Patterns and effectiveness of mobile device usage by Japanese undergraduates for L2 acquisition purposes

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Abstract. Mobile technologies, such as smartphones and tablets, are rapidly gaining popularity as an effective means to enhance foreign language learning. However, does the incorporation of these mobile devices really benefit the learner or simply satisfy the instructor's need to be innovative and ahead of the learning curve? The present study seeks to answer this question, in part, by targeting a survey to English as a foreign language (EFL) learners at a private university in Tokyo, Japan. The survey was administered to Japanese undergraduates studying academic English in two separate departments during a three academic year period (2012 to 2014). The main purpose of the survey was to determine students' attitudes toward and patterns of usage of mobile learning technology, and how effective they felt it was compared with traditional methods of teaching English skills. The results revealed the students were satisfied with and motivated by their exposure to mobile learning, and that they had a preference for using mobile devices when learning English. At the same time, however, there were some students who did not feel comfortable using mobile devices for language learning. The results of the survey are discussed in light of emerging theories of autonomous learning and second language motivation.

Keywords: smartphone, tablet, mobile (m-)learning, mobile-assisted language learning, MALL, L2 acquisition, autonomous learning.

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1.   Introduction

Mobile (m-)learning technologies are rapidly gaining popularity around the world as an effective way to enhance foreign and second language (L2) learning. M-learning is highly motivating, as it offers a rich, informal, contextual, and ubiquitous learning environment by which one can control his/her own learning time, environment, and speed. M-learning has other advantages over conventional teaching and learning methods, including the almost limitless number of English news programs, language learning apps, podcasts, videocasts, etc., that can be easily accessible and downloadable for free or for little cost.

Previous studies addressing m-learning and students' reactions to it are somewhat limited, as publications to date have tended to focus on describing the types of devices used, e.g. PDAs, cell phones, etc., and outcomes expected. See Kukulska-Hulme and Shields (2008) for an investigation into collaborative learning regarding listening and speaking activities and Stockwell (2008) for a study focusing on vocabulary. However, Fujimoto (2013) recently reported on Australian students' mobile device ownership and usage patterns, while Miangah and Nezarat (2012) reported on employing mobile devices in Iran as a means of cutting costs and ties to CALL.

The purpose of the present study was to determine whether m-learning holds benefits for native Japanese students, seeing how and why students have come to use this technology, including student mobile device usage in and out of the classroom and its effectiveness in improving English skills. It also attempts to ascertain whether m-learning has the positive impact in and out of the classroom that is being claimed by recent L2 acquisition and how it compares with more traditional classroom approaches. Another matter of concern was to determine whether students are willing participants in this transformation to use m-learning technologies. Do students gravitate to this new technology on their own, or is it necessary for instructors to urge or recommend them to reach out for new ways to learn?

2.   Method

2.1.   Participants

The survey was administered three times over a three academic year period (2012-14). All participants (*N*=863) were university undergraduates from two separate colleges at Aoyama Gakuin University, with an average of 144 students each year

from both colleges, respectively). All participants were native speakers of Japanese from various parts of Japan, ranging in age from 19 to 23. The percentages of the other demographic variables within this population were as follows: female 34.6%, male 65.4%, Science and Engineering (SE) majors 50%, Social Informatics (SI) majors 50%, freshmen 49.6%, sophomores 16%, juniors 25.1%, and seniors 9.3%.

2.2. Materials

The survey (in Japanese) was posted on MonkeySurvey®, an online survey and software questionnaire tool. The survey consisted of four questions to provide demographical information, two questions to indicate owners of smart phones and tablets, and 31 questions comprised of Likert scale items that reported agreement with the affective items (1=strongly disagree to 6=strongly agree).

2.3. Procedure

The survey was administered each time on the final day of the semester (in January). The students were informed that the survey was for research purposes only, and since the responses were online, their privacy would be protected. The survey took approximately five to eight minutes for the participants to complete.

3. Results

Due to space limitations, we present just a sampling of the results, which have been categorized into three sections: 3.1) Student motivation for using mobile devices; 3.2) Smartphone usage characteristics (English Skills); and 3.3) Student attitudes toward m-learning. In addition, it should be noted that before the analysis we removed all responses from students who claimed to be 'non'-mobile device users.

3.1. Student motivation for using mobile devices

We were interested in assessing the motivation for students in their decision to start using a mobile device to improve their English. This information might be helpful for teachers to better understand the type of motivation (intrinsic or extrinsic) that influences students in their decision to use a mobile device, as well as potentially guide the future development of L2 pedagogy incorporating m-learning.

As shown in Table 1 below, the vast majority of students (98%) responded that they owned a smartphone in January of 2014, a 17% increase from their polling two years earlier. Conversely, the number of students owning a tablet was 24% in

2014, an 11% increase from the 2012 poll. Additionally, in response to Q3, "*I use a mobile device for learning or practicing English*", there was a slight increase during the three-year period in the number of students using their devices to study English (42% to 49%).

Table 1. How mobile device ownership among Japanese students changed over three years

	Smartphone	*Tablet*
2014	98%	24%
2013	91%	11%
2012	82%	13%

The next set of questions dealt with the motivation behind usage of mobile devices for studying English: Q8, "*I made my own decision to start using a mobile device for practicing English*" (**Self**); Q9, "*I started using a mobile device to study English because my teacher required me to use it*" (**Required**); and Q10, "*I started using a mobile device to study English because my teacher encouraged me to use it*" (**Encouraged**).

Overall, the results indicate that a higher percentage of SE students compared to SI students responded they were "required" (19% vs. 13%) and also "encouraged" (40% vs. 36%) to use a smartphone to learn English. However, there were a greater number of SI students (38%) who reported being "self" motivated in their gravitation toward m-learning in comparison to SE students (28%).

3.2. Smartphone usage characteristics (English skills)

This section presents the results of questions dealing with the types of English skills students practiced with their mobile devices. The responses were collapsed across the variables 'school' and 'year'.

A majority of students (80%) responded that they did not pay for mobile apps for language learning and used only free programs. The results also showed that students spent significantly more time practicing *listening* (69%) than *reading* (42%). Additionally, a majority of students (66.6%) responded that they used their mobile devices to improve their English *vocabulary*.

In examining dual-skill language practice, students preferred using their smartphones to study *listening & reading* (59.3%) over *reading & writing* (44.3%).

Finally, when asked 'where' they preferred to use their mobile devices to study English, a majority of students (60.4% vs. 54.7%) responded that they preferred studying English on the *train* compared to at *home*, respectively; however, we should mention that this difference was greater for students two years ago in 2012 (71.5% vs. 61%, respectively) than in 2014, when both locations were reported to be equally preferred.

3.3.   Student attitudes toward m-learning

In this section, we were interested in gaining a better understanding of student satisfaction with m-learning for studying English, as it could help confirm the benefits and effectiveness of m-learning. As in Section 3.2, all responses were collapsed across the variables 'school' and 'year'.

In response to Q17, "*My English has improved using a mobile device*", 47.7% of students answered in the affirmative. The results also show that 59.2% of students reported that using a mobile device to study English was "fun and interesting". Furthermore, a significant number of students (37.9%) answered negatively when polled if MALL "was not helpful for learning English". In addition, 58.5% of respondents indicated m-learning "was more efficient" than other styles of learning.

4.   Conclusion

The overall results revealed many students were satisfied with and motivated by their exposure to m-learning. Furthermore, a significant number had a preference for using mobile devices when learning English and found m-learning to be more efficient than traditional methods. It was also encouraging to find that many students had started to utilize their mobile devices to learn English on their own. At the same time, however, there were some students who did not feel comfortable using mobile devices for language learning. A lack of motivation and confidence can have a negative effect on students' attitudes and classroom behaviors, resulting in long-term and widespread negative learning outcomes. One of the main goals of any L2 learning program incorporating m-learning should thus be to motivate students by offering them a more integrated approach to learning English, including individualized guidance and support during the learning process.

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