Impact of a blended environment with m-learning on EFL skills

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Abstract. A longitudinal study conducted from April 2013 to January 2014 sought to ascertain whether a blended learning (BL) environment incorporating m-learning could help Japanese undergraduates improve their English language skills. In this paper, various emerging technologies (including Globalvoice English, ATR CALL Brix, the mobile learning-oriented TOEIC Practice Kit, Course Power), as well as online materials (MOOCs, TED Talks, top 10 most popular educational web tools) will be demonstrated. The study focuses on examining the use of emerging e-learning and m-learning technologies and activities, ranging from speech recognition to web-based learning both in and out of the classroom, in order to determine their effectiveness in improving the English proficiency of non-native learners. Pre- and post-training TOEIC scores revealed that the BL activities had a positive effect on the students' overall English proficiency.

Keywords: MOOCS, TED talks, ATR CALL Brix, Globalvoice English, blended learning, mobile technologies.

1.   Introduction

Mobile learning technologies are rapidly gaining popularity around the world as an effective way to enhance foreign language education. Mobile learning (m-learning) is highly motivating to learners, as it offers a rich, informal, contextual, and ubiquitous learning environment in which it is possible for them to control their learning time, environment, and speed (Kukulska-Hulme, Sharples, Milrad, Arnedillo-Sánchez, & Vavoula, 2009). M-learning has other advantages over

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conventional teaching and learning methods, including the almost limitless number of English news programs, language learning apps, podcasting, video-casting, etc., that can be easily accessible and downloadable for free or for little cost. Today, mobile devices are omnipresent. Recent innovations in technology that brought such social networking sites as Facebook and Twitter to such popularity can be handheld today. Voice over Internet Protocol (VOIP) technology is no longer tied to the desktop or laptop computer. Although not without drawbacks, credit card purchases and payments are possible from a mobile device. However, can what is being used so easily and by so many today in society be altered, borrowed, copied or transformed to serve as an effective tool in an educational setting? That is one question we address herein.

In the field of second language (L2) learning, and in CALL in particular, there has been an increasing body of research dedicated to the use of mobile devices in language learning over the past several years (Chen, 2012). Teachers and researchers use the term MALL (mobile-assisted language learning) as if it were familiar to everyone in the field. It is not our intention here to trace the roots of MALL and its place in language learning today (see Stockwell, 2012 for a detailed discussion).

Instead, our purpose as educators is to try to determine whether m-learning holds benefits for our students, to see how and why students come to use this technology, and how mobile learning compares with more traditional classroom approaches. TED Talks is also one of the most useful online learning resources available and is very conducive to m-learning, whereby learning takes place at any time and at any place due to the swift development of mobile technologies. According to Sherimon, Vinu, and Krishnon (2011), mobile technologies have succeeded in transforming learning methodologies.

One such methodology that has received great attention in recent years is BL (Sherimon et al., 2011). According to Graham (2006), there are three common definitions of BL mentioned in the literature: (a) combining instructional modalities; (b) combining instructional methods; and (c) combining online and face-to-face instruction. Also known as hybrid learning (Kaleta, Skibba, & Joosten, 2006), BL combines traditional face-to-face classroom methods with computer-mediated activities, resulting in a more integrated approach for both instructors and learners.

To date, few empirical studies have been carried out to examine the effectiveness of blended-learning environments compared with traditional classroom methods.

The goal of the present paper is to examine the effectiveness of BL activities using mobile devices for the purpose of improving the English language proficiency of native Japanese undergraduates, including their written, oral communication, and presentation skills.

The research questions were as follows:

> a) Can online TED Talks, Newton e-Learning Practice Kit, and ATR CALL Brix help improve the TOEIC scores of native Japanese learners?

> b) Can learning online TED Talks help improve students' oral communication and writing skills?

> c) Are blended learning activities and flipped class lessons using mobile devices useful in improving learners' English skills?

2.   Methods

A total of 100 undergraduates enrolled at Aoyama Gakuin University, all native speakers of Japanese, were the participants of this study. The study was conducted during a single academic year (April to January 2014). Students were administered TOEIC in April 2013 and again in January 2014, the purpose of which was to ascertain the effectiveness of the BL program. Students were required to spend roughly 50 hours to complete the on-line TOEIC course and flipped classroom learning materials using a PC and mobile phone for the purpose of improving their four English skills.

By the end of the semester (January 2014), the students had completed nearly 100% of the online course contents and wrote down about 20 summaries of TED Talks. Blended-learning activities included: (1) watching online Coursera lectures and TED Talks with PC and mobile devices; (2) presenting oral summaries of lectures to classmates both face to face and in front of the class; and (3) spending extensive time watching 20 TED Talks during commuting hours and writing a 300-word summary of each lecture for 20 weeks, while also spending extensive time using the Newton TOEIC practice kit and ATR CALL Brix. In the classroom, the students created several digital stories and gave oral presentations of the international heritage sites. Students were also required to write blogs based upon their presentations during the second semester. The activities as a whole were based upon the concept of flipped classroom lessons. Before their presentations, students also used Globalvoice English to practice English pronunciation and prosody. At

the end of the course (January 2014), a questionnaire was administered to students for their feedback on their BL environment experience.

3.   Results

For assessment purposes, we present a sampling of the data results, including the results from TOEIC, which revealed that the students' overall English had improved after their exposure to the BL activities. Also included are some results of the questionnaire.

3.1.   TOEIC

TOEIC results revealed the mean scores significantly increased from 570 (*SD*=102) in the pretest to 687 (*SD*=108) in the posttest. The TOEIC pre- and post-test results were analyzed using a t-test, indicating a difference in scores at a significant level of 1%. This improvement in scores would seem to indicate that the utilization of a learning environment integrating m-learning and e-learning helped the students to improve their overall English proficiency.

3.2.   Questionnaire results

The questionnaire was administered to students after their exposure to the blended-learning program, which included Ted Talks, ATR CALL Brix learning, e-Learning TOEIC Practice Kit, weblogs, and speech training with Globalvoice English. In response to the first question "Did you find writing TED Talks summary useful in improving your English proficiency?", 91% of students felt they were very useful. In the second question "Did you find ATR CALL Brix useful in learning English and in improving TOEIC scores?", 79% of students (*N*=90) felt that ATR CALL Brix were useful. In the third question, 81 % (*N*=90) felt that the Newton e-Learning TOEIC Practice Kit was very useful in improving their TOEIC scores. In the fourth question, 83% (*N*=36) of students felt that blog writing was useful in improving their English. Finally, in the fifth question, 82% (*N*=86) felt that Globalvoice English was useful in improving English prosody and segmental features.

3.3.   Assessment of English writing and oral summaries

At the start of the semester in April 2013, students made numerous grammatical and structural mistakes in their summary writings. However, by the end of year, their writings had fewer grammatical errors, were better organized and longer in

duration. In addition, by comparing the first and final oral summaries, many of the students demonstrated significant improvement in their oral skills, particularly in terms of segmental and prosodic features, including pitch, intonation, and vowel duration.

4. Discussion and conclusion

The pre- and post-training TOEIC scores revealed that the BL activities had a positive effect on the students' overall English skills. In addition, the students' listening and oral communication skills improved as a result of the online TED Talk learning activities, including 20 summaries. A questionnaire administered after their exposure to the BL activities indicated they were satisfied with the online TED Talks and blended learning activities and motivated by the BL environment incorporating m-learning. Overall, these results indicate that blended learning using mobile technologies can be effectively integrated into the language learning curriculum and can play a positive role in improving students' language proficiency. Additionally, instructor observations of the BL activities revealed that students were excited by using the variety of IT tools, which was greatly aided by accessing the materials from their mobile devices. M-learning helped to increase the amount of comprehensible English input and was highly motivating to students by offering them a rich, informal, contextual, and ubiquitous learning environment.

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