Effects of Integrating U-Msg Learning into College English Classes through Blended Teaching Approach

Keng-Chih Hsu, Chun-Yi Lee, Ru-Chu Shih*

Department of Modern Languages
National Pingtung University of Science and Technology, Taiwan

vincent@npust.edu.tw

Abstract: This study aims to investigate the effects of integrating U-Msg learning into college English (listening and speaking) classes through the blended teaching approach. A total of 59 participants participated in the study and grouped into U-Msg and Moodle (a virtual E-learning platform) learning groups for seven week teaching experiment. The research instruments include pre and post-oral tests, survey questionnaire, and interview. The findings of the study show that while significant improvements were achieved in both of the groups, superior performance and learners' feedbacks were identified in the mobile APP-based group. Additionally, with positive attitudes, the students also regarded the U-Msg system as an effective learning supplement, which provides a convenient learning environment. Nevertheless, the system instability could jeopardize learners' satisfactions. Finally, the results of this research might shed some lights for ESL instructors with enthusiasms in U-Msg blended learning and oral ability enhancements.

Keywords: blended teaching, college English learning, ESL, U-Msg,

Introduction

The advancement of information and communication technology has created substantial opportunities for educators to engage students in language learning. The integration of electronic learning (E-learning) into tradition learning via blended learning (BL) approaches has been widely accepted in higher education (Evans, 2007). Compared to traditional classroom-based instructions, E-learning achieves greater progress, since the virtual environment provides users novel experiences with enormous flexibilities in terms of learning paces, time & spaces (Jia et al. 2012). However, pitfalls of E-learning, such as slow interactions and delayed information reception caused by the immobility of desktop PCs, may be detrimental for learning. Fortunately, thanks to the development of mobile technology and practical applications, mobile learning (M-learning) has been prominent and has received mounting attentions in language learning (MALL) recently. The portability of mobile devices with internet renders users great conveniences, and generates a learner-centered environment which allows just-in-time learning (Evans, 2007). Due to this benefit, learners could develop their personal learning strategies without time and space limitations. More recently, major step ups in functionality of smartphones along with their high market penetration have increased possibility and acceptance of M-learning. It is worth noticing that some physical characteristics of smartphones (e.g. inbuilt microphones and recording software) even surpass those of the computers. An emerging number of researches have been delved into M-learning by various instruments, such as mobile E-mails (Thornton & Houser, 2005), podcast learning (Evans, 2007), and mobile recording features (Gromik, 2012). It is argued that considerable benefits, effectiveness, and positive learners' feedbacks are received in MALL. Nevertheless, little and scattered exploration in mobile APP for ESL learning through BL has been done. Consequently, the purpose of this paper is to ascertain the effectiveness and perceptions of learners in the utilization of an APP through BL in college listening and speaking classes. Additionally, the comparative effects of the integration of mobile APP and E-learning are also investigated.

Method

The participants were 59 students from the college of management at a technical university in Taiwan. To ensure the homogeneity of language proficiency, all participants were selected from the identical language level according to their scores in the placements test held by the university. Furthermore, none of the participants have prior APP language learning experiences. The participants

were assigned to the APP group- the experiment group (EG), N= 30 and PC group- the control group (CG), N=29. The research instruments include both qualitative and quantitative methods, including the APP, pre and post oral test, questionnaire, and interview.

Firstly, C & U message, a U-Msg App supported by the free Google Cloud Messaging (GCM) for Android service and the push and pull technology was developed by Professor Cheng and his team. GCM enables data to be automatically pushed from the server to users' Android- power device; thereby, receivers would be notified new information to fetch from the server. Motiwalla (2007) argued that the push and pull mechanism, an effective way for content delivery, can avoid information overload and send personalized multicasting messages feedbacks, such as feedbacks, tailored for the users' needs. The main features of the APP are "learners' performance evaluation", "feedback", "digital resource", and "the latest news". Secondly, the pre and post oral tests containing 3 open-ended questions focusing on tenses (past, present perfect, and past continuous) expression were also developed. The grading was made according to the assessment criteria of the Analytic Oral Proficiency adapted from (Kost, 2004). The grading scale consists of 3 subscales: (1) pronunciation/fluency (2) accuracy/structure (3) comprehension (relevance and adequacy). The total score=(1)+(2)+(3)/3. The results were evaluated by two raters, and the final grade was the average scores of these two raters. Thirdly, the questionnaire developed by Tseng (2013) with the title "experience of using U-Msg system for English learning" was adapted by the researcher. Six domains, including system quality, learning content, system support, system usefulness, user satisfaction, and system use, consisting of 22 five-point Likert questions were developed. The questionnaire obtained a .932 Cronbach Alpha, indicating the internal consistency reliability was high; besides, the content was also validated by professionals to ensure its validity. Finally, an interview was conducted to obtain in-depth information regarding students' perceptions on both of the BL approaches. The interview was carried out with the assistance of 9 volunteers, with the following two questions:
(1) What are your ideas of integrating the APP into our speaking/listening class?
(2) In comparison with the Moodle BL, what are the pros and cons of APP BL? Which method would you prefer?

Results

To maintain the objectivity in grading, inter-rater reliability was calculated using the *Pearson* correlation coefficient. Achieved level was high in every part, with the average score of .86 and .83 for pre and posttest respectively. Additionally, an independent two-sample *t-test* was adopted to analyze the homogeneity between the two groups. The difference in average score in the pre-test (p=.695＞.05) is not significant, indicating that students' language proficiency were similar. Table 1 presents the statistics of pre and posttest. The pretest mean scores of the EG and CG are M= 40.33 (SD= 15.46) and M= 41.86 (SD=14.38) respectively; posttest mean scores are M= 75.55 (SD=15.38), and M=71.72 (SD=16.59) for the EG and CG, respectively. Significant progress is shown in the EG (p<.001, d=-2.08) and CG (p<.001, d=-1.58) in accordance with the paired *t-test*, indicating APP and Moodle- integrated BL are both effective instructional supplements. The researcher further compared the difference in the progression of both groups by the independent paired *t-test,* and it is revealed that no significant disparity was yielded (p=.24, p>.05); nevertheless, the improving scores of the EG slightly outnumbered that of the CG by 5.36.

Table 1: Paired *t-test* results and effect size of pre and posttests

	N	Pre-test		Post-test		t	p	Cohen's d	Difference between pre-and post test
		M	SD	M	SD				
EG	30	40.33	15.46	75.55	15.38	-11.42	.000	-2.08	35.22 (46.10%)
CG	29	41.86	14.38	71.72	16.59	-8.51	.000	-1.58	29.86 (39.59%)

The survey questionnaire was distributed to all members in the EG, and 25 valid samples were analyzed. The one-sample *t-test* result reveals that all factors obtained means ranging from 3.48 to 4.16, df=24, test value=3, t values ranging from 3.12 to 8.41, p values ranging from .000 to .005<.05, indicating that students' general perspectives about APP BL were highly positive, especially in parts of

learning content, system support, system usefulness, and user satisfaction. In learning content part, the statistics of item 7' Learning content is up-to-date' (m=4.16, t=7.77, p=.000, d= 1.55) indicate that learners firmly believed that the latest practices were frequently received. For learning support, the statistics of item 10 'U-Msg system staff is pleased to deal with my problems in using the system' (m=4.08, t=5.66, p=.000, d= 1.14) reveal that students' attitudes towards the technical assistances were favorable. It is worth noting that item 12 in system usefulness 'U-Msg system allows me to learn conveniently'(m=4.12, t=7.72, p=.000, d=1.54) has the second highest mean score and effect size, showing that learners agreed that they were enormously benefited from the system by its convenience. Additionally, results of 13 'U-Msg system effectively support my English learning' (m=4, t=6.55, p=.000, d=1.32) yield that students were greatly satisfied with the pedagogical supplement. For user satisfaction, data of item 19 'Overall, I am satisfied with U-Msg system for English learning' (m=3.72, t=4.04, p=.000, d=.81) indicates that students' perceptions towards the system use were significantly positive. Nevertheless, the data of item 3 'U-Msg system is stable' in system quality and item 21 in system use 'I entirely rely on U-Msg system for English learning' were excluded from the result for further explanation. The mean scores of item 3 and 21 are lower than 3 (m<2.8), reflecting that the system instability could reduce learners' dependences on MALL. It is noticed that the technical problems occurred in the initial phase of system testing; nevertheless, thanks to the technical supports from the development team, criticisms on the system scarcely appeared in the later phase.

The findings of the evaluative questionnaire also provide an insightful analysis on learners' perspectives on these 2 BL methods. Highly positive attitudes were reflected in the results. With highly favorable opinions, the students approved that mobile BL had a significant effect on the enhancement of listening/oral, and grammar skills. Five students considered that they were greatly benefited from 'Convenience' and 'timely interactive and personal response'. Eight interviewees indicated that the portability of smartphones offered them autonomous learning environment without constrains of fixed classrooms and time, which increased their motivations and confidences in honing speaking skills. However, the disadvantage such as 'system instability' was also reported. Students argued that defects such as system automatic shutdown should be remedied. Additionally, when asked to choose preferable teaching method, 7 interviewees were in favor of mobile-APP BL. Students agreed that mobiles had superior hardware features, such as the built-in microphone and pop-up alert, than computers, which saved troubles in recording and avoided delayed submissions.

Discussion

In accordance with the results of the pre and posttest of the APP users (Figure 1), a significant progress was shown, suggesting that mobile APP could be an efficacious instructional supplement. This result is consistent with previous studies in which MALL also appeared to be a feasible and effective pedagogical tool (Evan 2008; Gromik, 2012; Thornton & Houser, 2005). Likewise, considerable improvements were also found in the CG. The researcher further compared the disparity in the progression between the 2 groups, and it revealed that while the improved scores of the EG slightly exceeded those of the CG, non-significant difference was given. It could be because in the experiment, identical teaching materials, such as digital resources and audio instructional files, and personalized and interactive feedbacks are provided to both of the 2 groups; different learning tools do not seem to cause a significant difference in the learning result. It could be proposed that both learning strategies were believed to be promising; nevertheless, their disparity of contribution was indistinguishable. This finding is compatible with previous studies (Katz & Yablon, 2011; Manlan& Ibrahim 2012; Stockwell 2010), in which varied instructional approaches also contribute to similar language progress. Consequently, it might be suggested that different learning supplements may not significantly impact students' accomplishments.
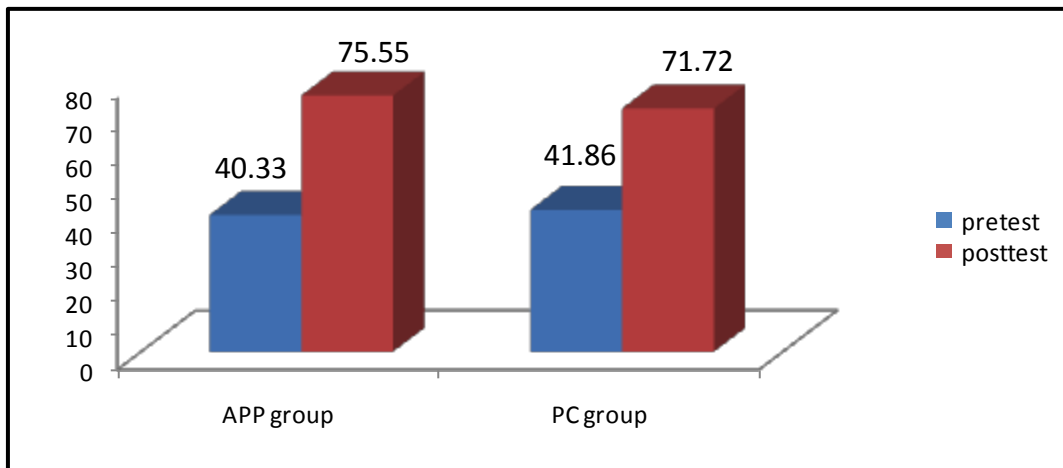
Figure 1: Differences between App and PC group in pre and posttest

To further investigate learners' perceptions towards integrated mobile APP learning, a survey questionnaire and interview were conducted. Significantly positive responses and attitudes indicate participants were highly content with its supplementary effects. This result is in line with previous studies (Evans 2008; Motiwalla 2007), in which MALL also received favorable feedbacks. It is noted that mean scores in the questionnaire were particularly salient in aspects of system immediacy, usefulness, and satisfaction. This finding corroborates with that found in the interview, in which interviewees believed that they were highly motivated by this effective and learner-centered approach because they were offered great conveniences and individualized interactive opportunities. This result echoes Motiwalla's finding (2011). It revealed that M-learning system is an effective learning aid to the existing class for its built-in features e.g. communication aids and access to interaction; it extends learning for its flexibility and convenience. However, both quantitative and qualitative data also yielded that technical problems may jeopardize users' satisfactions. Thus, for future study in MALL, it is suggested that a more rigorous system test should be performed. Besides, the aforementioned result indicated that while different learning strategies may not distinguish achievement outcomes, learners showed more positive attitudes in APP BL. It was reflected that 7 out of 9 students preferred mobile blended learning for its convenient built-in features, such as microphones, and the pop-up alerts of the APP. This result is in line with Katz & Yablon's (2011) research, in which mobile learners also achieved higher level of satisfactions in flexibility, control, motivation, and autonomy, compared to those utilizing E-learning and tradition learning. It could be suggested that learners' affective feelings are needed to be emphasized, because they are well connected with learners' preferences and willingness in accepting a new learning strategy.

Conclusion and Suggestions

In the present research, the combination of the U-Msg App, with traditional face-to-face speaking and listening classes is indicated to be effective, feasible, and promising. Although it is shown that similar achievements were produced by M-learning and E-learning, learners expressed enormous enthusiasms on MALL. The present study may have limitations, including system instability and short period for learners to use MALL, but it is hoped that it can serve as a basis to invite future study in the field. In order to obtain more reliable and objective data in the future, it is suggested that a well-tested APP with stable functionalities should be developed. Additionally, the APP should also be adaptable to all mobile system, not being restricted to merely Android or IOS system. Besides, the experiment could be extended to 10 weeks so as to incorporate more topics for oral and listening practices. Finally, the quality and convenience of internet access should also be emphasized. Since the development of advanced mobile devices and APP has made learning more flexible and convenient, the investigation of different learning strategies related to MALL might become more vital in the future.

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