A Digital Native's Experience of Mobile Assisted Language Learning: A Reflection on a Qualitative Pilot Study

Min Huang, Brock University, Canada

Abstract: This article is a reflection on a qualitative pilot study that tested an instrument, namely a semi-structured interview, and constituted an essential process for conducting the final PhD research. This study aimed to explore the experience of international students using mobile devices for second language learning in a public university in Canada. I recruited one international student using electronic advertising and conducted a face-to-face interview. The findings suggest that without teachers' instruction or support using mobile devices, this participant, though born and grown up in a digital age, tended to ignore the potential of mobile devices for learning purposes. Through implementing and reflecting on this interview, including the process of obtaining ethics approval, recruiting participants, and gathering and analyzing the data, I identified issues that might affect data collection and analysis, which could be referred to in the final research. This reflection is intended to present novice researchers with concrete steps to implement interviews, possible challenges, and modification options of qualitative studies.

Keywords: Digital Native; Mobile Device; Second Language Learning; Mobile Assisted Language Learning

Introduction

Pilot studies are a useful tool to test the research procedure, including data collection, participant recruitment, and data analysis, prior to conducting a larger qualitative study. They can inform researchers of potential areas within an interview schedule and research design that may require modification. Specifically, conducting and reflecting on a pilot study is useful to test the functionality and suitability of research instruments (Alshwiah, 2016), which alerts researchers to areas of weakness within the main research project (Baker, 1994). Furthermore, they can inform researchers of the approximate time and costs for a project as well as potential obstacles in terms of recruitment and data collection (Kinchin et al., 2018). This article, therefore, presents a concrete procedure of conducting a qualitative pilot study of an international student's perceptions of mobile assisted language learning (MALL), describing how it informed modifications towards the implementation of my final PhD research. The aim of this work is to inform new researchers of the various issues they may encounter in a qualitative research project.

Background of Research

The integration of mobile devices in the learning process has received increasing attention from researchers because of the new approaches to content delivery, information sharing, interaction, and collaboration. For instance, mobile activities, coupled with quick response codes (scannable two-dimensional barcodes that allow quick access to information through smart devices equipped with cameras; MacDonald, 2012), provide learners with near unlimited access to external materials. The use of collaborative platforms, such as Google Drive, enables dynamic scenarios of communication, teamwork, and problem-solving, allowing students to create and produce knowledge as a collaborative group (Apergi et al., 2015).

Regarding a language learning context, MALL provides opportunities for language learning mediated via devices available anytime and anywhere, formally or informally (Kukulsak-Hulme & Shield, 2008). Previously, mobile devices for language learning involved a variety of types, including mobile phones, handheld computers, MP2 plays, MP3 players, digital voice recorders, and multi-function mini-camcorders (Kukulska-Hulme & Sheild, 2008). In subsequent studies, such as in Ok and Ratliffe's (2018) research, teaching tools also included iPads, iPods, smart pens, and e-readers. Despite the diversity of mobile device types in existing research, the rapid development of mobile devices, especially cellphones, has provided all-in-one features within a single device. Laptops and smartphones are the two primary devices used by undergraduate students, according to a quantitative study by Gürleyik and Akdemir (2018). In Saidouni and Bahloul's (2016) research, 67% of the participants owned smartphones and used them as their mobile learning devices. An overwhelming majority (87%) of the students in Calabrich (2016) reported owning smartphones that could be used for learning.

Mobile devices are allowing for more innovative learning possibilities, creating the potential for improving students' language skills (Derakhshan & Hasanabbasi, 2015; Sung et al., 2015; Yang, 2013). According to research on students' perceptions of MALL, the use of mobile devices among seventh-grade students in Taiwan, for instance, created a learner-centered and real-world online learning environment by enabling access to self-learning materials, such as English songs and listening documents, without constraints of time or location. Learners who adopted

MALL, in comparison with a control group, significantly improved learning performance and motivation (Liu & Chu, 2010). In the context of European higher education, Berns et al. (2016) demonstrated that a game-based app on mobile devices for vocabulary learning improved learners' motivation because of the advantages of combining individual learning and collaborative learning to finish games. The motivating features also lie in several other functions, such as speech recognition and recording. For instance, in Nguyen et al.'s (2018) project, it is demonstrated that the speech translation and shadowing function of the app ezTranslate encouraged students to get involved in an authentic learning context where they could develop eloquence through interacting with the device.

Most of the existing studies have focused on learners who learn English as a foreign language in their countries. Research regarding the perceptions of postsecondary international students learning English as a second language (ESL) in Canada through MALL has not been thoroughly investigated. Some international students not only bear the challenges of fostering language skills but also experience emotional hardship because of language barriers (Ravichandran et al., 2017). Research on international ESL students in Canada will fill the gap of research on those learners, therefore contributing to this area of literature.

The current research on MALL is situated in Vygotsky's social constructivism because of mobile devices' major feature of communication and interaction. Vygotsky (1978) states that knowledge is co-constructed when individuals interact with others and are engaged in the shared learning environment. He also argues that language learning is mediated by tools, which can be achieved by technological support in modern education. Mobile devices can take the role of mediating tools to build human relationships, fostering knowledge construction, and language acquisition. In addition, the theory of computer-mediated collaborative learning by Warschauer (1997) also explains the mechanism of MALL. The online communication established through mobile devices enables information delivery and enhances collaboration among learners or between learners and a teacher, positively influencing language acquisition (Hilao & Wichadee, 2017; Kukulska-Hulme & Sheild, 2008; Kukulska-Hulme, & Viberg, 2018; Warschauer, 1997).

Experience of Doing Research

Positioning

As an international student in Canada, I encountered challenges in effectively communicating and collaborating with colleagues using my second language (L2), English. My personal history of experiencing L2 challenges and my motive to enhance language skills contributed to my positioning when conducting this research. I positioned myself as an insider within the group of international students when recruiting participants and conducting the interview. Thus, I expected participants to experience a sense of safety when sharing their experiences (Li, 2008). At the same time, inexperienced researchers commonly find it challenging to perform interviews adequately, such as determining significant interview questions and selecting participants accordingly (Majid et al., 2017). Through carrying out the interview with a student who used mobile devices for learning, I, as a new researcher, accumulated knowledge of conducting qualitative interviews.

Ethical Considerations

After obtaining ethics approval, I assigned a pseudonym, Ray, to the participant to maintain confidentiality. The participant was assured that participation was voluntary, and he could withdraw from the study at any time without any consequences. There were no potential risks involved in the study, given that (1) the participant would be interviewed by a graduate student who had no mentorship with or power over the participant; and (2) he retained the right to refuse to answer any questions. It was expected that the participant would benefit from reflecting on his learning experiences by voicing personal stories.

The invitation letter and the informed consent were in English, the participant's second language. I sent the documents to him via email and allowed him to review them prior to the interview, allowing time for him to feel "fully informed" (Malone, 2003, p. 798) before we met in person and signed the informed consent. I confirmed his understanding of the research by talking to him in his first language (i.e., Mandarin) each time we interacted. Taking the consent as an ongoing process (Garakani, 2014), I routinely asked for the participant's agreement on participating when I was conducting the interview and later during member-checking.

Participant Recruitment

To recruit participants, I used a convenience sampling method, based on the ease of reaching potential participants and for its simplicity to implement in a pilot study (Saunders, 2011). By setting the criteria of international students who had experiences using mobile devices for L2 learning in a postsecondary setting, I intended to attain "a wealth of detailed information and an in-depth understanding" (Yilmaz, 2013, p. 313) regarding this experience. When recruiting participants, I used an electronic form to identify L2 learners. I posted a message in a WeChat (social media tool) group, highlighting the purpose of this study and participant selection criteria. The group had approximately 500 members who were primarily international university students in Canada. The original message was sent in Chinese (to make it known that I am an insider of the group) and translated into English for the purpose of this article:

> *I am a Brock University student intending to interview an international student. The interview is about the experience of using mobile devices for English learning. The duration of the interview will be about 1 hour. The language of the interview will be English. If you are interested in participating, please contact me. I'll treat you to a coffee.*

Usually, researchers require fluency in English when recruiting in order to maintain effective communication during interviews. I did not specify English proficiency when I was sending the recruitment message since I felt that this additional criterion might cause some prospective participants to lose interest and act as a barrier for students who might otherwise be willing to share their experiences. Even if the participants had difficulties in expressing themselves, it might not constitute a failed interview but instead represent some specific issues for the students (Jacobsson & Akerstrom, 2012). For instance, the participant's difficulties in expressing the experience of learning L2, if any occur, may elicit a new research topic within L2 context.

The participant, Ray, introduced to me that he was a male graduate student from China, currently studying in a public university in Canada. He came to Canada in 2017 as a student of a preparation program prior to enrolling as a master's student. Thus, he was an L2 learner who successfully accomplished this preparation program. His introduction led to my assumption that he had abundant experience in language learning worth exploring.

Semi-structured Interview

I conducted a face-to-face interview, keeping fieldnotes before, during, and after the interview to record thoughts and issues. The interview was semi-structured, containing seven questions with additional probes under some of the questions to elicit further information, elaboration, and clarification from the participant (Creswell, 2012). Semi-structured interviews are useful to novice researchers because they provide an opportunity for interviewees to extend answers to *a priori* questions and allow interviewers to keep control of the interview (Tilley, 2016).

When beginning the interview, I spoke to Ray in Mandarin, with the intention of demonstrating my identity as an ESL speaker. Meanwhile, I also used this initial conversation as an ice-breaker activity to help him relax and to build engagement (Garakani, 2014). Speaking Mandarin to him ensured his full understanding of informed consent before starting the interview. The interview proceeded for one hour, during which we had an enriching conversation by engaging all the interview questions with probes.

Systematic Coding Approach

Before coding the transcript, I made *a priori* codes, the codes generated from conceptual frameworks (e.g., choices of mobile devices). I read the transcript carefully because, as the main data source, it played a primary role in data analysis (Tilley & Powick, 2002). While reading the transcript, I obtained a general sense of the data and became familiar with the content. Regarding the choice of data-analysis approach, I decided to compare manual analysis and qualitative software-assisted analysis (e.g., using programs such as NVivo).

I utilized a Word document instead of a hard copy for the convenience of revising codes and colors. I recorded *a priori* codes on the left side and emergent codes on the right side, keeping large side margins. I marked the text using highlighted colors and coded the transcript by highlighting key words or phrases from the interview (Figure 1). Similar codes in the transcript were grouped into categories that were compiled into broad themes; some codes

that were not relevant to the research focus were discarded. For example, the code *classmates from the stream*, which does not have a strong connection with the research focus, was not analyzed.

a priori codes	Transcript	Emergent codes

Figure 1: Coding Example

Major Findings

Four themes were generated from the transcript: *programmes enrolled, L2 achievement, challenges and solutions in L2 learning, and personal mobile learning experience*. The latter was the most relevant theme, which consisted of the codes *mobile learning inside of classrooms, mobile learning outside of classrooms, choices of mobile devices, benefits of mobile learning, popular mobile devices, challenges of mobile learning,* and *expectations of mobile device features*. Ray was born and grew up in an age when digital technologies were experiencing rapid development. His growth in the digital age led to him sharing that "I'm a digital native, not a digital immigrant." According to Prenksy's (2001) definition, digital natives are "native speakers of the digital language of computers, video games and the Internet" (p. 1). Prenksy also distinguishes digital natives and digital immigrants by "accent." For instance, digital immigrants turn to the Internet for information second rather than first as digital natives do.

Ray's identification as a digital native was well-established in the experience of playing online games for entertainment purposes. However, his learning experiences did not involve much relating to the use of mobile devices. He noted that he only used online dictionaries on mobile devices, such as laptops or smartphones, to assist learning when he encountered translation problems of single words. This phenomenon resonated with Asraf and Supian's (2017) research, which reported that the most frequently used self-directed mobile-assisted learning feature among postsecondary students was an online dictionary for vocabulary learning. Additionally, Prenksy (2001) indicated the characteristics of digital natives: instead of using technologies merely as part of their life, these young people are constantly surrounded and immersed by technologies. It could be inferred from Ray's experiences that mobile devices may not be fully recognized for learning purposes, particularly for collaborative learning. This is in accordance with Kukulska-Hulme and Viberg's (2018) research that MALL for collaborative learning was still under development. Furthermore, Ray's teachers in China and Canada had never used mobile devices for teaching or introduced mobile learning approaches to him, which could also explain his limited exposure to mobile devices for learning. This finding was in accordance with Aamri and Suleiman's (2011) argument that without introductions and instructions from teachers, students tended to ignore the learning potential of mobile devices because they assume that mobile devices, especially cellphones, are only for communication and entertainment. Clear instructions on how to engage mobile devices for collaborative language learning should be provided to learners.

Methodological Reflections

Recruitment of Participants

The participant I recruited had a solid English background at the time of starting to learn in Canada and did not commit much time or energy to learn English or focus on using specific approaches for improving language skills.

As a result, he did not reflect on many experiences or moments that he used mobile devices for learning, which was beyond my assumption and expectation. This consequently prevented generating useful, enriching data for MALL. Therefore, the recruitment criteria should be modified in the final research project by including current learners who were undertaking ESL. Setting up criteria for selecting the most suitable participants is the priority for producing useful information to fit the aims of research studies.

Implementing my first trial of recruitment advertising, I experienced the challenges of recruiting participants, as the reply rate was one out of 499. One possible explanation relates to the social medium used for recruitment; messages sent to the specific group are mostly about rental information. Additionally, the recruitment message might not meet the group members' needs for communication in this chatting environment. Finally, the limitation of recruiting from the WeChat group is that the students are mainly from the same country, China. The recruiting message should be sent to students of various nationalities if researchers seek to access participants with wider regional backgrounds. In future research, it will be essential to consider seeking more effective tools and strategies for recruitment, for example, by attaching posters in communities of potential participants, sending advertisements on more social media platforms, or adding other incentives.

Rapport Built with Participants

In semi-structured interviews, participants should be encouraged to talk freely and spontaneously when expressing feelings, experiences, attitudes, and behaviors (Bowling, 2014). As the main instrument of obtaining qualitative data, researchers need to have close contact with participants. Building rapport with participants is a way of creating trust and therefore eliciting richer data. The interview location and time were negotiated with the participant for his convenience and to respect the participant's choice. I arrived at the location earlier than the time scheduled and showed appreciation for his participation upon his arrival. Rapport can also be built to reduce tensions, as Hull (2007) suggested, by finding common ground and developing a bond, such as beginning interviews with an ice-breaker and injecting humor elements in conversations. Rapport-building strategies can foster an engaging and informative conversation during which participants shared openly with researchers about experience, perceptions, and expectations.

Data Collection as a Continuous Interaction

Creswell (2012) suggests that researchers can extend the understanding of the central phenomenon through follow-up conversations. In my pilot study, while transcribing the interview, I realized that I failed to ask the participant the meaning of "digital native" and why he used this phrase. Through engaging in a continued conversation with the participant, I clarified this concept, which was of particular importance as the participant used it to articulate his identity. In the final study, it would be beneficial to have continuous interactions with participants, which builds rapport and enhances the credibility of the research process. One option for continuing the interaction is to conduct a follow-up interview. Researchers can ask follow-up questions that come after the first interaction to expand the content in more depth and shed light on uncovered issues.

Data Analysis Approaches

One benefit of using Word rather than a coding software was the flexibility of editing and separating *a priori* codes and emergent codes on each side of the margins. However, working on Word for coding was not effective when it came to pulling together co-occurring codes (James, 2012) and locating all the quotations for one code. Therefore, analyzing the codes and building links among them was time-consuming without computer-assisted tools. Qualitative software programs, which "contribute to a more efficient storage and organization of data" (Tilley, 2016, p. 154), are more suggested for effective data management.

Recommendations for Novice Researchers

For graduate students who are newcomers to the research community, it can be challenging to achieve scholarly productivity in terms of conducting empirical research projects, as conducting research is a "complex, contradictory, sophisticated process" (Tilley, 2016, p. 158), involving addressing research questions, defining the research aims, and establishing research approaches (Wilson, 2012). Wilson (2012) further argues that novice researchers find it difficult to establish a research strategy that can successfully fit the "ontological perspective, the research paradigm,

and an appropriate research methodology" (p. 3). Thus, it is a necessity to acquire knowledge of research methods and to increase corresponding skills. The process of gaining knowledge of research can be achieved through participating in research practices (Teeuwsen, Ratković, Tilley, 2014). Emerging researchers are also encouraged to participate in practitioner communities. This pilot study worked as an initial phase to examine the functionality and suitability of the research design and approach (Alshwiah, 2016).

Conclusion

Though not every qualitative research design starts with a pilot study, implementing a pilot study can be a way to predict whether "a line of thinking will bear fruit" (Kilbourn, 2006, p. 549). This qualitative pilot study explored a digital native's experience of using mobile devices for second language learning. Despite his identification as a digital native, he presented few experiences relating to mobile learning and did not recognize mobile devices' full potential for language learning. The procedure of conducting qualitative research is time-consuming and requires extensive data collection to generate an in-depth understanding. This experience of interviewing helped me reflect on the approaches and procedures related to my research topic, providing a stepping-stone to my dissertation. My hope is that it will also inform new researchers of the potential challenges of qualitative interviews and possible options to settle those issues.

REFERENCES

Aamri, A., & Suleiman, K. (2011). The use of mobile phones in learning English language by Sultan Qaboos University students: Practices, attitudes and challenges. *Canadian Journal on Scientific & Industrial Research, 2*(3), 143-152.

Alshwiah, A. (2016). Reflections on a research pilot study. *African Educational Research Journal, 4*(3), 96-100.

Apergi, A., Anagnostopoulou, A., & Athanasiou, A. (2015). E-learning for elementary students: The Web 2.0 tool Google Drive as teaching and learning practice. *World Journal of Education*, *5*(3), 1-7.

Asraf, R. M., & Supian, N. (2017). Metacognition and mobile-assisted vocabulary learning. *Arab World English Journal*, *8*(2), 16-35.

Baker, T. L. (1994). *Doing Social Research* (2nd ed.). McGraw-Hill.

Berns, A., Isla-Montes, J.-L., Palomo-Duarte, M., & Dodero, J.-M. (2016). Motivation, students' needs and learning outcomes: A hybrid game-based app for enhanced language learning. *Springerplus, 5*(1)*,* 1-23.

Bowling, A. (2014). *Research methods in health: Investigating health and health services*. McGraw-Hill.

Calabrich, S. L. (2016). Learners' perceptions of the use of mobile technology in a task-based language teaching experience. *International Education Studies, 9*(12), 120-136.

Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Pearson Education.

Derakhshan, A., & Hasanabbasi, S. (2015). Social networks for language learning. *Theory and Practice in Language Studies, 5*(5), 1090-1095.

Garakani, T. (2014). Young people have a lot to say... with trust, time, and tools: The voices of Inuit youth in Nunavik. *Canadian Journal of Education, 37*(1), 233-257.

Gürleyik, S., & Akdemir, E. (2018). Guiding curriculum development: Student perceptions for the second language learning in technology-enhanced learning environments. *Journal of Education and Training Studies, 6*(4), 131-138.

Hilao, M. P., & Wichadee, S. (2017). Gender differences in mobile phone usage for language learning, attitude, and performance. *Turkish Online Journal of Distance Education, 18*(2), 68-79.

Hull, M. (2007). Building a rapport with patients. *The Foundation Years, 3*(3), 103-104.

Jacobson, K. (2012). Interviewees with an agenda: Learning from a 'failed' interview. *Qualitative Research, 3*(6) 717-734.

James, A. (2012). Seeking the analytic imagination: Reflections on the process of interpreting qualitative data. *Qualitative Research, 13*(5), 562-577.

Kilbourn, B. (2006). The qualitative doctoral dissertation proposal. *Teachers College Record, 108*(4), 529-576.

Kinchin, G., Ismail, N., & Edwards, J. A. (2018). Pilot study, does it really matter? Learning lessons from conducting a pilot study for a qualitative PhD thesis. *International Journal of Social Science Research*, *6*(1).

Kukulska-Hulme, A. & Viberg, O. (2018). Mobile collaborative language learning: State of the art. *British Journal of Educational Technology*, *49*(2), 207–218.

Li, J. (2008). Ethical challenges in participant observation: A reflection on ethnographic fieldwork. *The Qualitative Report Volume, 13*(1), 100-115.

Liu, T., & Chu, Y. (2010). Using ubiquitous games in an English listening and speaking course: Impact on learning outcomes and motivation. *Computers & Education*, *55*, 630-643.

MacDonald, S. (2012). Implementation of QR codes at Indiana University's Fine Arts Library. *Art Documentation: Journal of the Art Libraries Society of North America*, *31*(2), 276-284.

Majid, M. A. A., Othman, M., Mohamad, S. F., Lim, S. A. H., & Yusof, A. (2017). Piloting for interviews in qualitative research: Operationalization and lessons learnt. *International Journal of Academic Research in Business and Social Sciences*, *7*(4), 1073-1080.

Malone, S. (2003). Ethics at home: Informed consent in your own backyard. *Qualitative Studies in Education, 16*(6), 797-815.

Prenksy, M. (2001). Digital natives, digital immigrants. *On the Horizon, 9*(5), 1-6.

Ravichandran, S., Kretovics, M., Kirby, K., & Ghosh, A. (2017). Strategies to address English language writing challenges faced by international graduate students in the US. *Journal of International Students*, *7*(3), 764-785. doi: 10.5281/zenodo.570033

Saidouni, K., & Bahloul, A. (2016). Teachers and students' attitudes towards using mobile-assisted language learning in higher education. *Arab World English Journal, 3*, 123–140.

Saunders, M. N. (2011). *Research methods for business students* (5th ed.). Pearson Education India.

Stake, R. E. (2005). Qualitative Case Studies. In N. K. Denzin & Y. S. Lincoln, *Sage handbook of qualitative research* (3rd ed., pp. 443-466). Sage.

Sung, Y., Chang, K., & Yang, J. (2015). How effective are mobile devices for language learning? A meta-analysis. *Educational Research Review, 16*, 68-84.

Teeuwsen, P., Ratković, S., & Tilley, S. A. (2014): Becoming academics: Experiencing legitimate peripheral participation in part-time doctoral studies. *Studies in Higher Education, 39*(4), 680-694.

Tilley, S.A. (2016). *Doing respectful research: Power, privilege and passion.* Fernwood Press.

Tilley, S. A., & Powick, K. D. (2002). Distanced data: Transcribing other people's research tapes. *Canadian Journal of Education/Revue canadienne de l'éducation*, 27(2/3), 291-310.

Tracy, S. J. (2010). Qualitative quality: Eight "big-tent" criteria for excellent qualitative research. *Qualitative inquiry*, *16*(10), 837-851.

Vygotsky, L. S. (1978). Mind in society. Harvard University Press.

Warschauer, M. (1997). Computer-mediated collaborative learning: Theory and practice. *The Modern Language Journal*, *81*(4), 470-481.

Wilson, M. (2012). Constructive grounded theory in the search for meaning on global mindedness: A novice researcher's guide. *International Journal of Evidence Based Coaching and Mentoring, 6*, 1-14.

Yang, J. (2013). Mobile assisted language learning: Review of the recent applications of emerging mobile technologies. *English Language Teaching, 6*(7), 19-25.

Yilmaz, K. (2013). Comparison of quantitative and qualitative research traditions: Epistemological, theoretical, and methodological differences. *European Journal of Education*, *48*(2), 311-325.

ABOUT THE AUTHOR

Min Huang is a doctoral candidate in the Joint-Educational Program at Brock University. She obtained an MA in TESL from Kent State University, Ohio, USA. She worked as an English instructor in a university in China. She is currently specialized in the field of Cognition and Learning. Her research interests are mobile-assisted language learning, online learning, student engagement, motivation, and second/foreign language learning and teaching. Besides researching, she also works as a teaching assistant and a research assistant.