focus learners, for the very reason that the number of applications that can be running at any time are very limited (Godwin-Jones, 2011a). Sean’s desire to focus his study runs counter to some claims about his generation’s desire and ability to multi-task (Kvavik, 2005; Oblinger & Oblinger, 2005). This discrepancy reiterates the highly individualized learning that technology offers today’s learners.
**Unique use of smartphone**

Sean shared one unique use of his iPhone that no other participant reported, although it did not make an appearance in his log. One way he utilized his smartphone and deliberately decided *not* to use other tools was by taking pictures of textbook pages to reference later. He seemed to delete the photos from his phone immediately, though, as he did not have the photos on his phone during the interview we discussed the photos. “Sometimes I don’t want to print it so I can take photos, and, uh, sometimes, if I don’t want to carry the book because it’s heavy, so I take, because I only use a part of the book so I just take photos” (interview, November 16, 2011). He also said he takes the pictures on his phone because, “if I’m outside I won’t carry my bag, so I, but I still want to study, um, so I may take photos” (interview, November 16, 2011). Again, the portability of the smartphone and that a learner may always have it with him is an important characteristic smartphone users enjoy. He reported looking at the photos “maybe in class, maybe after class” (interview, November 16, 2011). Sean also said he had no problem reading the textbook from a photo and in fact, “can see very clearly” (interview, November 16, 2011).

Although Sean was unique in his utilization of his smartphone in this manner, in other facets of his use, such as his motivation and study focus, he was quite similar to the other study participants. Table 4.6 (following page) outlines key similarities and differences between participants that emerged in the course of this study.
Table 4.6

Participant motivation and patterns of interaction with smartphone for study

<table>
<thead>
<tr>
<th></th>
<th>KS</th>
<th>John</th>
<th>Sean</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Motivation</strong></td>
<td>Completion of homework tasks</td>
<td>Study for TOEFL</td>
<td>Study for IELTS</td>
</tr>
<tr>
<td><strong>Interaction patterns</strong></td>
<td>Accesses phone in morning while at school or traveling to/from school</td>
<td>Accesses phone at intervals throughout day, largely while at school</td>
<td>Accesses phone largely in the afternoon while at school</td>
</tr>
<tr>
<td><strong>Primary use</strong></td>
<td>Lexical inquiries</td>
<td>TOEFL prep, lexical inquiries and listening practice</td>
<td>Test prep, lexical inquiries, communicating with friends</td>
</tr>
</tbody>
</table>

Table 4.6

Comparing the participants through this table demonstrates that certain patterns emerge. Both John and Sean were intensely focused on preparing for high-stakes exams, and this affected their motivation for using their smartphones for study; KS was preparing for the TOEFL as well, but this preparation did not manifest itself to a large degree in either the use log or the interviews. While each participant adapted their access patterns in terms of time to their own learning needs, all three accessed their smartphone for language study purposes largely at school or while traveling to or from school. A common thread among the participants was also the degree to which lexical inquiries were a primary means of smartphone use. Analysis of these similarities and differences allowed for conclusions to be drawn in reference to the research questions.

**Research Question 1**

Research question one sought to examine how, when, and where learners use their smartphone for language learning and what inferences about their patterns of study could be made from this information.
Each learner created their own smartphone study habits for their own situations. Largely, though, each participant recorded accessing their smartphone at least once in each time category, suggesting they truly are taking advantage of the anytime, anywhere capabilities of their smartphone. Table 4.7 contains information about each participant’s smartphone use throughout the day.

Table 4.7

Participants’ smartphone use by time of day

<table>
<thead>
<tr>
<th>Time of Day</th>
<th>KS</th>
<th>John</th>
<th>Sean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning</td>
<td>84 (55%)</td>
<td>Morning 14 (21%)</td>
<td>Morning 1 (7%)</td>
</tr>
<tr>
<td>Afternoon</td>
<td>63 (41%)</td>
<td>Afternoon 26 (39%)</td>
<td>Afternoon 8 (53%)</td>
</tr>
<tr>
<td>Evening</td>
<td>1 (1%)</td>
<td>Evening 14 (21%)</td>
<td>Evening 2 (13%)</td>
</tr>
<tr>
<td>Late Night</td>
<td>5 (3%)</td>
<td>Late Night 13 (19%)</td>
<td>Late Night 4 (27%)</td>
</tr>
</tbody>
</table>

Table 4.8

As can be seen, each participant made at least one entry in each time category; the degree to which their smartphone access was balanced throughout the day varied, though. Of the participants, KS was the most regimented in his time of access. Ninety-six percent of his log entries occurred in the morning and afternoon categories, demonstrating that he strongly preferred to use his smartphone when he was typically on campus, and without his computer, and used the computer when at home. Figure 4.2 shows the number of entries made in KS’s log by hour of day.
This figure again demonstrates how KS strongly preferred to use the smartphone in the early hours of the day, specifically between 8:00 and 9:00 am and between 12:00 and 1:00 pm. KS worked like clockwork; he used his Infuse on the bus on the way to his morning classes, sometimes during class or between classes, in the library during the afternoon, and on the bus ride home from school. Even though he said he never uses his smartphone when at home because he has his computer to perform any task he needs there, six entries did occur in the evening or late night categories while at home, suggesting that there are certain contexts in any location KS finds the smartphone a useful tool.

Of the participants, John’s use was the most balanced throughout the day in terms of time of access. He records accessing his smartphone for study in each time category, with no less than 19 percent and no more than 39 percent of his entries coming in any one time of day. Figure 4.3 outlines the number of entries in John’s log by hour. John’s
access by hour was clearly more dispersed throughout the day than KS’s. John, then, seems to be embracing certainly the “anytime” possibilities smartphones offer. John’s peak hours of use also correspond to his dining hours, reinforcing his comment about viewing himself as “lucky” because his iPhone allows him to study during meals, turning English learning into a hobby.

![John Entries by Hour](image)

Figure 4.6 – John Entries by Hour

Sean tended to be slightly less predictable in his recording and use patterns, but generally he accessed his phone at various times throughout the day. He recorded at least one entry in each time category, although more than half of his entries (53 percent) occur in one time period, the afternoon. As with the other participants, the large number of smartphone uses logged in the afternoon for Sean corresponded to when he was on campus, primarily studying in the library. Figure 4.7 contains Sean’s use log entries by hour.
Just as participants were varied in *when* they used their smartphone, they also reported different patterns of behavior as to *where* they accessed their smartphone. Table 4.8 (following page) breaks down the participants’ use log entries by location.

Smartphone use by location for all participants is shown in table 4.9. While time of access for John is fairly balanced throughout the day, location of smartphone use is less balanced for John and other participants. This table illustrates that for John, his location at the time of access is more fixed. Fully 72 percent of his recorded accesses are somewhere at school. Of the smartphone use logged at school, 65 percent occurs in the library while 35 percent takes place in various classroom buildings. If it could be claimed earlier that John was taking advantages of the anytime capabilities of his smartphone, it could also be claimed that his use log demonstrated he was not fully taking advantage of the anywhere potential of his phone.
Table 4.8

*Participant smartphone use by location*

<table>
<thead>
<tr>
<th></th>
<th>KS</th>
<th></th>
<th>John</th>
<th></th>
<th>Sean</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>School</td>
<td>74 (48%)</td>
<td>School</td>
<td>48 (72%)</td>
<td>School</td>
<td>11 (73%)</td>
<td></td>
</tr>
<tr>
<td>Home</td>
<td>6 (4%)</td>
<td>Home</td>
<td>13 (19%)</td>
<td>Home</td>
<td>4 (27%)</td>
<td></td>
</tr>
<tr>
<td>In transit</td>
<td>73 (48%)</td>
<td>In transit</td>
<td>5 (8%)</td>
<td>In transit</td>
<td>0 (0%)</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>0 (0%)</td>
<td>Other</td>
<td>1 (1%)</td>
<td>Other</td>
<td>0 (0%)</td>
<td></td>
</tr>
</tbody>
</table>

The same preference KS showed for using his smartphone for learning English at particular times of day appeared again in where KS records using his iPhone. Again, 96 percent of his entries are made in two location categories, at school and in transit. That KS chose to use the smartphone so often while in transit suggested that he appreciated the portability of the device and possibly had a desire to use his commute time productively.

A commonality among the participants was that they each used their smartphone for English purposes at school more than in any location. John and Sean each overwhelmingly used their smartphone at school more than in any other location. Sean only reported using his phone in one other location, his home. John recorded using his phone for English study in both the transit and other categories, but each of these account for less than 10 percent of his entries. Each of the participants discussed in interviews that they preferred to bring their smartphone to school because it was lighter and easier to carry than their laptop.

When the participants were at home, however, they used their smartphones to study English rather infrequently, at only 4 percent, 19 percent, and 27 percent of their entries. KS was very adamant about using his laptop whenever he was home because he did not like the smartphone’s touchscreen and preferred to use a mouse and keyboard.
Of the participants, Sean used his phone at home the largest percentage of the time, even though he claimed to prefer to use the computer when he was at home because of the faster Internet. Sometimes, though, he said he did like to use his iPhone instead of his computer at home because he could only have one application open at a time and was less likely to get distracted (interview, December 7, 2011).

KS appeared to take most advantage of the smartphone when he was in transit, using it everyday as he rode the bus to or from school. Other than these entries, though, the participants did not record many entries in different locations. Their preferences seem very clearly to be to use the smartphone in a certain setting (e.g., school), and to use another tool, such as their laptop, in another setting (e.g., home). Their English study on their smartphone seems to take less advantage of the anytime, anywhere possibilities than might have been predicted, but each learner was able to build into his schedule study habits which suited his needs.

**Research Question 2a**

The second research question was divided into two related questions. The first sought to determine the beliefs learners had about how they were supplementing their language learning with their smartphones. For research questions 2a and 2b, comments from the two participants with incomplete use logs will be used to support the comments and ideas from the three study participants already introduced and discussed. Their comments reinforced the ideas shared by KS, John, and Sean.

The two additional participants, Tim and Harry, are also male, L1 Chinese speakers who studied in the IEOP. Both owned an iPhone 4GS; Tim bought an iPhone for the first time upon arrival in the United States while Harry had previously owned an iPhone 3GS in China and upgraded upon arrival in the United States.
Three broad themes emerged from interviews with the five participants about how they view themselves using their smartphones for English study. These language learners believe they use their smartphone mostly for lexical inquiries and standardized test preparation. They also shared that they use the smartphone primarily when they chose not to carry their computer with them. Figure 4.8 shares uses mentioned by at least one participant in their interview or log as a way in which they believed they used their smartphone to improve their English.

Figure 4.8

![Bar Chart](image)

**Figure 4.8.** Ways participants view themselves using smartphones for learning English

This figure illustrates that participants largely believed they used their smartphones in similar ways to learn English. Either four or five participants mentioned using their smartphone as a dictionary, to listen to music, to surf or search information on the Internet, and as an aid for TOEFL or IELTS preparation. Just as most participants believed they use their smartphone to study English in these ways, they also commented
on them most frequently in interviews and their use logs. Similarly, those uses mentioned by only one participant were not discussed frequently in that participant’s interviews.

Participants most frequently commented in their interviews that they used their smartphone as a dictionary. Each participant mentioned using their smartphone as an e-dictionary in every interview. Sean’s reasoning for using his smartphone as a dictionary was very typical of this study’s participants: “It’s very convenient, like you can search the vocabulary very fast, not find the dictionary, it has the e-dictionary, it’s very fast and convenient” (interview, October 26, 2011). These language learners were responding to the immediate access to and response from the e-dictionaries on their phones. They appreciated not having to track down a dictionary and then search through the book for the word. Their phone did that work for them.

The convenience of having the smartphone provide a definition for them was not the only aspect of using the smartphone as a dictionary that participants appreciated; the ability to create personalized word lists to review later. As Harry explained:

It’s very convenient because it’s very small and I can keep it all the time. It’s very useful dictionary for me. And I can see those words I met and save them in my cell phone and go through them later… And besides maybe I can read some essay, English essay or something by my cell phone. (interview, February 1, 2012)

Not only do these learners seem appreciate that the smartphone gives them immediate access to a dictionary, but they also liked that they were able to easily store and access words they had looked up to review them later. John, Sean, Tim, and Harry all reported using some program that allowed them to keep a log of the words they were working to acquire and access them to go over them when they had a few spare moments, such as
while riding the bus to or from the university. Participants mentioned this capability made them feel like they could study English anytime they wanted, wherever they were, and also made them feel that they could answer certain questions for themselves, without having to ask a teacher.

Tim discussed using his smartphone for lexical inquiries in every class: “… in writing class I want to find some same meaning words, and reading class want to figure out the reading passage, and the oral communication, maybe, want to understand what I listened, and the grammar class, lots of reading passages, so it’s very useful to use a dictionary to check words” (interview, November 15, 2011). For Tim, then, his smartphone appeared to be a primary tool he relied on throughout each school day.

Preparation for standardized English proficiency tests was another way participants believed they used their smartphones to learn English. They believed the capabilities of their smartphone could help them with vocabulary, as well as specific skills tested on an exam such as TOEFL or IELTS. Both listening and speaking were mentioned by participants as skills they believed they used their smartphone to help them improve. For example, Tim mentioned that on his iPhone he liked to use “some software can record my voice. I can listen my voice, practice my speaking, [for the] speaking section” (interview, November 1, 2011). While test preparation was brought up by four participants as a way they believed they used their smartphone for English purposes, particularly in that they could work on their vocabulary, listening, and speaking, specific listening and speaking skill practice was rarely recorded in their use logs or discussed in interviews. This discrepancy suggested that, at times, there were differences between how
these language learners perceived how they were using their smartphones to study and how they were actually utilizing them.

Additionally, participants mentioned using their smartphones to help them with English while shopping or completing other day-to-day tasks, such as going to the doctor. Harry shared:

Yesterday when I went shopping and I find a lot of words I don’t know. I don’t know what’s this so I use my cell phone to look for what it is … So I should take my phone all the time to make sure I can understand some things that’s difficult for me. I even don’t know where I can buy such as instant noodle or some thing . I should look for what’s this [making phone scrolling motion with his hands] and then I can understand what it is (interview, February 1, 2012).

Harry brought up this use of the smartphone in multiple interviews. He also discussed how the smartphone helped him communicate with a doctor when he was ill and having difficulty understanding what the doctor was telling him:

And doctor told me how to use it however I cannot understand some words and the doctor said so I let doctor … type them in my cell phone and I can understand … The doctor told you got the kind of sick and I said, ‘Oh sorry I don’t know can you type it?’ And the doctor type the kind of sick, that, Oh! In Chinese I can understand. (interview, February 8, 2012)

Using the smartphone in this manner was also brought up earlier in this chapter when John mentioned using his iPhone while shopping to look up words he did not know or to help him communicate with store employees. Participants viewed their smartphones as useful for navigating English in their daily lives, whether they were shopping, visiting the
doctor, or need directions on the street. In these circumstances the smartphone helped them bridge the gap between what they know and what they perceive they need to know in a given context. These instances made limited appearances in the use logs, however, suggesting either that these study participants did not view it as a part of their English language learning or they did not view it as something I, as the researcher, would be interested in.

Participants did discuss less frequent ways they used their smartphone to study English, such as KS’s explanation of how he used his phone was rather typical of the participants: “I just use the Web to check the dictionary, use the Skype, and call my friend sometimes, just message, use the camera” (interview, February 14, 2012). He clarified that he used Skype to talk with his family back home in Malaysia, so he was not using this application in English, but was aware of its existence and used it for some purpose. KS reported texting most of his IEOP friends in English and also communicated with me via text; he also felt that his ability to text in English had improved during his time in America.

Sean also made mention of English text messages and discussed in his November 2, 2011, interview learning American slang for basketball when an American friend texted him to see if he wanted to play “hoops.” Since Sean didn’t originally know what his friend meant, he had to ask. These examples illustrate that while participants don’t log these communications, they were using the phone as an English communication tool and believe that it is helping them with some facet of their English study and use. Participants may not have logged these English interactions because they occur frequently or because
of the way they perceive the role of their smartphone to be in their private lives and school lives.

**Research Question 2b**
Research question 2b was also concerned with investigating participant perceptions; it sought to examine how language learners viewed the role of their smartphone in their language learning now and in the future.

Each of the participants clearly viewed the smartphone as a tool that was sometimes the most appropriate one for them to use. KS is the starkest example of having a strong belief that the smartphone is a good tool in some contexts (when he is at school or in transit) while a computer is a better tool in some contexts (when he is at home and has his computer). They each see benefits and limitations to the use of this portable personal device as a learning tool and embrace it as one of multiple tools they use. Where the participants vary in their beliefs about the smartphone’s usefulness is the classroom itself.

**Views on smartphones in the classroom**
While each participant at some point mentioned using the smartphone in class, they did not all believe it could play an important role, if any role, in the classroom. Sean, for example, pointed to a less than positive characteristic of smartphones and students when considering the role he believed a smartphone could play in formal language learning. He suggested that “if your teacher allowed you to use cell phone, in the class, maybe some students, maybe, would play some games or text each others so it’s not very good to allow them to use that” (interview, October 26, 2011). With this comment, Sean exemplified the need for MALL to address the perception that a smartphone is more toy than tool.
John agreed with Sean; he did not think it would be useful for teachers to allow the use of smartphones in class. “You know, iPhone has so many software about entertainment. If the teacher like allow the people, allow the student to use iPhone I don’t think so, I don’t think most of the student will put their attention on this” (interview, November 4, 2011). He did find the iPhone to be useful to him outside of class, but if anyone wanted to use it in class, he felt that the use should be limited to, “just look up a word if you don’t understand,” because he believes so many students would be distracted or play games on their phone (interview, November 4, 2011).

Tim offered a different perspective on the use of smartphones in the classroom. He suggested that allowing the use of smartphones would help students answers certain questions by themselves. He said, “I think teachers should allow students to do that [use their smartphones as dictionaries in class] … because teachers don’t have much times to answer this student’s questions and this student’s questions. Maybe students should check it by themselves” (interview, November 15, 2011). His perspective suggests that smartphones offer students the ability to take responsibility for discovering answers on their own when not in the classroom, or possibly allowing instructors more time to address other, more complex issues. Tim concluded his thoughts on smartphones in the classroom by asking simply, “It’s a small thing, smaller than the computer. If we can use the cell phone instead of the computer during our class, so why not we use our cell phone?” (interview, November 1, 2011). With these comments, Tim truly seemed to be ready to embrace the smaller, more convenient (to him) smartphone as a primary tool for academic pursuits.
Together these comments suggest that for these learners, as far as language learning is concerned, the smartphone is largely a readily portable electronic dictionary. The only context in which they seem to believe its use should be allowed in class is so that students may look up vocabulary items on their own. Their comments about too many students texting or playing games on their phones during class suggest that they, too, view it largely as a toy, even if it is a toy that can sometimes be a useful study tool. Stockwell (2007) has suggested that “in the same way that not all learners embraced computer technologies as a study tool at the same rate, as mobile technologies become more common-place, the line between private and learning – in the minds of learners – may become less distinct, and with it a widening acceptance of learning through mobile devices” (p. 380). These learners appear to have accepted their smartphones as a learning tool in some instances, but they still view it to a certain extent as a private tool, one they use for study on their own. Their experiences suggest that while learners will accept learning through mobile devices at varying rates, so, too, will their acceptance progress at different rates through different stages.

Even when they do see the smartphone as a useful tool, the participants also expressed they wished there were tasks their smartphone could help them with that it currently doesn’t have the capabilities to do or they don’t use it in that way

Wishes for smartphones

Each of the participants focused on different aspects of the smartphone they wished would be improved upon. John was very much focused on the cost of downloading useful apps; not wishing to pay for the apps he used to study English was a consistent theme in his interviews.
In a different vein, Sean wished the smartphone would function more like a tutor, when he say, “If the phone can teach you how to write the essays and something like the presentations and help you to find some mistakes that would be better” (interview, October 26, 2011). Similarly Tim also wished his smartphone allowed him to easily type longer passages. He shared, “I hope it can have a keyboard, bigger keyboard, because keyboard is very small. I want to, maybe, type something easily, maybe write a passage, write a essay very easily” (interview, November 1, 2011). With this comment, Tim seemed willing to use his phone as a tool more central to his academic pursuits. Whether these learners will ever be able to actually do this with their smartphones remains to be seen, but their comments do demonstrate the important role they believe they smartphone could play in their language learning, even if it doesn’t currently affect their English study habits in that way.
CHAPTER 5: CONCLUSION

The final chapter of this thesis presents the conclusions to the study, followed by the implications as well as limitations. It concludes by offering recommendations for further research.

This study has found that to a large extent, these learners were using their smartphones for lexical inquiries and test preparation. They were also using them for various kinds of communication, through phone calls, texting, and video chat.

The smartphone use for English study of these participants demonstrated that while some smartphone use for language learning remains rather pedestrian (Godwin-Jones, 2011a; Kukulska-Hulme & Shield, 2008) these language learners appeared to view using their phones as a way to take responsibility for their learning and a way to turn learning English into a lifelong pursuit.

By referring again to Kukulska-Hulme’s (2010) summary of smartphone activities emerging in the years 2005-2010 (found on page 17) and comparing those activities to those reported by the participants in this study, it becomes clear that many of the activities made possible by smartphones were not utilized by participants in this study. These participants did not report using the smartphone for Kukulska-Hulme’s categories “social community and interaction,” “location-based activity,” or “user-created content.” This suggests that learners do not realize their smartphones can be used in this way, choose not to use their smartphone in this way, or the study way set up in such a way that it did not capture their smartphone use in these categories.
Implications

The intent of this study has been to observe and describe how English language learners use their personal smartphones to supplement their formal English study with their phones. The depth of data that was collected from study participants allows inferences to be made about how some language learners supplement their language study with smartphones and why it is important for educators to have this knowledge. It is the goal of this section to suggest how findings from this research may be used for real-world applications. The main suggestions which can be made from this study are that learners need training in order to appropriately and ethically use these devices as learning tools; educators and researchers interested in promoting MALL will need to concern themselves with the toy or tool tension of smartphones. Table 5.1 outlines these claims and evidence from this study that supports them.

Table 5.1

<table>
<thead>
<tr>
<th>Implication</th>
<th>Evidence</th>
</tr>
</thead>
</table>
| Learners need training to effectively use smartphones as learning tools | • Inaccurate information given to and used by participants from YouDao and Google  
• Participants believed smartphones were a useful way to practice specific skills, like listening, but didn’t report using smartphone like this |
| Learners need training in ethical use of technology  | • Sean’s photos of textbooks                                               |
| MALL practitioners need to concern themselves with toy vs. tool tension | • Participants’ reluctance to accept smartphone in classroom  
• Instructors not allowing use of smartphones                                      |
Smartphones have been discussed as potentially allowing learners to individualize their learning (Kress & Pachler, 2007; Naismith et al., 2004; Okabe & Ito, 2006; Ros i Sole, 2009); the participants in this study demonstrated this may be true by appropriating their personal smartphones to their own individual needs. Each participant was able to take advantage of the portability of the smartphone and all mentioned using it in a setting like a classroom because, for them, it is more convenient to have this tool with them constantly than either a computer or a printed book.

**Learner training – effective use**

Although the intent of this study was to observe and describe learner behavior and not evaluate the efficacy of it, it became apparent that learners needed instruction in how to use technology effectively. Learners’ need for guidance became clear through their belief that they used the smartphone in a certain way without actually recording it, ineffective use of the technology, and the fact they didn’t report any uses in three out of Kukulska-Hulme’s (2010) activities which emerged from 2005-2010. These activities, emerging two to seven years ago are hardly cutting-edge at this point and that learners didn’t report engaging in them may suggest that they need guidance in seeing the bridge between their smartphones capabilities and how it can help them acquire English. This idea has already found its way into CALL literature, for example in the form of Hubbard’s (2004) claim that learners need training in general CALL exploitation strategies and that learners receive teacher training so that they may understand why they need to do what they need to do and may accomplish this more effectively. The following discussion will demonstrate why the participants in this study would have benefitted from the type of technology and strategy training Hubbard (2004) suggests for CALL.
Giving learners teacher training will empower them to make “better” decisions for themselves. This will respond to Kukulska-Humle’s (2009) claim that learners will need guidance to make the most of mobile phones as a learning tool. It will also mediate what Tough (1973) found in investigating adults’ independent learning projects – that adults were unsure and insecure about the efficacy of their self-teaching. As technology and education in the twenty-first century can increasingly support independent, informal learning, more learner training about effective tools and methods for study can both increase their motivation and autonomy and help them make larger learning gains.

For educators to accept the smartphone as an acceptable language-learning tool, the results for learners need to be accurate. The plethora of information and sources available online necessitates that learners in the twenty-first century know how to search for and evaluate tools effectively. Both the NETS and TESOL technology standards set this as a goal for learners. In addition, they also touch upon ethical use of technology.

**Learner training – ethical use**

Not only is learner training important for learners to make informed, effective decisions about their study, but also necessary for them to make ethical decisions about their smartphone use. During the course of the study, Sean discussed using his smartphone to take photographs of a book so that he may have the material with him while leaving the book at home. While he claimed to have purchased the books he was photographing, this use of the capabilities of the iPhone demonstrates that users of these devices need training in ethical use of them. Sean’s use of the camera function of his iPhone to have the textbook material with him even in the absence of the physical book also suggests that for some learners today, access to textbooks on a mobile device like a smartphone (or iPad) may be preferable to a traditional book. Educators and publishing
companies will need to consider the platform through which they deliver textbooks as more students own smartphones; with this consideration, then, will need to come considerations of how to educate learners about ethical use of these devices.

**Toy vs. tool tension**

An additional implication that made itself clear in this study was the need for MALL practitioners to concern themselves with the perception of the smartphone as a toy and never a tool. The learners themselves demonstrated that they still held this belief to a certain extent when they each expressed they did not believe smartphones should be used in a language classroom because students would get too distracted by either games or texting.

What is alarming is that when some students *do* use their smartphones as a tool and instructors or administrators do not allow their use in certain settings, learners can find themselves without a tool they need. While each of the participants in this study reported at some time using their smartphone in a class as a dictionary, they each also commented that many of their instructors do not allow the use of phones during class. KS explained, “in IEOP classes, there is some rules like I can’t use the computer or the phone in the class unless the lecturer say that we can use to find the definition” (interview, March 5, 2012). KS accepted this without question as simply the rules. KS had previously explained, however, that he never carried a paper dictionary with him because of its bulk. When probed about what he did when his instructors did not allow the use of the phone in class and he needed one, KS said he would “ignore … the vocabulary I don’t know” and try to understand the main ideas from surrounding words that he does know (interview, March 5, 2012). If he still cannot make sense of the words, though, he skips them.
It is worrisome that the potential for a disconnect between educators and learners exists because some learners do rely on the smartphone as their primary dictionary. Not only does this example highlight the need for resolution of the tension between smartphone as toy and smartphone as tool, but it also reiterates the need for learner training in effective strategies and ethical use of technology. With other strategies at his disposal, KS would not need to simply skip words or passages he could not understand if he was not allowed use of the dictionary on his phone. If learners were reliably trained in ethical or proper use of the smartphone the temptation to use it as a toy during class could possibly be diminished.

Along with the conclusions and implications that emerged from this study, so, too, did its limitations.

**Limitations**

Several limitations of the study must be noted. These limitations include the homogeneity of the participants, the use of self-report data, and having only one researcher coding and analyzing the data.

Due to the homogeneity of the study participants, it is difficult to confidently infer that the smartphone behavior of these participants will predict the behavior of other smartphone owners and users in any way. All but one of the participants were L1 Chinese speakers who used iPhones. All of the participants were also males; there was no way to examine how females use the technology available to them. Due to the self-selecting nature of the participant search, there is no way to tell if there are only males in this study because males use the technology *more*, or if there is some other factor at play, such as the gender of the investigator or female timidity with regards to learners sharing their technology use (Rees & Noyes, 2007).
If there were to be further research done in this area, it would be necessary to include more language backgrounds and smartphone types as well as to approach the study more longitudinally, across a semester, year, or longer.

Because of the way the study was set up, not every occurrence of smartphone study use was recorded. Inconsistency in recording activity by the participants limits the extent to which I can confidently interpret the data. This was, of course, one reason for including the weekly interview portion of the study – to discuss other activities participants may have forgotten to log – but it did lead to a hole in the big picture of smartphone language study. Such is one risk of self-report data. Although both Wali et al (2009) and Crook and Barrowcliff (2001) both found that student self reports in their studies were generally consistent with their other sources of data, it is still prudent to include these other sources of data to ensure accuracy and validity (Wali et al, 2009).

The use of self-report data also meant that the data the study collected hinged upon the participants’ understanding of what was meant by use of your smartphone for English learning, which limits the confidence with which generalizations about their experience can be made. At least half of each participant’s entries logged smartphone access on the university campus, which may have been due to their belief that, as the researcher, I was interested primarily in their smartphone use directly related to school activities. To ensure that what participants are recording demonstrates their actual experience with the smartphone it would be necessary to make clear to participants that the study was interested in all forms of language learning, not only formal study.

For more complete, accurate data, it may be necessary to find a way to capture a log on the smartphone of the programs a smartphone user and language learner accessed
and then download and analyze that information. Examples of software which have been developed for this purpose include Rubberneck and Mobile Tools’ eTaitava\(^\text{11}\). These programs allow researchers access to time-stamped information about which programs participants accessed, their location at time of access, and their interactions.

While allowing researchers access to participants’ actual use, these programs also come with their own set of limitations, however, including important privacy and ethical issues. Participants may not want researchers to access certain aspects of their smartphone life and, indeed, some aspects of a participant’s smartphone life may be found to be inappropriate or unethical (Vavoula, 2009). Because of this, considerations need to be made as to allowing participants to withdraw from participation in a study at any time, or allow them access to their data (e.g., to allow them to delete data that was private, inappropriate, or identified a correspondent who had not consented to be part of any research study) (Wali \textit{et al}, 2009).

Additionally, a limitation of this study was that only one researcher coded and analyzed the data. Having multiple researchers analyze and discuss their analysis of the data would have allowed for “a certain degree of consensual interpretation” (Pachler, Cook, & Bradley, 2009, p. 81). Collaborating with other raters and consulting with them about their analysis of the data and coming to a consensus would allow for a greater degree of confidence in my analysis and presentation of the results.

Both the limitations and the results of this study have contributed to recommendations for further research regarding smartphones and language learners.

\(^\text{11}\) [www.mobiletools.fi/en/?page=etaitava](http://www.mobiletools.fi/en/?page=etaitava)
**Recommendations for further research**

Based on the findings of this study, recommendations for further research in how language learners utilize their personal smartphones can be made. These recommendations include inquiries into how learners used the information they searched for on their smartphones, the actual language use and learning gains made possible by the smartphone use, a more inclusive approach to study participants, and examining smartphone and other technology use more longitudinally.

While this study identified language learner smartphone habits in where and when they accessed their smartphone for learning English, it did not address what study participants did with the information they received (e.g., the definition of a word) or the way they used English in their daily lives. Information about how they integrated language use via their smartphone into their every day lives through communication with friends, social media activity, or activities such as shopping or doctor’s visits were brought up in the participant interviews but were not a focus of this study. Examining use of this manner would be one logical next step from this study because a study of this nature could point to the ways in which this technology could help language learners express and develop a sense of self in English.

While these practices may not have come out partly due to the nature of this study, further research should be done in the area of how learners can make learning gains through interaction using their smartphones. Participants touched lightly on the confidence or ease with which they now texted in English after owning their smartphones for a while, but this is an important area of mobile phone use which appears to have been underexplored. Little *et al* note that:
there is a fair degree of consensus concerning the kind of context that promotes language learning. Basically, language learning is fostered by contexts which are rich in opportunities for interaction in and with the target language. ‘Interaction’, as the formulation of the last sentence implies, has here a social and a psychological sense. (1989, p. 2).

Future investigations into smartphones as a language-learning tool should examine learner interaction – whether that interaction is learner-learner, learner-smartphone, or learner-native speaker. MALL cannot help foster successful learning until it identifies and creates opportunities for interaction in the target language.

Future studies will also need to address learning gains more directly in order to gather information about what can actually be learned using mobile devices like smartphones. In this study for all that students were “doing” there was no actual measure of what they were “learning.” They could have been looking up words twenty times per day and acquiring none of them and this study would never identify that.

While there was no direct “pedagogy” in the current, information was transmitted very much one way. The learner noticed they needed some bit of information, looked for it using their smartphone, plugged the answer into whatever project they were working on and went along their way. While originally and at its very essence, a communication tool, the study participants here reported very little use of them in any sort of dialogic way. Part of this issue may deal with what Mayes (2000) touches on in his discussion of pedagogy and information-communication technologies (ICT):

There are really two pedagogies associated with ICT. One of the delivery of information – this is predominantly the pedagogy of the lecture or book, and
emphasizes the ‘IT’ – the other is based on the tutorial dialogue and involves conversations between tutors and students, and mainly emphasizes the ‘C’. Of course, successful teaching is underpinned by both – and the rapid interplay of the two is ideal – but in the context of lifelong learning policy the real problem is that ‘IT’ is cost-effective and ‘C’ is not. Unfortunately, in terms of pedagogic effectiveness, the second is better than the first. (cited in Selwyn, Gorard, & Furlong, 2006, p. 28)

In order to take advantage of the affordances of the technology, or at the very least to examine whether the smartphone can offer the in-context interaction and learning which has been purported, future studies need to focus more on the communication and interaction made possible through smartphones. This need for a focus on communication is reiterated by the fact that it has been noted that today’s learners are more oriented toward social activity and learning (Oblinger & Oblinger, 2005), as well as the fact that these digital devices in fact allow for instant communication from even great distances.

An additional recommendation for future research is that it be more inclusive and examine less visible individuals with regard to smartphone use. There is a tendency for educational researchers to go searching for or over-privilege more “visible” users of a technology – those who are avid users or known learners. Investigating these individuals questions can be “less time-consuming expensive as well as more likely to yield relevant data in terms of our research questions” (Selwyn, Gorard, & Furlong, 2006, p. 39).

Addressing complex issues of inclusiveness regarding this technology will require asking questions of those individuals who were not investigated in this study—those who do not have smartphones or who do own them and choose not to use to supplement their
language study. How learners without smartphones now supplement their learning outside of the classroom would also be useful to know. If the argument is that we are living in a society of increasing smartphone ownership, the experience of the have-nots, and also understanding how to help them, is critical.

A final research recommendation involves taking a more lifelong approach to an investigation of lifelong learning. Learning contexts and needs change dramatically over the course of a year, five years, or a lifetime. As such, in order to understand how learners are adapting technology, as technology too evolves, to their individual learning projects, will require a more longitudinal approach. “Even the most dedicated learner or heavy user of technology will develop, refine and alter the quantity and quality of engagement as their life circumstances alter” (Selwyn, Gorard, & Furlong, 2006, p. 40). Even in the course of a six-week study it became evident that the learners’ patterns of behavior changed dramatically based on the time in the semester or as their TOEFL or IELTS test date approached. Because of this it would be useful to gain a more longitudinal perspective of learners’ use of smartphones. That period of time may be one semester, one year, or longer. Lifelong learning merits a lifelong approach to research.
## Appendix A

### All participant use logs

#### Use log – KS

<table>
<thead>
<tr>
<th>Date/Time</th>
<th>Location</th>
<th>Program Accessed</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/6/12 6:00PM</td>
<td>Dorm</td>
<td>Web, Google</td>
<td>Define “den” and I get the meaning is “a wild animal’s lair and habitation”.</td>
</tr>
<tr>
<td>2/6/12 8:30PM</td>
<td>Dorm</td>
<td>Web, Google</td>
<td>Define “compadre” and I get the meaning is “a way of addressing and referring to a friend or a company.”</td>
</tr>
<tr>
<td>2/6/12 8:33PM</td>
<td>Dorm</td>
<td>Web, Google</td>
<td>Define “claustrophobia” and I get the meaning is “a phobia that being in a small place.”</td>
</tr>
<tr>
<td>2/6/12 8:35PM</td>
<td>Dorm</td>
<td>Web, Google</td>
<td>Define “prejudices” and I get the meaning is “an unreasonable dislike for a person or a group.”</td>
</tr>
<tr>
<td>2/6/12 8:36PM</td>
<td>Dorm</td>
<td>Web, Google</td>
<td>Define “throng” and I get the meaning is “a crowd of people.”</td>
</tr>
<tr>
<td>2/6/12 8:40PM</td>
<td>Dorm</td>
<td>Web, Google</td>
<td>Define “deteriorate” and I get the meaning is “become worse.”</td>
</tr>
<tr>
<td>2/7/12 8:40AM</td>
<td>Cy-Ride</td>
<td>MusicPlayer</td>
<td>Listening to “rolling in the deep”</td>
</tr>
<tr>
<td>2/7/12 8:45AM</td>
<td>Cy-Ride</td>
<td>MusicPlayer</td>
<td>Listening to “when you’re gone”</td>
</tr>
<tr>
<td>2/7/12 8:48AM</td>
<td>Cy-Ride</td>
<td>MusicPlayer</td>
<td>Listening to “girlfriend”</td>
</tr>
<tr>
<td>2/7/12 8:40AM</td>
<td>Cy-Ride</td>
<td>MusicPlayer</td>
<td>Listening to “rolling in the deep”</td>
</tr>
<tr>
<td>2/7/12 8:45AM</td>
<td>Cy-Ride</td>
<td>MusicPlayer</td>
<td>Listening to “tiktok”</td>
</tr>
<tr>
<td>2/7/12 12:00PM</td>
<td>Library</td>
<td>Web, Google</td>
<td>Define “stumped” and I get the meaning is “to ask a question they cannot be solved.”</td>
</tr>
<tr>
<td>2/7/12 12:01PM</td>
<td>Library</td>
<td>Web, Google</td>
<td>Define “supplementing” and I get the meaning is “to add something in order to improve it.”</td>
</tr>
<tr>
<td>2/7/12 12:03PM</td>
<td>Library</td>
<td>Web, Google</td>
<td>Define “maritime” and I get the meaning is “connected to sea.”</td>
</tr>
<tr>
<td>2/7/12 12:05PM</td>
<td>Library</td>
<td>Web, Google</td>
<td>Define “dominant” and I get the meaning is “more important and powerful”</td>
</tr>
<tr>
<td>Date/Time</td>
<td>Library</td>
<td>Web, Google</td>
<td>Activity/Comment</td>
</tr>
<tr>
<td>---------------</td>
<td>----------</td>
<td>-------------</td>
<td>----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2/7/12 12:07PM</td>
<td>Library</td>
<td>Web, Google</td>
<td>Define “impose” and I get the meaning is “introduced.”</td>
</tr>
<tr>
<td>2/7/12 12:09PM</td>
<td>Library</td>
<td>Web, Google</td>
<td>Define “virtual” and I get the meaning is “almost.”</td>
</tr>
<tr>
<td>2/7/12 12:12PM</td>
<td>Library</td>
<td>Web, Google</td>
<td>Define “jettison” and I get the meaning is “to get rid of / to reject an idea.”</td>
</tr>
<tr>
<td>2/7/12 12:14PM</td>
<td>Library</td>
<td>Web, Google</td>
<td>Define “bilingual” and I get the meaning is “using two language.”</td>
</tr>
<tr>
<td>2/8/12 8:40AM</td>
<td>Cy-Ride</td>
<td>MusicPlayer</td>
<td>Listening to “rolling in the deep”</td>
</tr>
<tr>
<td>2/8/12 8:45AM</td>
<td>Cy-Ride</td>
<td>MusicPlayer</td>
<td>Listening to “my love”</td>
</tr>
<tr>
<td>2/8/12 10:45AM</td>
<td>Ross Hall</td>
<td>Web, Google</td>
<td>Define “recite” and I get the meaning is “to say a poem.”</td>
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<td>Ross Hall</td>
<td>Web, Google</td>
<td>Define “emerge” and I get the meaning is “to become well-know.”</td>
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<td>Ross Hall</td>
<td>Web, Google</td>
<td>Define “hone” and I get the meaning is “to develop or to improve.”</td>
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<td>2/8/12 10:49AM</td>
<td>Ross Hall</td>
<td>Web, Google</td>
<td>Define “embody” and I get the meaning is “to represent an idea or quantity.”</td>
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<td>Web, Google</td>
<td>Define “penetrating” and I get the meaning is “join an organization.”</td>
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<td>Library</td>
<td>Web, Google</td>
<td>Define “fine-tune” and I get the meaning is “to make something small changes to something.”</td>
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<td>Library</td>
<td>Web, Google</td>
<td>Define “immersion” and I get the meaning is “something that completely involved.”</td>
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<td>Library</td>
<td>Web, Google</td>
<td>Check information for debate</td>
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<td>2/13/12 12:00PM</td>
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<td>Define “spectacular” and I get the meaning is “very impressive.”</td>
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<td>Define “inevitable” and I get the meaning is “unavoidable.”</td>
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<td>Define “excruciating” and I get the meaning is “painful and bad.”</td>
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<td>Define “appalled” and I get the meaning is “feel horror.”</td>
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<td>Define “heed” and I get the meaning is “to pay attention to listen to somebody’s voice or warning.”</td>
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<td>Define “fantasize” and I get the meaning is “extremely good.”</td>
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<td>2/15/12 12:00PM</td>
<td>Library</td>
<td>Web, Google</td>
<td>Define “ideology” and I get the meaning is “an idea bases on economic and political system.”</td>
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<td>Library</td>
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<td>Define “speculate” and I get the meaning is “to form an opinion without details.”</td>
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<td>Define “depict” and I get the meaning is “describe something in a word.”</td>
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<td>Define “bravado” and I get the meaning is “a way to impress people.”</td>
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<td>Define “authoritarianism” and I get the meaning is “the belief that should obey authority.”</td>
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<td>Define “dilemma” and I get the meaning is “a difficult problem.”</td>
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<td>Define “prospect” and I get the meaning is “possibility that something might be happened.”</td>
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<td>Define “dilemma” and I get the meaning is “a difficult problem.”</td>
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<td>6:44 PM</td>
<td>Library</td>
<td>youdao dictionary in computer</td>
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</tr>
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<td>Iphone</td>
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<td>11:00-11:50AM</td>
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<td>computer and Iphone</td>
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<td>Library</td>
<td>Computer</td>
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<td>Computer</td>
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<td>Computer</td>
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<td>Iphone</td>
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<td>look up some words when i practice the reading and listening</td>
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<td>Iphone</td>
<td>look up words in reading class</td>
</tr>
<tr>
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<td>Iphone</td>
<td>translate a word in grammar class</td>
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<td>computer and mashek</td>
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<td>Activity</td>
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<td>Iphone and computer</td>
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<td>Carver</td>
<td>Computer</td>
<td>watch english drama &lt;the walking dead&gt;</td>
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<td>computer and Iphone</td>
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<td>Computer</td>
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<td>review words and listen to VOA news</td>
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<td>Purpose</td>
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**Use log – Sean**

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<td>12-01 21:37</td>
<td>Home</td>
<td>Iphone</td>
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Appendix B

KS interview transcripts

LK: So, what kind of smartphone do you have?
KS: Ahh, you say the brand?
LK: Mmm hmm.
KS: Uh, Samsung.
LK: A Samsung. Okay. What’s the name of the --
KS: Samsung Infuse.
LK: Infuse? Okay. And why did you choose that kind of phone?
KS: Because one week ago I go to the Best Buy and I have the, I sign the data plan. Hmm I can choose two phone. The first one is HTC and the other one is Samsung Infuse. And the HTC doesn’t have the secondary camera so I choose the Samsung Infuse.
LK: Okay, because it has the extra camera?
KS: Yeah.
LK: Okay, so what kinds of activities – how do you use your smart phone, your Infuse, to study English?
KS: Yeah, like, in class, if possible I will use the, I will use my smart phone to check the dictionary and sometimes, like, when I, like write an essay, and I don’t know a certain word, I will check the dictionary.
LK: Okay, so you use it a lot as a dictionary?
KS: Yes.
LK: Yeah, do you do other things? Like listen to music in English? Or --
KS: Yeah, listen to music. And like, every day, if I’m free, waiting for the bus, and in the bus, I will listen to the music.
LK: Okay. English music?
KS: Yeah.
LK: Okay, good. So, what, how – excuse me – why do you use your smartphone to study English?
KS: This is very convenient. Like, mm, I don’t need to put, I don’t need to bring paper dictionary, big paper dictionary to my class every day and my smart phone is very small, very thin.
LK: So it’s easy for you to carry wherever you are?
KS: Yeah.
LK: Yeah? Okay, good. Um. Are there activities – do you consider making a phone call in English, is that studying English?
KS: You said phone call?
LK: Yeah calling someone.
KS: Yeah.
LK: Do you make a lot of phone calls or text messages in English?
KS: Yeah, actually, in my class, there’s, like, I am from Malaysia, and actually no, in IEOP, I am the only one Malaysian.
LK: Oh, wow.
KS: Yeah, so I can’t speak Malay to other IEOP student, so uh uh if my classmate are
Chines…

TAPE RUNS OUT – NOW NEW DISK AND INTERVIEW CONTINUES

LK: So your $40 or $50 that’s like a data plan? That you can’t go over?
KS: Mmm but ah, when I sign, when I signed the plan I don’t need to pay for the phone,
for my smart phone. This is free.
LK: Okay.
KS: Other than that, I think that’s all.
LK: Mm hmm okay good. When would you use your phone instead of a computer or a
textbook or?
KS: When?
LK: Like what kind of situation? Or where would you be to choose the smart phone?
KS: If I have my laptop, now, I don’t use the smart phone. Like if I want to use, if I want
to Google some meaning the the for something I will use my computer.
LK: Okay, so usually you would choose to use your computer instead of your phone?
KS: Yeah.
LK: So in what situation would you use the phone? If you didn’t have the computer?
KS: If I don’t have the computer, like, check dictionary, check the mailbox, check
Facebook, that’s all.
LK: Good, um, I think those are most of the questions I have for today. Do you have
anything else you want to add about your smart phone or why you use it?
KS: Why I use it? This is my first time to use the smart phone. Like I came to US at 29
of December and I, in my country, when I was in my hometown in my country, I use, I
didn’t use the smart phone. And, at the beginning, I think this is very difficult and
confuse, confusing, like how to use the smart phone because of the function and that’s all,
I think.
LK: So you’re still learning how to use your phone a little bit?
KS: Yeah.
LK: Okay, great! Maybe we can both learn something from this.


LK: So, before I ask you specific questions about your chart, can you tell me some of the
activities you did this past week?
KS: Like, listen to music?
LK: You listened to music?
KS: And check dictionary for the vocabulary.
LK: So when you check the dictionary, are you Googling something?
KS: Yeah.
LK: So you’re using the Internet, and then Google?
KS: Yup.
LK: How many times a day, would you say, do you look up a new word?
KS: How many times per day?
LK: Yeah, looks like … just, in your, how many times do you think you do that?
KS: Uhh, depends.
LK: Depends. More than five?
KS: Maybe. But the weekend I didn’t use the smart phone for any because I have my computer. Yeah, if I have my computer I didn’t use the smart phone.
LK: Ok, so you only use your smart phone when you don’t have your computer.
KS: Yeah. Like, you can see the place is the Ross Hall, Cy Ride, library. Yeah.
LK: Okay, so any place that you are that your computer isn’t. Do you have a computer like this, on your desk or do you have a laptop?
KS: Laptop.
LK: But do you leave it in your --
KS: In my dorm. I didn’t use my, I didn’t bring my laptop when I’m in my, in school.
LK: How come you don’t do that?
KS: I sorry?
LK: How come you leave your laptop in your dorm?
KS: How come?
LK: Why?
KS: Why? Because I don’t want to bring my laptop. It is very, very heavy.
LK: Okay, so actually, these look like, the music and the definitions, these are the two things that you do?
KS: Yeah.
LK: Okay, have you ever tried any other apps? Do you ever do anything else? Or usually just these two things?
KS: Yeah, apps, hmm, some like Skype. But this is for, the, for learning English isn’t it, the program that you said? So I didn’t post it.
LK: Okay, but sometimes you use Skype on your phone?
KS: Yep. So should I post it?
LK: Are you talking in English?
KS: No.
LK: Okay, so then, no. This is really for when you’re doing something in English. So what kinds of music are you listening to?
KS: Hmm punk music.
LK: Okay, yeah, punk music. I don’t know these songs. … So when you’re looking up these words, are you studying for a class? Or
KS: Yeah, mm, what do you mean?
LK: So why did you look up the word *embody*?
KS: Mm in my reading book, in the passage.
LK: Okay, so you were reading for, uh, a class?
KS: Yup.
LK: Okay. … And you were doing research for a debate in a class?
KS: Not in class. In library. But this is a activity in class.
LK: Okay. So you were in the library but you were doing homework for a class?
KS: Yes.
LK: Okay. I think… So how many weeks have you had your smart phone?
KS: This is the seven, seventh week.
LK: Seven weeks? Okay, so are you still finding new ways to use it?
KS: No.
LK: No? You’ve figured out how you want to use it and --
KS: Yeah, I just use the Web to check the dictionary, use the Skype, and call my friend sometimes, just message, use the camera, something like that.
LK: And you said you have the Infuse?
KS: Yeah.
LK: Are there, like for my iPhone, I have all kinds of apps that I can download and use. Is it the same for the Infuse?
KS: Yeah, I have apps in, in my Infuse, but I didn’t use it. I just use the message, text message.
LK: Have you downloaded any English-learning apps? Or have you looked for them?
KS: No. But there are a lot of application of English on my computer because if I want to learn English I will use my computer. The smart phone I just use to check the dictionary.
LK: Okay, so the computer is still your first choice.
KS: Yup, my first choice.
LK: Ok, um, do you have to pay for the apps on your phone?
KS: No.
LK: They’re free?
KS: I download the free apps.
LK: Okay, good. Is there anything else you want to tell me about what you did this week on your phone? Looks like you did a lot.
KS: Mmm. Uhh actually I will use it to check the definition every day. Umm, something like that, and listen to music, when I’m in the bus
LK: Okay, so checking definitions, listening to music.
KS: Yeah.
LK: After you look up one of these definitions, um, what do you do with that information?
KS: What do I do? Sometimes I will take a note, um, like the definition. The word is very difficult so I will take the notes. That is very easy so I will just see the definition and do nothing.
LK: Okay, so it depends on the word. And when you take notes, do you write it on a piece of paper or put it on your computer?
KS: Yup, sometimes.
LK: Sometimes?
KS: Depends on the word.
LK: Okay, so sometimes on paper? Sometimes on your computer?
KS: On the paper.
LK: Okay, on the paper, always on paper. Do you have a notebook that you keep words that you’ve learned?
KS: Yes.
LK: Alright. Do you have anything to add about what you did?
KS: No.
LK: Okay good. Thanks!
KS: Thanks
KS Interview 3 – February 21, 2012

LK: So this happened all week you couldn’t type?
KS: Yup. I’ve tried, last, uh Tuesday and then I don’t try again.
LK: Okay, so just tried the one day and it didn’t work?
KS: Ah, two days. I tried two days. And it didn’t work.
LK: Okay, can you let me know if that happens again? And I’ll try to figure out a way to help you.
KS: Okay.
LK: Okay. Um, but you were able to put a couple of, ah so you listened to the music player on your, um, Infuse.
KS: Mm hmm.
LK: Um is it called Music Player?
KS: It’s a software.
LK: Yeah, so it’s like iTunes or an iPod, but it’s called Music Player, that’s the program name?
KS: Yup.
LK: Okay, so um, all we have here to talk about is the listening to the music.
KS: Yes, um, listen to music and check the definition of the vocabulary.
LK: Okay, so it’s the same, the same things that you did the week before or you did last week.
KS: Yup.
LK: We just couldn’t, because of the technology we couldn’t get those recorded. Do you use your phone to study English the same way every week?
KS: Yup.
LK: Yeah?
KS: Yeah.
LK: Okay. Um, does it ever change if you are studying for a test or during break time?
KS: Uhh, er, actually we don’t have any English material, the lecture material in Internet. Like we have our IEOP book, we study the IEOP, the grammar book, the writing book, so actually I don’t need to log in my ISU website to study.
LK: So when you do this, you’re not logged in anywhere, you’re just doing this for you?
KS: Yup.
LK: Okay, so, you do this the same every time?
KS: Yup.
LK: Yeah, okay. …
KS: And if I want to check the extra information of some some some chapter, uhh I will use my computer because computer is more convenient than the the smart phone
LK: Okay, so anything that has to do with school and the IEOP classes, mostly you use the computer?
KS: Yeah.
LK: Okay. Just, sometimes when you were up here you were in class? In the class you would use your phone to look up a word?
KS: Yup.
LK: Yeah.
KS: In the library.
LK: Okay, so why would you use your phone here instead of your computer?
KS: Because when I come to school I don’t bring my laptop.
LK: So your first choice is to use your laptop.
KS: Yeah, but the laptop is very heavy. And I don’t bring it every day. And then I will use my cell phone to check the definition.
LK: Are there any new ways that you’ve been finding to use your phone?
KS: No.
LK: No? Okay, you found your Music Player and your Google and that works for you?
KS: Yeah, and like if I want to do an assignment, a project, emm, presentation, I need to do the online research, I will use my computer.
LK: Okay. Do you send many text messages or make phone calls in English?
LK: Okay. And is that pretty easy, pretty difficult sometimes?
KS: Umm, like before I come to, came to US, in Malaysia I always use Chinese typing for my friends, for my Chinese friend, but um, after I come to US, um, after I came to US, I almost text the message by English and then I find that, um, I can type the message in a very short period, very fast. And I don’t need to think a long time how to, how to, how to spell word or, and the grammar.
LK: So you don’t worry about spelling or grammar in your text messages?
KS: Sorry?
LK: So you don’t have to worry about spelling or grammar in your text messages?
KS: Yeah. It’s better than before.
LK: Okay. Good. So Chinese is your first language?
KS: Yup.
LK: Okay, I don’t have many more questions since we don’t have many entries.

RECORDING DISK FULL HERE. NEW DISK AND RESTART BELOW.

KS: By the laptop, like pronunciation. Uhh and like the spelling check and grammar check, like some software that’s free from the computer. So that’s why I prefer the computer.
LK: Okay, is it software that’s free? Or is it on the internet and it’s free?
KS: Software that’s free from Internet.
LK: From the Internet.
KS: Yeah. From the laptop and laptop from Internet, but from smart phone Android market, they will charge me.
LK: So it’s the same program, but it’s free on the computer, but you have to pay on the phone?
KS: Yeah.
LK: That doesn’t sound fair.
KS: But like, if I, like, there is English application from computer from Internet it called spellcheck.com
LK: Mm hmm.
KS: spellcheck.com. And if I, I can install it in my computer, but if I, I cannot find it from the market for Android system.
LK: Oh, okay, so there are also some useful tools that you can find on the computer, but nobody’s put them --
KS: Yup
LK: -- on the phone yet.
KS: Yeah.
LK: Okay. So, for you the computer is still the most useful tool.
KS: Yeah.
LK: Okay, good. I think, I don’t have any more questions for you today.
KS: Okay.
LK: Thank you.

KS Interview 4 March 6, 2012 – 215 Ross Hall

KS: My Google doc doesn’t work so I type my, the the
LK: .. the chart?
KS: the chart, mm hmm, in Microsoft Word.
LK: Okay. That’s perfect. Let’s see what you’ve come up with. Do you want to put it here? Okay. So lot’s of Google docs problems. That’s --
KS: So last week I downloaded the software for pronunciation.
LK: Oh okay. Maybe you can find it on your … Was this free software?
KS: Yes, the free software
LK: Maybe you’ll have to show me how the software works.
KS: Yup.
LK: Okay so I’m going to just save this to my computer so that I have it and we can take a look at your pronunciation software first.
KS: Yeah (Gets out phone and navigates to software) … Umm, if I don’t know how to pronounce a word, so I type it uh.
LK: Like if you don’t know how to say table.
KS: Table.
LK: Mm hmm
KS: Type it in and then pronounce (phone beeps)
LK: Okay
KS: Yeah
Samsung Infuse: Table. Table.
LK: Okay. Can you change it, this has an American flag here, can you change it to, like maybe British English.
KS: Um, I have tried it, I have tried the British English, um, but I think that it’s not any different.
LK: Oh, okay.
KS: And the the pronunciation is almost different, is almost same. The British version and the American version.
Samsung Infuse: Table.
LK: Yeah, she doesn’t sound different at all, not to me.
KS: Yeah, like the app, like the American, we pronounce advertisement as advertisement.
LK: Right.
KS: But in British, advertisement.
KS: Advertisement.
Samsung Infuse: Advertisement
LK: Oh she said advertisement. How would she say it in American English?
LK: Oh no you’re fine.
Samsung Infuse: Advertisement
LK: Huhh, she said it the same way.
KS: Yeah.
LK: Wow.
KS: So it British by, it is British pronunciation.
LK: Yeah. Yeah. So what is this microphone here? Can you record yourself saying it?
KS: Yeah. Yeah, but like, eh, I want to, I type this and I speak. Advertisement. And so …
because my, because my pronunciation is not so is not um, is not correct so it say, “100% yes we understand you but it not any word appear”
LK: What does it say? (Reading phone) ‘100% yes we understand you.’ But it doesn’t come up with a word?
KS: Yeah.
LK: Huh.
KS: Because my pronunciation is not correct.
KS: Um, yeah, because a lot of words I don’t know how to pronounce.
LK: Mm hmm. Um, so where where did you find these words?
KS: Uh I heard from my friends.
LK: Okay, so you were just talking with some friends and, and so you didn’t know – Are they American friends or international friends?
KS: Is, is international friends.
LK: Okay, so you all had a question maybe about how to pronounce this word?
KS: Yeah.
LK: Do you know the the definitions of these words? OR just, there was the --
KS: I checked the dictionary and I get a meaning and uh after that I I I if I don’t know how to pronounce I will check it.
LK: Oh okay. And how did you choose to download this application? Why—it’s called Sound Pronunciation?
KS: Umm.
LK: Why this one?
KS: Why this one? Because, before that, I have download another pronunciation that is this one (shows on phone). Sorry. It’s this one. From Macmillan.
LK: Mm hmm.
KS: And this is to show how to pronounce the word
LK: Mm hmm.
KS: Yeah. And yeah, I don’t know how to use it. So I didn’t use it.
LK: Mm hmm. Okay, yeah.
KS: Yeah. I type this one and …
LK: So—yeah. So first you have to learn the phonetic alphabet, the chart of the sounds.
KS: What is that called?
LK: It’s called the phonetic --
KS: Phonetic?
LK: Mm hmm. Like phonetic, like this.
KS: Phonetic?
LK: Mm hmm. Like, so, like, it’s the alphabet of sounds.
KS: And there is a practice, how to read umm something like that.
LK: Oh my
KS: But I don’t know how to use it. Too too tough for me.
LK: Yeah it’s like learning a new language.
KS: Yeah.
LK: Okay.
KS: Like sometimes if I check the uh paper dictionary uh there uh there there is the phonetic and I can type it in in in the in the software and then pronounce for me
LK: Okay, oh. So you, you tried two pronunciation applications and you found one that you liked?
KS: Yeah, but I just use this pronunciation only. This is called Free Pronunciation Checker.
LK: Free Pronunciation Checker. Is that a special application just for your Samsung Infuse?
KS: Yup.
LK: Okay. Do you know how to take, um, do you know how to take a picture of the screen of your phone?
KS: No
LK: No? Okay. That’s okay. Um, okay, so let’s see what else you have here. So the the, um, the pronunciation application seems to be the new – the new thing you’re doing. Everything else is what you had before.
KS: mm hmm
LK: Um, searching the web, using Google, for a definition of words. And is this mostly when you’re doing homework? I see you’re in Ross Hall.
KS: Yup.
LK: Yeah? So, like for reading class or
KS: Ross is writing class.
LK: For writing class? Okay. So looks like you’re you’re in classroom buildings or you’re on the Cy-Ride, listening to music?
KS: Yup.
LK: Yup? Okay. And did we did we talk about the music before? Do you ever, um, do you just listen to it? Or do you look at the lyrics with
KS: Uhh I will, I will read the lyrics in my home, in my dorm. And then I will try to try to remember the to memorize the lyrics and then I just listen to the music in the Cy-Ride.
LK: Okay, so you’re still making use of – that’s study time on the Cy-Ride, still.
KS: Yup.
LK: Yeah. Okay. So let’s take a look at a normal day. February 27.
KS: Mmm
LK: So you listen, on the Cy-Ride, on the way to school, to some music, and then in Carver Hall you were studying again.
KS: Yeah, this is my grammar class
LK: Okay, so are you actually in class?
KS: Yup.
LK: Yeah. Okay, so your, your teacher let’s you use your phone for a dictionary?
KS: Sometimes. So if they say I can use, so I just use. If they say I can’t use so I don’t use it.
LK: Okay. So how do you look up words then, if you can’t use your dictionary?
KS: Just guess the meaning. Afterward.
LK: Okay. So you don’t carry another dictionary?
KS: Sorry.
LK: You don’t carry another dictionary with you?
KS: Oh, no.
LK: No. Okay, so after Carver then we’re back on the Cy-Ride.
KS: Yeah, this is the second day.
LK: Oh that’s the next day. Okay. So actually after, after maybe 10:40 in the morning--
KS: Yup
LK: Yeah?
KS: Yeah. Because if I if I, if I am home, I will use my laptop or my paper dictionary for studying.
LK: Okay. So you’re at school in the mornings and you’re at home in the afternoons and when you’re home you use other tools.
KS: Yes.
LK: Okay. Why do you use those other – the laptop or the paper dictionary?
KS: Mm depends, uh, I like to use, I prefer to use laptop because it can pronounce the vocab for me and I will go to the Google to search define the words define the definition.
LK: Okay, and those are things you can’t do on your phone?
KS: Yup.
LK: Okay, cool. So we walked through a typical day and we’ve looked at your, at these habits. Um, so actually, for the study I’d like to know your age and the classes you’re taking. Is that okay?
LK: 21
LK: Okay
KS: And you say the classes I’m take, is this semester or next semester?
LK: This semester.
KS: Uhh four class, uh that is IEOP class and the first one is grammar, and the second one is –
LK: And, like, what level?
KS: The level is level six
LK: Level six And that’s, in the IEOP, that’s the highest level?
KS: Yeah
LK: Yup. Cool.
KS: Thank you. And second one is writing and writing is five and, sorry, writing is four.
LK: Four. Okay.
KS: Yeah, and next one is reading. Reading is five. And oral and commination, oral and communication class is, that is five, yeah five.
LK: Five, okay. So they put you in the different levels for your level on each different skill?
KS: Yup.
LK: Yeah? Okay, good. And you’re studying to pass the TOEFL with seventy-one or higher?
KS: Uh seventy- more than seventy-one.
LK: Okay, yeah, more than seventy-one.
KS: Yeah.
LK: Okay.
KS: Sorry, it’s more than seventy. If I get seventy-one I am pass.
LK: Okay, so if you get seventy-one?
KS: I am pass the TOEFL
LK: If you get seventy?
KS: Retake.
LK: Okay. Okay, good. Umm. So you, you use your Music Player, you use the Internet, you use Google and you use this pronunciation. Any other tools you use for English study on your phone? No other applications?
KS: No.
LK: No? Okay, great, I think, I think that’s all that I have for the questions for you today.
KS: Yeah, okay.
LK: Do you have anything more you want to talk about?
KS: No.
LK: No? Okay. Do you think your phone’s a useful tool for you, though?
KS: Uh, you say a useful for studying?
LK: Is it useful for studying English?
KS: Yeah, because I sometimes I don’t need to bring my laptop. Um, very convenient, but but if I use my computer I can I can figure out more meaning, more information, and
LK: How can you get more information?
KS: Like, mm, like, if I if I do a research I prefer to use my laptop because it is mm I don’t like to use the touch screen actually I prefer to use the keyboard mouse. And the screen is bigger.
LK: Mm hmm
KS: Something something like that.
LK: Okay. Good. Is there any is there any ways you wished your teachers used your phone to help you study English?
KS: My teachers?
LK: Yeah. In class? Or for homework or
KS: Uh what do you mean?
LK: Do you wish that your teachers would u- would create activities or materials to help you use your phone for English study?
KS: Not really.
LK: No. What you do is okay and--
KS: Mm hmm
LK: Okay great.

KS Interview 5 March 20, 2012 – Ross 215

LK: So we’re here for our final interview.
KS: Yup.
LK: Yup. Yeah, and so, I went through the, all of your logs, your chart, and our interviews and I have a couple of follow up questions for you. And maybe if you have anything else you want to say at the end, then you can add your comments.
KS: No.
LK: No? Okay. Um, so first, we always talk about how you Google a word and you look up a word using Google on your – can you show me that on your phone?
KS: On my phone? Yeah
LK: Mm hmm.
KS: That. Excuse me. Like the --
LK: So
KS: For example I want to to search a word infection so I –

CAMERA CUTS OUT HERE.
LK: Okay so why do you use your laptop for research for an assignment or something?
KS: Umm, I think if I, I prefer to use laptop to do the research because I have a mouse, the keyboard, so I can type over it, or to do the research more convenient than using the phone. So for the phone I just to find the definition, to search the pronunciation of a vocab and listen to music, something like that.
LK: Okay. Earlier you said that none of your IEOP materials were on the Internet so all of your class books and everything is like paper?
KS: Um, yep, but right now we have the lab class, like in the reading class, we go to the LA lab for to do the computer lab and then we do something assigned in computer.
LK: Okay, but um, you use the computer sometimes in class but if you don’t have to look for any of your books or any of your materials for class. You don’t have to find them on the Internet?
KS: Yup, but in IEOP class there is some rules like I can’t use the computer or the phone in the class unless the lecturer say that we can use to find the definition. Then we can use it.
LK: So do you ever have problems, do you ever have professors who tell you you can’t use it?
KS: Yup. This is the rules in IEOP.
LK: Okay. So, but you say you don’t bring a paper copy dictionary and you don’t bring your – so what do you do if you need to look up a word?
KS: Uh I have a lot of ways like asking teacher if my lecturer say I can use, then I use. Um like if I reading a passage if there is some vocabulary that I don’t know I will ignore it so I didn’t read the vocabulary I don’t know, I will read the other words so I can get the main points of the passage.
LK: Okay and just skip the words you don’t know
KS: Yup
LK: Okay. Um another question I had was there were a couple of words that you have twice in your log. For example you look up *claustrophobia* once on --
KS: It’s because the word is very difficult
LK: Okay
KS: And I can’t memorize it clearly and and like in my class there is some relation between this between the chapters, like in chapter one there is a word *claustrophobia*, but in chapter two, three, they will also have this word.
LK: Okay, so sometimes some words are more difficult than others
KS: And we repeat them
LK: Does that happen often?
KS: Not really, but *claustrophobia* is appear in my oral class two or three chapters
LK: Okay. Alright good. Can you remember the definition of it now?
KS: Um, not really. But I know the meaning, not the whole definition
LK: Okay, but you understand what it means?
KS: Yup.
LK: Good! Okay, just a couple more questions I think. So which classes do you have in Ross Hall? Sometimes you have Ross Hall, Carver Hall
KS: Um the Carver Hall is the oral class. Ross Hall is Writing Class
LK: And are those the only two classes you sometimes use your phone for?
KS: Sorry.
LK: Just oral class and writing do you only use your phone --
KS: Actually the Ross Hall is writing class and reading class
LK: Okay.
KS: So usually these two class I use the phone.
LK: Are they right from one onto the next?
KS: Sorry?
LK: Is one right before the other?
KS: What do you mean?
LK: For example here you have Ross Hall 12:04. Which class are you in at that time?
KS: Um 12:04 is the break time. So like sometimes I didn’t have my lunch. I just stay at the class and do my, finish my homework
LK: Okay
KS: And the break time, 12:00 I will go to library to do my homework
LK: Yup, you’re often in the library at 12:00 too. We’ve been doing this now for seven weeks? About seven weeks? Um, have you found anything new about the way that you use your phone?
KS: No
LK: No? You always use it the same ways every day?
KS: Because I think it’s very useful if I check the vocabulary, it is very useful
LK: Are there any other ways that you think it could be useful?
KS: Uh like I don’t need to bring my paper dictionary, I don’t need to bring my laptop
LK: Good. I think those are all of the questions I have for you. Thank you.
Appendix C

KS Text messages

(Screen shot of researcher’s text message communication with KS)
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