Mobile Assisted Vocabulary Learning with Chinese EFL Learners: Effectiveness and Evaluation

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Abstract: This study aims to examine the effectiveness of vocabulary gains for EFL learners with intermediate English proficiency on one reading application "Fluent Reading" in a Chinese university. This reading treatment lasted for 30 days, and the 4 participants were asked to use this reading app every day. The data were collected through the vocabulary pre-test, and post-test to measure the learners' vocabulary gains in the 100 randomly selected target words. The results revealed that relative large vocabulary gains may occur through mobile assisted language learning.

Keywords: mobile assisted language learning, reading application, vocabulary gain, Chinese EFL learners

1. Introduction

Mobile-Assisted Language Learning (MALL) is one approach to language acquisition (Alkhouli, 2018: 13). As a part of Computer-Assisted language learning (CALL), MALL holds some unique features, Kukulsa-Hulme and Shield (2008) note that MALL differs from CALL "in its use of personal, portable devices that enable new ways of learning, emphasizing continuity or spontaneity of access and interaction across different context use" (P.273). MALL equips EFL learners with the potentials to experience new learning methods that go beyond the classroom settings, giving them more flexibility in terms of language content, ways of knowledge delivery, learning space, and time. (Djoub, 2014: 194-221; Kukulsa-Hulme, 2016: 271-289).

The present study intends to examine the effectiveness of vocabulary learning by using one reading application "Fluent Reading". This study gives an overview of previous research on MALL-based English learning, vocabulary learning driven by extensive reading. Then, it discusses the effective use of reading apps in helping EFL learners by referring to the differences in vocabulary gains from pre-test and post-test.

2. The positive effects of Mobile Assisted Language learning

Mobile apps have a considerate impact on the development of learners' language skills, especially the development and retention of vocabulary. MALL can be considered an ideal solution to language learning barriers in terms of time and place (Hazaea, 2018: 48-58). In their paper, Shin et al. (2015: 2634-2638) conducted the research to find out the effects of integrating mobile learning into an English spelling course. The participants were 29 college students and were observed for six weeks about their spelling ability and skills. The results showed that the use of mobile LINE app (social networking application) "was effective for the enhancement of students' spelling, and had a positive impact on students' language learning."

In 2015, Shin conducted an experiment to investigate the effectiveness of a smart phone social network app in helping EFL learners learning new vocabulary. The app contained 3402 English words, and there were pre-test and post-test to calculate the vocabulary gains. The findings showed that the use of smart phone apps was effective for learning vocabulary since the experimental group outperformed the control group. However, most research above used social network apps instead of professional learning apps (Shin et al., 2015: 2634-2638). The use of social network apps is less effective in terms of learning language compared with professional learning applications. Furthermore, many of the studies above only used MALL approaches instead of a specific language learning application. Besides, not much research had used reading apps to investigate language learner's vocabulary gains. Therefore, to fill the gaps of previous studies, the present study will investigate the use of one reading app, Fluent Reading, and investigate its impact on learners' vocabulary gains.

3. Research methodology

The data were collected through the following instruments:
- A vocabulary pre-test
- A vocabulary post-test

The vocabulary knowledge tests included two tests, the vocabulary pre-test, and the vocabulary post-test. The two tests were designed specifically for the participants by the researcher and were used to measure their vocabulary knowledge before and after the study. After considering the interests of the participants, 30 passages from Fluent Reading were selected as the reading materials in this study. The 100 target words were chosen randomly from the 30 articles, and the vocabulary tests would be presented in the form of bilingual matching. In this bilingual matching, there will be 10 blocks of 10 pairs of words. Each pair consisted of one Chinese translation and one English vocabulary. The participants need to match the correct Chinese translations to the English words. For example, for "responsible," participants need to select the right Chinese translation "有责任的" from 10 translations. If the participant gets one word correct, they could score 1 point.

To measure participants' incidental vocabulary gains achieved after the treatment. The same 100 target words, which used in the pre-test, were again presented to the participants as a post-test. The post-test would be conducted after the participants have finished all the 30 reading passages unexpectedly. The data collected from the pre-test and post-test can be used to analyze participants' vocabulary gains and answer the first research question.

4. Results

Based on the previous research (Webb & Chang, 2015: 276-290), the relative learning gains were calculated using the formula [(post-test score – pre-test score)/(number of test items – pre-test score)×100]. The result could provide information and data to answer the research question. Table 1 shows the scores of pre-test and post-test and the relative learning gains.

Table 1. Descriptive statistics for relative vocabulary learning gains

	Pre-test score	Post-test score	Absolute gain	Relative gain (%)
A	67	86	19	57.58
B	78	91	13	59.09
C	61	81	20	51.28
D	58	74	16	38.10
Mean	66	83.25	17	51.51
SD	8.83176	7.25718	-	-

The descriptive statistics presented in Table 1 shows the result of the 4 participants' relative learning gains and absolute learning gains. According to Horst, Cobb & Meara (1998: 207-223), when there is a large difference in potential gains, it is more reliable to analyze relative gains because they reveal a more accurate measure of learning results. The mean relative gain for the 4 participants was 51.5125%. A t-test (Table 2) indicated that the 4 participants' vocabulary gain from pre-test to post-test was statistically significant, t = -10.752, p <.002.

Table 2. Paired sample test

	Paired Differences					t	dt	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair1 before - after	-17.00	3.16228	1.58114	-22.03189	-11.96811	-10.752	3	0.002

5. Discussion

The results of the present research indicate that a relatively large amount of vocabulary gains may occur through reading different texts within a reading application. There are three reasons why reading within a reading app may have a significant impact on vocabulary gains. First, the nature of mobile devices provides this reading application with some unique features compared with traditional paper reading. MALL technologies could enable language acquisition and language learning at any time and anywhere. Second, MALL has been proved to have a positive effect on L2 language learning (Balula et al., 2015: 2627-2633; Shin et al., 2015: 2634-2638; Alkhouli, 2018: 13; Klímová, 2017: 1-9). Third, non-repeating and extensive reading materials could increase the possibility for the repetition and consolidation of some known or unknown vocabulary (Webb & Chang, 2012: 276-290).

6. Conclusion

The present study focuses on the pedagogical aspects of MALL and makes them available among EFL learners in Chinese universities. It can be concluded that using reading applications, which belongs to the category of mobile-assisted language learning, has a positive impact on the learners' vocabulary gains. With the help of this reading application, students will no longer ask the meaning of certain vocabulary and grammar. Therefore teacher could save effort and time during the traditional classes for the delivery of other knowledge and the practice of other language abilities, teacher's pressure may be reduced to some extent. The results of the study have strengthened the use of MALL outside classrooms. By implication, teachers and course designers from Chinese universities should consider the effectiveness of MALL on learner's vocabulary learning; they should also pay attention to the positive impact that MALL has on learner autonomy, and MALL based methods can be effectively implemented when the need arises.

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