Liu, C.-C. et al. (Eds.) (2014). Proceedings of the 22nd International Conference on Computers in Education. Japan: Asia-Pacific Society for Computers in Education

Exploring the Value of Multimedia Messaging Service for Learning English Reading: Using LINE as an Example

Pei-Hsun Emma LIU [a*], Ruey-S SHIEH[b], Wen-Chi Vivian WU[c]

[a]*Department of Applied English, Kainan University , Taiwan*
[b]*Department of Information Management, Kainan University , Taiwan*
[c]*Department of English Language, Literature and Linguistics, Providence University, Taiwan*
*liu.phe@gmail.com

Abstract: The development of mobile technology is rapidly changing the environment and the way of learning in school. In addition to facilitating communication, mobile devices (e.g., smart phones and tablets) have made ubiquitous E-learning more accessible and mobile learning more popular. Multimedia messaging service (MMS), such as WhatsApp and LINE, can deliver richer information, including images, audio and video files, to enhance the interest of English learners. However, whether MMS can help students learn English is of interest. The purpose of this study is to investigate the value of MMS, LINE in particular, in helping EFL students learn English, based on the concept of Dual Code Theory (Paivio, 1986). The participants are 40 college students enrolled in Freshman English Reading course. Data collection consists of pre- and post-test, MMS messages, questionnaire, student writing, and interviews. It is noted that this study is currently ongoing. Based on the comparison of students' pre- and post test, the preliminary findings indicate that the LINE-based learning activities helped students familiarize with English vocabulary and improve English reading comprehension. In addition, students who were more engaged in the LINE-based activities tended to have better improvement than those who were less active. While most students made improvement and had positive perceptions of the designed activities, some did not seem to benefit from the instructional design. More detailed description will be addressed upon the completion of the study.

Keywords: Information technology, mobile learning, English reading and writing, MMS, LINE

1. Introduction

With the rapid development of information technology, students are used to learn different dimensions of knowledge through various devices such as computers, notebooks, tablets, and smart phones. A considerable amount of literature has been published on the use of information technology in assisting teaching and learning (i.e., computer-assisted language learning (CALL) and electronic-learning (E-learning)) (e.g., Greenfield, 2003). These studies indicate that the use of information technology is beneficial when integrated in traditional learning environments.

The rising speed of mobile technology is increasing and has made ubiquitous E-learning more accessible and mobile learning more popular. Mobile technology is gaining much attention because of its characteristics such as mobility, reachability, personalization, spontaneity, and ubiquity, and its promises for education (Saran & Seferoglu, 2010). Mobile devices allow a richer learning environment for language learners (Yousefzadeh, 2012). Several attempts have been made to understand the benefits of mobile learning (M-learning) and mobile-assisted language learning (MALL) (Chen & Hsieh, 2008; Kiernan & Aizawa, 2004). These studies demonstrate the potential of mobile devices and applications in enhancing language learning.

Recently, many smart phone-based applications have been developed such as short messaging service (SMS) and multimedia messaging service (MMS). The use of SMS and MMS with mobile devices in facilitating English learning is gaining much attention. For example, Saran and Seferoglu (2010) have explored how to support foreign language vocabulary learning through multimedia messages via mobile phones. Yousefzadeh (2012) found that learning vocabulary via MMS resulted in

better learning than learning vocabulary via SMS. However, most SMS- or MMS-based studies have focused mainly on the learning of English vocabulary and very few studies have explored the learning of English through instant and interactive conversation. As mobile learning is gaining much popularity, the viability of MMS in learning English is worthy of investigation.

Therefore, the purpose of the study is to investigate how MMS, LINE in particular, supports English learning. The study aims to examine how LINE assists students' learning of English reading. The findings of the study play a significant role in defining the role MMS (i.e., LINE) plays in supporting language learning.

2. Literature Review

2.1 Multimedia Learning

As information technology becomes available, more and more teachers incorporate multimedia materials in teaching practices for the value of entertainment and comprehension (Gilakjani, 2012). Multimedia refers to "any computer-mediated software or interactive application that integrates text, color, graphical images, animation, audio sound, and full motion video in a single application" (Gilakjani, 2012, p. 57). Multimedia materials help students comprehend complex issues and improve learning. Gilakjani (2012) argued that the use of two different modalities (i.e., visual and auditory) to present information contributed to such improvement. According to Paivio's Dual-Code Theory (1986), learning improves when the information is received through two channels (i.e., visual and verbal) to construct meaning. Some studies have proved such theory valid (Plass & Jones, 2005; Chen, Hsieh & Kinshuk, 2008). Plass and Jones (2005) argued that multimedia could enhance input by making it more comprehensible. Similarly, Chen, Hsieh, and Kinshuk (2008) examined how SMS and MMS facilitate the learning of English vocabulary and found that using more than one modality is more effective than the use of a single modality. The different modalities of information presented in multimedia materials allow the language learners to increase comprehension of the materials and facilitate learning.

2.2 Mobile Messages and Language Learning

An increasing number of young users in Taiwan are communicating with each other through mobile messaging applications, short messaging service (SMS) or multimedia messaging service (MMS), such as Whatsapp, LINE, Viber, and WeChat. MMS is an evolutionary form of SMS; it can send not only text but also graphics, video, and audio clips (Tayebinik and Puteh; 2012). As multimedia instruction offers a more engaging and lively learning environment, designing English courses with the use of MMS seems to become an important issue. Several studies have compared the use of SMS and MMS in English learning and found MMS-based instruction to be more engaging and effective, which is in line with the Dual-Code Theory (Paivio,1986) and the cognitive theory of multimedia learning (Gilakjani, 2012). For example, Yousefzadeh (2012) investigated how the uses of SMS and MMS via smart phones affect English vocabulary learning of 50 elementary level learners. Students in the MMS group received English vocabulary with definition, pictures and examples, while the SMS group received only English vocabulary with definition. The findings indicated that MMS had a substantially higher information-carrying capacity than SMS, and the achievement scores in the MMS group were significantly increased. Similarly, Chen, Hsieh, and Kinshuk (2008) pointed out that learners receiving English words along with both written and pictorial annotation via mobile messaging service had better learning outcomes than those receiving only English words without written or pictorial annotation. In other words, the use of visual media enhances English vocabulary acquisition.

Up to now, however, only few studies have explored how MMS affects foreign language learning. Previous research on SMS- or MMS-based English learning has tended to focus on having students passively receive instruction from the researchers or teachers via mobile phones, instead of interacting with their peers. According to one of the suggested principles for multimedia learning, "multimedia learning is more effective when it is interactive and under the control of the learner" (Gilakjani, 2012, p. 59). This means that MMS-based activities would be better received when learning through instant and interactive conversation.

Currently, LINE is one of the most popular MSM applications among young students in Taiwan. Launched in Japan in 2011, LINE is an app for instant messaging on smart phones and PCs. LINE is more of a social entertainment network, in addition to a messaging app. It provides free voice calls, instant text messages, games, and built-in camera. The cartoon characters and stickers serve as emoticons to make communication more interesting. It has become the most popular mobile messenger app in Taiwan, according to the market research of InsightXplorer Limited, as of May 2013. The official website of LINE pointed out that, as of the end of November 2013, the app had 300 million users worldwide; Taiwanese users of LINE had reached 17 million, second only to Japan (50 million) and Thailand (20 million), and most of the registered users are younger generation.

Due to the popularity of LINE, it is hoped that such technology can be leveraged to support English language learning. The purpose of the study attempts to explore how the use of MMS supports learning English reading by engaging students in interactive role-playing activities. This study is guided by the following research question: What the viability and challenges of LINE-based mobile learning are for English language education.

3. Methodology

3.1 The Research Context and Participants

This study is conducted at a university located in a suburban area of northern Taiwan. The participants involved in the study are 40 students who enrolled in the Freshman English Reading course in spring 2014. The 18-week course is offered by the Department of Applied English. The course is a required course with four credits for English majors and is scheduled four class hours per week.

3.2 Instructional Design

The Freshman English Reading course aims to help students understand and interpret English in its written form on a variety of topics. Students will comprehend written texts through use of reading and vocabulary learning skills. The instructional design consists of two elements: in-class instruction and after-class MMS-based activities.

Each week the course focuses on one reading text about themes such as earth science, tourism and hospitality, and animal studies. In-class instruction introduces vocabulary and language expressions to each theme. Some exercises for reading comprehension and reading skills will also be included for practices.

The MMS-based learning activities utilize the concept of Dual Code Theory (Paivio, 1986), which is designed to engage students in contextualized scenarios where students read, speak, write and interact with each other. Students form groups of three or four for the activity. Toward the end of each class, students receive role cards that explain their roles and tasks. They decide which role they would like to take on according to the role cards. Students then follow the tasks on the role cards to prepare for information, materials, etc. needed for their conversation.

After each class, students participate in the role-playing activities through LINE. Students are instructed to use what they have learned in class to communicate with their group members. They are also encouraged to include photos, video clips, links, or any information that will facilitate their communication. Figure 1 demonstrates the examples of LINE messages.

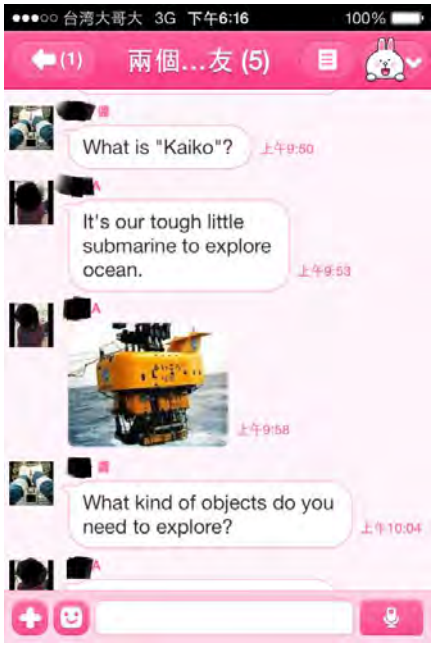

Figure 1. Example of LINE Messages

3.3 Implementation

The implementation include three elements: perform pre-test and post-test, implement the MMS-based activity, and conduct student questionnaire and interview. The study utilizes the pre-test and post-test design to examine students' English proficiency in Freshman English Reading course before and after the experiment. At the beginning of the semester (first week), the participants were asked to take a test of English reading (pre-test) to determine English proficiency level of the students. At the end of the semester (17th week), the participants will take the same test of English reading (post-test) to access their improvements during the experiment. Throughout the semester (2nd-16th weeks), the students are asked to participate in weekly role-playing activities after class using the vocabulary and language expressions introduced in class. At the end of the semester (17th-18th weeks), student perceptual questionnaire, and student group interview will be conducted. The students will be asked to fill out the student perceptual questionnaire in the last class of the course. Additionally, they will be invited to participate in group interviews for the researchers to further understand their experiences and reflection on the MMS-supported English learning.

3.4 Data Collection

Data collection consists of five sources: pre- and post-test, MMS messages, writing samples, student perceptual questionnaire, and group interviews with students. A pre-test is prepared to test the participants' proficiency level of English vocabulary and reading skills. The test consists of 30 items including multiple choice, cloze test, and single/double passage reading comprehension. The same test will be re-administered with the order of the items changed as a post-test.

All of the messages delivered via LINE during the weekly MMS-based activity are gathered. When students participate in the activity via LINE, they were asked to include the researcher's account in their conversation so that all the MMS messages can be recorded. Student writing assignments in relation to the MMS activities are collected. After students participated in the MMS activity, they wrote an assignment based on their discussion in the activity. The writing assignments were designed to strengthen students' understanding of vocabulary and reading texts learned in class.

The questionnaire design is used to identify students' learning experiences and reflections on MALL and MMS. It was designed to investigate the students' perceptions of group activity with MMS via smart phones. It comprises of two sections of questions: checked items and open-ended questions. A 5-point Likert scale ranging from 5 (strongly agree) to 1 (strongly disagree) is used in the checked questions, categorized into three aspects: technological device, MMS, and the role-playing activity. The open-ended questions asked the students about their learning gains benefited from the activity and

through technology, challenge encountered, self-reflection on the activity and technology, and suggestions to future teaching design.

All of the students will be invited to participate in the group interview at the end of the course. The semi-structured interviews will address four main questions: prior experiences with mobile- and MMS-based learning, current learning experiences, individual effort and group interaction, and overall reflection. Each interview will last about 30 minutes. All the interviews will be digitally recorded.

3.5 Data Analysis

The quantitative data will be processed with the statistical software, Statistical Package for Social Science (SPSS), including descriptive statistics, t-test, and correlation. Specifically, results obtained in the pre- and post-test will be compared in order to determine the effects of LINE on learning outcomes of English vocabulary and reading. For the student perceptual questionnaire, descriptive statistics will be performed; the mean scores and standard deviation of the questionnaire will be calculated to explore the participants' attitudes toward the use of mobile phone and the overall MMS. Word count will be used to analyze the MMS messages to assess student learning performance.

In addition, content analysis will be utilized to analyze qualitative data. Students' interview transcripts and responses to the open-ended questions will be analyzed using category construction (Erlandson et al., 1993) to code the data into emergent categories.

4. Preliminary Findings

As mentioned, this study is currently ongoing. The preliminary findings reveal that the students, overall, had positive perceptions of the MMS role-playing activities; many of them reported that the MMS role-playing activities helped them familiarize with new vocabulary introduced in class and hone their reading skills. In addition, LINE, as a learning platform, reportedly was convenient and fun to interact with peers. Based on the comparison of the students' pre- and post-test, the students who made conversation more frequently used more focus vocabulary in the role-playing activity and subsequently had better improvement in the test. Several challenges, however, were also reported, including (a) collaboration with group members who are not too responsive, (b) availability of teacher feedback, and (c) flexibility of time for instant conversation. More detailed description will be addressed upon the completion of the study.

5. Acknowledgement

This study was financially supported by the Research Grant MOST 103-2511-S-424-001-.

References

Chen, N. S., Hsieh, S. W, & Kinshuk. (2008). Effects of short-term memory and content representation type on mobile language learning. Language Learning & Technology, 12 (3), 93-113.

Gilakjani, A. P. (2012). The significant role of multimedia in motivating EFL learners' interest in English language learning. I.J. Modern Education and Computer Science, 4, 57-66.

Greenfield, R. (2003). Collaborative e-mail exchange for teaching secondary ESL: A case study in Hong Kong. Language Learning and Technology, 7 (1), 46-70.

Kiernan, P. J. & Aizawa, K. (2004). Cell phones in task based learning: Are cell phones useful language learning tools? ReCAL, 16 (1). 71-84.

Paivio, A. (1986). Mental representations: A dual coding approach. Oxford, UK: Oxford University Press.

Plass, J. & Jones, L. (2005). Multimedia learning in second language acquisition. In R. Mayer (Ed.), The Cambridge handbook of multimedia learning (pp. 467-488). New York, Cambridge University Press.

Saran, M. & Seferoglu, G. (2010). Supporting foreign language vocabulary learning through multimedia messages via mobile phones. H. U. Journal of Education, 38, 252-266.

Shuell, T. J. & Farber, S. L. (2001). Students' perceptions of technology use in college courses. Journal of Educational Computing Research, 24, 119-138.

Yousefzadeh, M. (2012). Multimedia messaging service (MMS) vs. short message sending (SMS) and second language learners' vocabulary. Journal of Educational and Instructional Studies in the World, 2 (4), 89-92.