

The Impact of Employing Mobile Technologies and PCs for Learning Coursera Online Lectures and TOEIC Practice Kit

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Abstract. Mobile (m)-learning is motivating to learners to improve foreign language skills, as it offers them a rich, informal, contextual, and ubiquitous learning environment. In this paper I report on the results of two empirical studies that focused on two projects, both of which incorporated e-learning and m-learning, to determine if a blended-learning environment could improve the Test of English for International Communication (TOEIC) ([Educational Testing Service, 2011](#)) and presentation skills of native Japanese undergraduate students. The goal of the first study was to examine the effectiveness of blended and mobile learning activities on the students' English language proficiency and oral communication skills. The second study focused on the use of an on-line TOEIC training kit. The results revealed that the students' communication skills improved as a result of the on-line activities. Questionnaires administered at the end of each study indicated the students were satisfied with the online Coursera lectures and motivated by the blended-learning environment incorporating m-learning.

Keywords: Coursera, TOEIC, e-learning, m-learning, mobile technologies, iPhone, iPad, online learning.

1. Introduction

“Five years from now on the web for free you’ll be able to find the best lectures in the world.” The above quote, uttered by Bill Gates at the first Technomy conference in August 2010, was his prediction of the future state of “open”

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lectures, social media, and smartphones, which helped to usher the world into “the next era” of the web. Gates’ bold prediction is what we are now experiencing around the world.

Coursera is an educational technology company that offers free online courses in a wide variety of areas, including the humanities, medicine, biology, business, computer science, and others. E-mobile learning technologies such as the iPhone, iPad, podcasting, and video-casting to name but a few, are rapidly gaining popularity as an effective way to improve foreign language skills around the world. Coursera is one of the most useful e-learning resources available and it is very conducive to mobile learning, whereby learning takes place at any time and at any place due to the swift development of mobile technologies. According to [Vinu, Sherimon, and Krishnan \(2011\)](#), mobile technologies have succeeded in transforming learning methodologies. One such methodology that has received great attention in recent years is blended learning (BL). BL combines traditional face-to-face classroom methods with computer-mediated activities, resulting in a more integrated approach for both instructors and learners.

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 writing, oral communication and presentation skills. This paper reports on two empirical studies that focused on two projects, both incorporating e-learning and m-learning, to determine if a blended-learning environment can improve the TOEIC and presentation skills of native Japanese undergraduate students at a private university in Tokyo, Japan.

2. Method

The research questions targeted in this paper were as follows:

- Can online Coursera courses help to improve the TOEIC scores of native Japanese students?
- Can online Coursera courses help to improve students’ oral communication and writing skills?
- Are BL activities using mobile devices useful in improving students’ overall English skills?

2.1. The first study

The first study was conducted over a period of four months during a single academic semester (October 2012 to January 2013). A total of 50 undergraduates, all native speakers of Japanese studying at a private university in Tokyo, were the participants of the study. The students were administered the TOEIC test as a pretest in October 2012 and again as a posttest in January 2013, the purpose of which was to ascertain the effectiveness of the BL program. The blended-learning activities included: (1) students watching online Coursera lectures with the use of a PC and mobile devices; (2) students presenting oral summaries of the lectures to their classmates both face-to-face and in front of the class; and (3) students spending extensive time watching several online lectures during their commuting hours and writing a 400-word summary of each lecture during each week. At the end of the course, a questionnaire was administered to the students after their exposure to the above activities. The goal of the first study was to examine the effectiveness of the blended and mobile learning activities on the students' English language proficiency and oral communication skills.

2.2. The second study (TOEIC training kit)

The second study focused on examining the use of an on-line TOEIC training kit to help determine the effectiveness of the e-learning and m-learning activities. The study started in October 2012 and ended in January 2013, and targeted approximately 60 Japanese undergraduate students. Students were required to spend roughly 50 hours in total to complete the online TOEIC course using a PC and mobile phones for the purpose of improving their reading and listening comprehension skills. By the end of the semester in January 2013, the students had completed nearly 80% of the online course contents. The students were administered the TOEIC test as a pretest in October 2012 and once again as a posttest in January 2013. A questionnaire was also administered to the students after their exposure to the above activities at the end of the course.

3. Results

For assessment purposes, we present a sampling of the data results below, including the results from TOEIC, which revealed that the students' overall English proficiency had improved after their exposure to the BL activities. Also included are some of the results of the survey which were administered to the students for the purpose of attaining feedback on how they felt about the BL activities.

3.1. TOEIC

The TOEIC results of the first study revealed that the students' mean scores had significantly increased from 585 ($SD = 25.3$) in the pretest to 645 ($SD = 24.6$) in the posttest. Likewise, in the second study, the mean TOEIC scores improved from 452 ($SD = 112$) to 566 ($SD = 122$) over a three-month period. In both cases, the pretest and posttest TOEIC scores were analysed using a t-test, which indicated that the difference between both scores were statistically significant at a 1% level. This improvement would seem to indicate that our utilisation of a language learning environment that integrated m-learning and e-learning had significantly helped the students to improve their English skills and had a positive effect on their overall English language proficiency.

3.2. Questionnaire

In the first study, a survey was administered to participants after their exposure to the blended-learning program incorporating the Coursera lectures. In response to the survey question "did you find the Coursera lectures useful in improving your English proficiency", 61% of students felt that the online lectures were very useful. In response to the question "to what extent did you use mobile technologies to learn online Coursera lecture", 30% of students responded having used their mobile devices to study the on-line English lectures. Overall, the questionnaire results indicated that the students were satisfied with the online Coursera lectures and TOEIC training kit and were motivated by the blended-learning environment incorporating m-learning.

3.3. Assessment of English writing and oral summaries (first case study)

At the start of the semester, the students had made numerous grammatical and structural mistakes in their summary writings. However, by the end of semester the students' writings, for the most part, had fewer grammatical errors, were better organised, and were longer in length. In addition, by comparing their first and final oral summaries, many 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

An assessment of pre- and post-training TOEIC scores in the first study revealed that the Coursera lecture 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 English lecture activities with English subtitles. A questionnaire administered after their exposure to the BL activities indicated the students were satisfied with the online Coursera lectures and motivated by the BL environment incorporating m-learning.

The goal of the second study was to improve the students' reading and listening comprehension skills. The results showed the students completed nearly 80% of the course contents with their mean TOEIC scores improving from 452 ($SD = 112$) to 566 ($SD = 122$) over a three-month period. The students appeared to be very satisfied with the online Teaching and Learning Technology (TLT) TOEIC Kit Software because e-Learning TLT TOEIC Kit Software is a form of Web-Based Training (WBT) education materials developed to allow full expression of the convenience that comes with e-learning within academic settings. Its merit lies in the fact that individual learners are not only able to repeat their studies anywhere, at any time, but teachers are also able to uniformly manage the progress and results of their students' work.

As shown by the results of the two studies, the on-line and BL activities can be employed for language learning assignments in regular classes apart from the necessity of using CALL and computer rooms. Since they enable students to learn regardless of time or place when used with tablet computers or smartphones, it holds the potential for significant improvement over traditional study modalities. Overall, these results seem to 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, the instructor's observations of the BL activities revealed that the students were excited by using a variety of IT tools, which helped them to more effectively engage in the Coursera lecture activities by accessing a variety of learning materials from their mobile devices.

The results overall confirmed that students considered the activities to be helpful in developing their English language skills. One plausible reason for the effectiveness of the language learning program may be due to the flexibility and personalised nature of m-learning, since it enables students to control the pace and place of their L2 learning both in and out of the classroom. The portability and convenience of m-learning empowers students to actively explore and regulate their own language learning. It also enhances collaborative and creative exchanges between students while working on classroom or during autonomous learning activities, which can result in making their language learning experience more positive and enjoyable.

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