

Enhancing College Students' Environmental Protection Awareness through a Mobile LINE Application in English Public Speaking Course

Ru-Chu Shih

Department of Modern Languages, National Pingtung University of Science and Technology, Pingtung 912, Taiwan
vincent@npust.edu.tw

Abstract: With fast growing and development of communication technologies, mobile learning is currently undergoing a rapid evolution. Many mobile applications (Apps), such as LINE, WhatsApp, and WeChat, are created and extensively used. This study aims to explore the effects of the mobile assisted language learning in an English Public Speaking (EPS) course for enhancing college English-majored junior students' environmental protection awareness. A total of 49 junior students participated in the 18-week case study. Collected quantitative data are analyzed by descriptive statistics, Spearman Correlation Coefficient, and paired t-test. Student interview, class observation, and the instructor's reflection are also summarized. The findings of the study show that the students' environmental protection awareness can be enhanced effectively through integrating mobile LINE application into the English public speaking course.

[Ru-Chu Shih. **Enhancing College Students' Environmental Protection Awareness through a Mobile LINE Application in English Public Speaking Course.** *Life Sci J* 2013; 10(3): 2137-2142]. (ISSN: 1097-8135). <http://www.lifesciencesite.com> 313

Keywords: blended teaching, English Public Speaking (EPS) course, LINE, mobile assisted language learning (MALL), smartphone, ubiquitous learning

1. Introduction

In the past decades, global warming has been a very popular and serious issue for our environment, because it has resulted in extreme climate change and become a serious threat to our environment (Kilinc, Eroglu, Boyes, & Stanisstreet, 2013). Many scientists and researchers have also conducted tremendous studies in making efforts to decelerate the speed of global warming. Thus, many educators and researchers have taken actions and play a key role in empowering students to take action to reduce global warming for making our earth a better place for living (Jickling, 2013; Kilinc, Eroglu, Boyes, and Stanisstreet, 2013; Skamp, Boyes, & Stanisstreet, 2013; Yazdanparast et al., 2013). Education has undergone major changes due to the fast evolving and growing of information technology and digital information transfer. Liu and Lee (2013) pointed out that the learning can be transformed from in-class instruction into outside the classroom. Internet technology is also being widely applied in the field of education for advancing professional development of teachers (Liu, Shih, & Tsai, 2011).

Green (2000) and Motiwalla (2007) pointed out that computing devices have become ubiquitous on today's college campuses, from notebook computers to Wireless phones, the proliferation of computing devices and rapidly growing Internet capabilities have changed the nature of higher education. Learning no longer solely occurs in the classroom settings, learners can learn through various modes and technologies. Furthermore, learning has

been changing and improving by the use of information and communication technology (ICT) when learner-centered instruction is being emphasized (Zhu & Kaplan, 2002) or where learning can be occurred synchronously or asynchronously (Palloff & Pratt, 2001). As technology continues to evolve, "mobile learning, or m-learning, is a burgeoning subdivision of the e-learning movement, further evidenced by European initiatives such as m-learning and Mobilelearn (Chinnery, 2006, p.9)." Mobile learning (M-learning) intersects mobile computing with e-learning, which combines individualized learning with anytime and anywhere learning and its advent is also thought the next generation of e-learning (Chen, 2013; Motiwalla, 2007; Quinn, 2001). Mobile learning is the delivery of learning ubiquitously to students through the use of wireless Internet and mobile devices (Wang, Wu, & Wang, 2009).

The development and rapid growth of Internet and Web 2.0 technology have made language teaching and learning more flexible and accessible (Lou, Wu, Shih, & Tseng, 2010; Shih, 2010; Shih, 2013). Due to the ubiquitous availability of portable devices, such as mobile phones/smartphones laptops, tablets, and multimedia players has brought changes to foreign (English) language instructional methods and learning strategies (Chen, 2013; Abdous, Camarena, & Facer, 2009). Prior studies have combined mobile learning with English language learning and teaching pedagogy such as vocabulary through mobile devices or learning systems

(Abdullah, Hussin, Asra, & Zakaria, 2013; Huang, Huang, Huang, & Lin, 2012; Wong, Chai, Chin, Hsieh, & Lin, 2012), but mobile assisted language learning (MALL) and how students perceive it as an effective learning tool remain to be widely investigated and studied (Chen, 2013; Wong, Chen, & Jan, 2013).

Prior studies prove that blended learning/the blend teaching approach is positive and effective on learning (Osguthorpe & Graham, 2003; Shih, 2010, 2013). In the present study, a blended instruction combining LINE application and traditional in-class presentations are used in the English Public Speaking (EPS) course to promote the students' awareness of environmental protection such as global warming and food safety as well as to enhance students' foreign language learning motivation and effectiveness. The effects of employing such popular social network application, blended learning, and the innovative teaching approach are investigated and discussed.

2. Material and Methods

This study adopted a case study design with a small group of participants involving with both qualitative and quantitative methods. This study aims to explore whether the students' environmental protection awareness can be enhanced through the LINE application on their smartphones. The English Public Speaking course is an 18-week, one semester course. The experimental teaching was implemented in the last four weeks of the semester with topics relating to environmental protection, such as global warming and food safety.

Participants

A total of 49 English-majored junior students (13 males and 36 females) from a public technological university in southern Taiwan participated in the study.

Implementation Procedure

The English Public Speaking (EPS) class was an 18-week long course. The instructor (the researcher) divided the 18 week instructions into two parts: the first 12 weeks of class with various speech topics, and the last four weeks of class with 2 environmental protection related topics. The first 12 weeks of class, a blended teaching model was employed with LINE presentations and traditional in-class presentations. In the first week of class, the instructor asked all the students to install LINE to their smartphones and then created a closed group in LINE application (Figure 1).



Figure 1. A sample interface of the LINE group on mobile phone for EPS course I

All students were asked to install LINE application to their smartphones in the first week of instruction. Then they were asked to present bi-weekly assigned public speaking topics in front of class and on LINE application. The instructor would make comments on the students' presentations both in class and in LINE application on smartphones. After the first 12 weeks of in class and on LINE application practices, the instructor designed a four-week session for the students to enhance their environmental protection awareness and further advanced public speaking ability. In the first and third week of the last four-week instruction, the students were asked to present two environmental protection related topics. On the second and the fourth weeks, the instructor would go over all the uploaded speeches in LINE to make comments in front of class. The two rounds of LINE speeches were also scored by the instructor and another senior instructor. The class observations were recorded. In the end of the last class, the self-developed Mobile-Assisted Language Learning Survey Questionnaire (MALLSQ) was distributed to investigate the students' satisfaction in LINE-assisted English public speaking learning. Figure 2 shows some students' speech assignments.

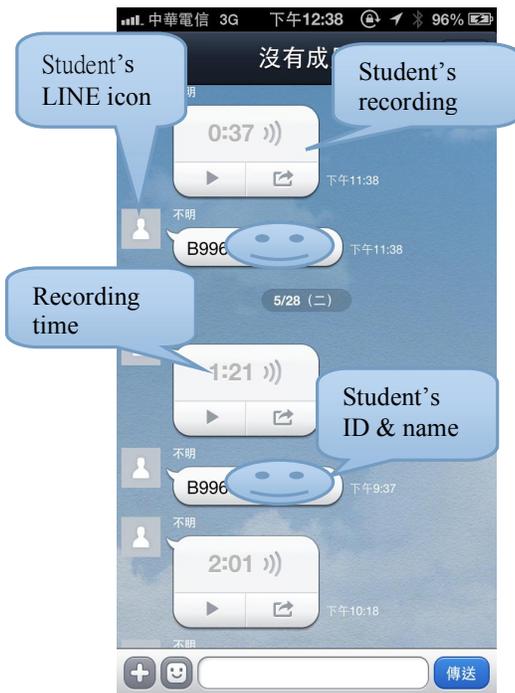


Figure 2. A sample page of the students' uploaded speech assignments on LINE of the teachers' mobile phone

Research Instruments

The research instruments include LINE application on the smartphone, the Mobile-Assisted Language Learning Survey Questionnaire, the two environmental protection related speech presentations, student interviews, and the instructor's class observation and reflection. The self-developed Mobile-Assisted Language Learning Survey Questionnaire (MALLSQ) consisted of four parts, 2 personal information questions, 5 self-learning habits questions, 27 questions concerning learning satisfaction in 5-point Likert scale (5=the most agreed; 1=the least agreed), and 2 open-ended questions. The 2 open-ended questions are about the advantages and disadvantages of using LINE to assist in English public speaking learning. The construct validity of the MALLSQ was established by two English professors and one vocational education professor. All collected quantitative data are analyzed by descriptive statistics, paired t-test, and ANOVA of SPSS 19.0 version. The collected qualitative data are also coded, analyzed, and summarized. Finally, eight students voluntarily participated in the interviews.

Scoring criteria for the public speaking presentations

Both of raters are experienced English instructors in college. Prior to the last four weeks of

the EPS course, the researcher/instructor (one of the raters) invited the other rater to discuss about scoring criteria. For each presentation, the score should fall between 70 and 90 points. If the student's presentation is outstanding, the score can go beyond 90 points. The raters should score each student's articulation, organization of content, mastery of language, posture, gesture, intonation, and articulation. The two presentations are scored at the same time in order to see the progress or difference on the students' performances in the above-mentioned aspects.

3. Results

Results of the students' public speaking performance through LINE assisted language learning

In order to ensure the two raters' consistency in grading the students' presentations, the Spearman correlation coefficient was performed. Tables 1 and 2 show the statistical results of the Spearman correlation coefficients on the two presentations. The first presentation obtained .896 of Spearman correlation coefficient ($p=.000<.05$), indicating the two raters have high level of consistency in scoring. The second presentation obtained .826 of Spearman correlation coefficient ($p=.000<.05$), indicating the two raters also have very high level of consistency in scoring.

Table 1. Results of Spearman correlation coefficient on the first speech presentation on LINE

| | | T1 | T2 |
|----------------|----|-------------------------|-------|
| Spearman's rho | T1 | Correlation Coefficient | 1.000 |
| | | Sig. (2-tailed) | .000 |
| | | N | 49 |
| T2 | T2 | Correlation Coefficient | .896* |
| | | Sig. (2-tailed) | .000 |
| | | N | 49 |

** Sig. level= 0.01 (2-tailed)

Table 2. Results of Spearman correlation coefficient on the second speech presentation on LINE

| | | T1 | T2 |
|----------------|----|-------------------------|-------|
| Spearman's rho | T1 | Correlation Coefficient | 1.000 |
| | | Sig.(2-tailed) | .000 |
| | | N | 49 |
| T2 | T2 | Correlation Coefficient | .826* |
| | | Sig. (2-tailed) | .000 |
| | | N | 49 |

**Sig. level= 0.01 (2-tailed)

Additionally, the results of paired t-test on the first and the last presentations show that the mean

difference of the first and the last presentation was -4.18, $t=-14.29$, $df=48$, $p=.000<.05$, indicating that there is significant difference on scores of the students' public speaking performance before and after using LINE assisted learning. In other words, the students' public speaking ability has significantly improved.

Table 3. Results of paired t-test on the pre- and post-

| | Mean | SD | Paired Differences | | t | df | Sig. (2-tailed) |
|--------|-------|------|--------------------|--|--------|----|-----------------|
| | | | Std. Error Mean | 95% Confidence Interval of the Difference Lower Upper | | | |
| Pair 1 | -4.18 | 2.04 | .292 | -4.776 -3.59 | -14.29 | 48 | .000 |

speech presentations on LINE

Results of the mobile-assisted language learning survey questionnaire (MALLSQ)

In the last class session, the survey questionnaires were distributed with 47 returned. The questionnaire obtained a .859 of Cronbach Alpha value, reflecting a high level of reliability in the questionnaire. The descriptive statistics on the responses to the questionnaires show that the 27 items obtained an average mean of 3.755, ranging from 2.44 to 4.21 with standard deviations ranging from .56 to .99, indicating the students moderately agree with the items (test value=3). Additionally, the results of one-sample t test show that all items reached significance level ($p<.005$) with test value of 3. In other words, the students are satisfied with the LINE-assisted learning for Public Speaking course.

Additionally, among the 27 questions, Q17 "I always need other classmates to help me record the speech assignment" obtained a mean score of 2.44, indicating that many students need other people to assist in recording speech assignments. On the other hand, Q2 "Using LINE to assist in learning EPS can ease my stage fright", Q4 "Using LINE to assist in learning EPS can ease my homework pressure", Q22 "I hope LINE can be used in EPS course again in the future", Q24 "Playing all the students' recordings in class and making comments on them is an effective teaching approach, and Q27 "Overall, EPS course combines LINE and in-class presentation can effectively enhance my English public speaking ability" obtained higher mean scores of 4.21, 4.00, 4.21, 4.06, and 4.17 respectively. To conclude, these results show that using LINE to assist in learning EPS combining in-class presentations and instructions are fairly effective. Furthermore, the above-mentioned results are also in accordance with the responses to the two open-ended questions in the MALLSQ (as shown in Table 4).

Table 4. The advantages and disadvantages of using LINE-assisted learning for EPS course

| Advantages: |
|---|
| 1. Convenient and time-saving. |
| 2. Can do and learn ubiquitously. |
| 3. Easier and faster to submit homework on LINE than Facebook. |
| 4. Attractive and feel less pressure. |
| 5. Listen to the recordings and revise them freely. |
| 6. Fully prepare and practice before recording. |
| 7. No need to set up a videotaping facility. |
| 8. Revisable and practices. |
| Disadvantages: |
| 1. Bad quality of recordings because of the bad quality of smartphones. |
| 2. Cannot erase bad recordings. |
| 3. Lack of on the stage practice. |
| 4. Cannot overcome stage fright. |
| 5. Cannot obtain immediate feedback. |
| 6. Uploaded recordings are missing due to mechanical/unknown problems. |

Class observation, student interviews, and the instructor' reflection

After the 18-week instructions combining in-class presentations and LINE presentations, most of the students have made a significant progress in English public speaking abilities, including posture, gesture, articulation, and overall on-stage performance. From students' interviews, the students also indicated that using LINE to assist in learning English public speaking is very interesting and helpful. They think that EPS is less stressful and scary. Students also pointed out that using LINE to record EPS assignments is very convenient and easy. They can record the assignments ubiquitously. In contrast, a couple of high-achieved students mentioned that they preferred presenting in front of the classmates for learning to overcome the stage freight. Furthermore, through the four-week practices in environmental protection related issues, students are much more familiar with the causes and protection tips for issues such as global warming, climate changes, and food safety according to their speech contents and the student interviews.

"I can record my homework anytime, anywhere I want. I think it's very helpful to use LINE. I like this way of teaching a lot." (S1)

"After the two presentations in environmental protection related issues, I found that I have gained knowledge about the relationship between the global warming and climate

changes, how to protect our planet by just doing a small thing in our daily life.” (S2)

“...from the two presentations, I think I have learned many new words, terms, and phrases in environmental protection and food safety issues. Although I often heard of these terms on TV but I never had a chance to look up the dictionary till this class.” (S5)

“I would like to have more in-class presentations because I can learn more and try to overcome my stage fright and bring me more confidence.” (S6)

Finally, using LINE application to assist in learning public speaking for college English-majored junior students can be fun, interesting, and effective. But it can also bring more workloads and time-consuming for the instructor to check the messages (recordings) on LINE application.

4. Discussions

This study explores the effects of using a blended instruction combining LINE application and in-class presentations for learning English public speaking for English-majored junior students. The findings of the study show that the students have made a significant progress on their English public speaking performance, including articulation, intonation, posture, gesture, and usage of vocabulary and phrases. Furthermore, their learning motivation and attitude are enhanced through this blended instruction. Moreover, the students' awareness of environmental protection issues such as global warming and food safety is enhanced through the four week blended instruction. The students show more knowledgeable and cautious about global warming and food safety. On the other hand, some students pointed out that using LINE to record public speaking assignments may reduce their on-stage/in-class practices, which may not be able to help them overcome their stage fright. Finally, using LINE to assist students in language learning can be very time-consuming and the students may not have the internet access all the time or smartphones to install LINE application. Thus, when this type of blended learning approach (MALL and in-class presentations) is being administered, a thorough preparation and planning need to be taken into account beforehand.

In conclusion, the blended instruction combining LINE application and in-class presentations to assist English-majored junior students in learning English public speaking is significantly effective, which are supported by the findings of Osguthorpe & Graham (2003) and Shih

(2010, 2013). Also through the mobile learning language learning (MALL), the students' learning motivations and attitudes are highly enhanced through this blended teaching approach. The results are also in accordance with the findings of Abdullah, Hussin, Asra, & Zakaria (2013), Huang, Huang, Huang, & Lin (2012), and Wong, Chai, Chin, Hsieh, & Lin (2012). Finally, this study employs case study method, and only investigates 49 junior students from one class; the results may not be able to generalize to the other subjects and population. Also, qualitative approach and further in-depth investigation can be conducted in the future studies.

Acknowledgements:

The author is grateful and would like to thank National Science Council, ROC for the partial financial support (102-2511-S-008-001-MY3).

References

- [1] Abdulaah MRTL, Hussin Z, Asra, & Zakaria AR. Mlearning scaffolding model for undergraduate English language learning: Bridging formal & informal learning. *The Turkish Online Journal of Educational Technology* 2013; 26(3), 197-213.
- [2] Chen XB. Tablets for informal language learning: student usage and attitudes. *Language Learning & Technology* 2013; 17(1),20-36.
- [3] Chinnery GM. Emerging technologies going to the MALL: Mobile assisted language learning. *Language Learning & Technology* 2006:10(1), 9-16.
- [4] Fallahkhair, S. Development of location-based mobile language learning system to support geolearners. *Ubiquitous Learning. An International Journal* 2012; 4(1),1-10.
- [5] Green KC. Technology and instruction: compelling, competing, and complementary visions for the instructional role of technology in higher education 2000.
- [6] Huang YM, Huang YM, Huang SH, Lin YT. A ubiquitous English vocabulary learning system: Evidence of active/passive attitudes vs. usefulness/ease-of-use. *Computers & Education* 2012; 58(1):273-282.
- [7] Hsu L. English as a foreign language learners' perception of mobile assisted language learning: a cross-national study. *Computer Assisted Language Learning* 2013:26(3), 197-213.
- [8] Jickling B. Normalizing catastrophe: an educational response. *Environmental Education Research* 2013; 19(2)161-176.
- [9] Kilinc A, Eroglu B, Boyese E., Stanisstreet, M. Could organisms and ecosystems be used as motivators for behaviour to reduce global warming? The views of school students.

- International Research in Geographical and Environmental Education 2013; 22(3), 191-208.
- [10] Liu EZF, Lee CY. Using peer feedback to improve learning via online peer assessment. The Turkish Online Journal of Educational Technology 2013;12(1), 187-199.
- [11] Liu EZF, Shih RC, & Tsai Y. Hyperlink network analysis of the educational blog. British Journal of Educational Technology 2011;42(2), E25-E29.
- [12] Lou, SJ, Wu, SC, Shih, RC, & Tseng, K. Adoption of blogging by a Chinese language composition class in a vocational high school in Taiwan. Australasian Journal of Educational Technology 2010;26(6), 898-916.
- [13] Motiwalla LF. Mobile learning: A framework and evaluation. Computers & Education 2007; 49(3):581-96.
- [14] Palloff R, Pratt K. Lessons from the cyberspace classroom: the realities of online teaching. Jossey-Bass, San Francisco, 2001.
- [15] Osguthorpe TR, Graham RC. Blended learning environments. Quarterly Review of Distance Education 2003; 4(3), 227-233.
- [16] Shih RC. Effect of using Facebook to assist English for Business Communication course instruction. The Turkish Online Journal of Educational Technology 2013; 12(1), 52-59.
- [17] Shih RC. Blended learning using video-based blogs: Public speaking for English as a second language students. Australasian Journal of Educational Technology 2010;26(6), 883-897. <http://www.ascilite.org.au/ajet/ajet26/shih.html>
- [18] Skamp K, Boyes M., Stanisstreet M. Beliefs and willingness to act about global warming: Where to focus science pedagogy? Science Education 2013; 97(2), 191-217.
- [19] Wang YS, Wu MC, Wang, HY. Investigating the determinants and age and gender differences in the acceptance of mobile learning. British Journal of Educational Technology 2009;92-118.
- [20] Wong LH, Chai CS, Chin CK, Hsieh YF., Liu M. Towards a seamless language learning framework mediated by the ubiquitous technology. International Journal of Mobile Learning and Organisation 2012;6(2), 156-171.
- [21] Wong LH, Chen W., Jan M. How artefacts mediate small-group co-creation activities in a mobile-assisted seamless language learning environment? Journal of Computer Assisted Learning 2012; 28(5), 411-424.
- [22] Yazdanparast T, Salehpour S, Masjedi MR, Seyedmehdi SM, Boyes E, Stanisstreet M, Attarchi M. Global warming: knowledge and views of Iranian students. Acta Medica Iranica 2013; 51(3):178-184.
- [23] Zhu E, Kaplan M. Technology and teaching. McKeachie's teaching tips: Strategies, research, and theory for college and university teachers 2002; 204-224.

9/3/2013