Using Mobile Instant Messaging for English Learning: A case study with EFL university students in Taiwan

Li-Chen Wang¹, Pei-Yu Cheng²* & Yueh-Min Huang³
¹ Tajen university Center for General Education, Taiwan
²,³ Department of Engineering Science, National Cheng Kung University, Taiwan
alison@tajen.edu.tw
* peiyu.cheng.tw@gmail.com
huang@mail.ncku.edu.tw

Abstract
In Taiwan, English is one of the most important subjects to learn. How to effectively improve English proficiency has been an important education issue. Listening and speaking are important skills in English communication. At present, TOEFL, IELTS, and TOEIC, along with other English tests, have already added listening and speaking sections. This shows the importance of listening and speaking in English. However, in Taiwan, due to the lack of an appropriate English environment in which to practice, English learners feel tense and anxious while communicating with English speakers. Therefore, in order to help students practice listening and speaking, this study will combine a mobile instant messaging application with a college English listening and speaking learning assistant system. With the convenience of mobile devices and without geographical restrictions, learners can practice English at any time and any place. This system can let learners have a real dialogue and allows them to practice through the voice function. At the same time, the teachers can also join the conversation, observe students' learning processes, and give feedback. This will create a ubiquitous learning environment for enhancing English listening and speaking skills. Fifty freshmen students from one university participated in this study; they were randomly assigned into the experiment group and the control group. They were assigned different English activities. We then compared the use of the mobile instant messaging and traditional learning activities. Additionally, this study will aim at the learning motivation, learning satisfaction and English learning anxiety to proceed the discussion.

Keywords: English Listening, English speaking, English learning anxiety, Instant Messaging

1. Introduction
In the 21st century, English has become the lingua franca of our globalized age, and is also currently the most important second language in non-English speaking countries (Long, 2006). English is a foreign language in Taiwan, which lacks the foreign language environment for learning English, and its students' listening and speaking abilities are often weaker than their writing and reading abilities (Chang, Wu, & Ku, 2005). Speaking and listening is the foundation to language
communication and is also one of the major factors that affect communication ability (Cameron, 2002). Hence, in recent years, the government has made quite a few changes to the design of the English language curriculum, focusing on listening, speaking, reading, and writing rather than just reading and writing as in the past (Su, 2006). Taiwan's university English teaching programs aim to nurture students' overall listening, speaking, reading, and writing skills, and improving their English listening and speaking ability is one of the major objectives (Lai, 2009). The goal is to train students to be able to use English to communicate in day-to-day life. However, in reality, English listening and speaking training for university students runs into lots of difficulties, such as the lack of real conversation scenarios, of time for using English communicate, and of such conditions as space and having qualified teachers (Belcher, 2006; Kung & Chuo, 2002). Thus, current university students generally do not possess the ability to communicate in English effectively (Lai, 2009; Yang, 2007).

Some studies suggest that to improve students' English speaking and listening ability, the first step is to create an English listening and speaking learning environment, and the next step is to make a habit of speaking English (Gibbons, 2002; Plass, Chun, Mayer, & Leutner, 1998). However, in traditional English teaching environments, teachers are constrained by traditional classrooms and teaching methods; hence they are faced with quite a few difficulties when trying to incorporate listening and speaking into the class (Matsuda, 2012). Furthermore, even if students practice listening and speaking during class, the teacher cannot monitor all the students at the same time to see if they are truly complete the practice (Lu, Hou, & Huang, 2010). On the other hand, while conducting language learning activities, the need to encourage student participation and feedback is an important problem that all teachers will encounter (Crose, 2011). When compared to language learners in
western countries however, only a small percentage of learners from Asian countries are willing to take the initiative to speak the foreign language (Hu & McKay, 2012). If the students are instructed to ask and answer questions in English, usually only a portion of them are actually engaged in it. Some studies have also pointed out that Asian students will easily become anxious or remain silent when asked to use the target language to ask questions, speak or to perform other dialog activities (Awan, Azher, Anwar, & Naz, 2010; Liu & Huang, 2011; Liu & Jackson, 2011). Studies suggest that students' foreign language learning anxiety is a result of the difficulties in language learning (Anyadubalu, 2010; Berman & Cheng, 2010; Xu & Li, 2010). Some researchers have indicated that the difficulties in learning English is the main reason for anxiety caused by English learning, and that the high anxiety scale score is the main factor affecting the learning results of university students (Lei & Hu, 2014; Shang, 2013). The main features of the difficulties in English language learning are the difficulties related to listening and speaking, grammar, memory, comprehension, etc., which produce negative experience in the learning of English. Such difficulties are currently also the main reasons for the difficulties for the English language students of Taiwan’s universities (Hong, Hwang, Tai, & Chen, 2014). Consequently, a new method and learning strategy are needed to improve university students' English language learning in order to enhance their listening and speaking abilities.

With the development and popularization of mobile devices, a new method of learning was developed that can give students a rich, real-time, convenient and cooperative learning experience, allowing the integration of learning into daily life. Hence, the application of mobile devices in teaching has attracted much attention. And their application and practice in classroom teaching has also been quite widespread. Hence, in recent years, many researchers have developed systems for
assisting language learning, targeted at a mobile learning environment. Studies have revealed that using mobile devices to assist language learning not only can increase students' interest in language learning, their convenience also offers students a good learning experience. On the other hand, the rapid development of instant messaging applications has made them the main tool for communication on smart phones. And with the continuous evolution in the application and concepts of instant messaging, more and more cooperative learning methods through instant messaging have been used in actual learning environment. With the assistance of instant messaging, learners can use mobile devices to practice foreign language conversations. Most studies have confirmed that this leads to positive results. Furthermore, studies also show that this type of learning method not only increases learners' motivation, but also improves their learning results. However, some studies suggest that during mobile learning activities, suitable learning strategies and tools are still required to help students to grasp the knowledge. Researchers Huang and Chiu indicated that in an omnipresent mobile learning environment, only methods that possess the characteristics of being proactive, realistic, constructive, and cooperative and personalized are meaningful learning methods. The researchers also pointed out that these types of learning methods, if used inappropriately, will lower the learning efficiency and may even reduce the learning effects.

A question worth asking is "How do we use instant messaging applications to assist university students in learning English, and how do we increase the listening and speaking practice of university students in English?" In fact, creating English listening and speaking learning environment using instant messaging is the main requirement, and getting students to willingly use English in conversation practice is also a requirement. Another important point to consider is that in traditional
classroom settings, practicing English dialog is a common learning task; and another main consideration is that the teacher supervises and confirms whether or not students have truly completed the practice (Zou, 1998). In light of the above, this study investigated the use of LINE in the teaching of university English listening and speaking in universities with the hope of improving the current predicament of university students in their English listening and speaking abilities. This study attempted to design an English learning model that incorporates LINE, and conducted a two-week experiment of actual teaching to test the effectiveness of this type of teaching method.

2. Research Methods

2.1. Experiment design

To evaluate whether or not the LINE-based English language learning method designed by this study is conducive to fostering students' English speaking abilities, this study used a quasi-experimental design to investigate the learning results. This study had 50 subjects from two classes of first-year students from a university in southern Taiwan. The teacher randomly assigned the students into the experimental group and a control group. During the experiment, all the subjects participated in the entire experiment, and completed all the learning units and tasks. The experimental group (25 people) used the English learning method designed by this study to conduct learning activities; The control group (25 people) used traditional learning activities. In order to ensure that both groups of students were of similar ability, an English proficiency pre-test was conducted before the start of the experiment to ensure that the ability of both groups was similar. After confirming the similarity in the level of their initial ability, this study moved on to arrange for the two groups of students to take part in the learning activities. After the experiment activities
ended, an English proficiency post-test for both groups was held, which covered the vocabulary learned during the experiment, example sentences, and a speaking test. After the test, the students filled out a questionnaire, asking for the students' feedback on the extent of their learning motivation, learning satisfaction and English learning anxiety in the learning activities.

The experiment process of this study was divided into the five stages: pre-test, system operation explanation, experimental activities, post-test, and questionnaire. As shown in figure 1, first, in order to verify that the two subject groups had a similar level of ability, a pre-test was given to the research subjects before the experiment to see if there was a significant difference between the two groups of students. Having confirmed that their initial ability was similar, the two groups participated separately in six learning activities per week for two weeks. Each learning activity was 50 minutes in duration. After the experiment, students were asked to fill out the questionnaire and the post-test within 40 minutes. The tests and questionnaires were collected after the allocated time.

The experiment process is shown below in Figure 1:
2.2. **Research tools**

2.2.1. **Instant Messaging, LINE**

The system utilizes mobile phones as the device to enable learners practice their speaking and listening through the instant messaging app, LINE. As shown in figure 1, students can use LINE’s voice messaging function to carry out real-time conversation practice. When students press the voice messaging function button, the voice message will automatically be sent to the chat room. As shown in figure 2, students can click open this message, and the system will play this voice message. Through this function, students can, by repeatedly recording and playing back. Afterwards, the student can give a reply after listening to the message. That’s can more conveniently to practice English speaking and to correct their own English pronunciation and intonation. As shown in figure 3, after the group finished their practice session, teachers could listen to the conversations via the system to evaluate and give feedback to each student individually.

![Figure 1 Recording function of Line App](image1)

![Figure 2 Playing function in Line App](image2)
2.3.2. Learning activities, pre-test and post-test, and questionnaire

A total of six learning activities were conducted in this study; every learning activity practiced and drilled a different kind of conversational scenario. The learning activities were divided into two stages. In the first stage, the teacher first taught the students the vocabulary, grammar, pronunciation, sentence patterns and structures in the script of the English situational conversations. Once the students understood the content of the conversation, they were divided into groups for the second-stage practice. Each student in each group took turns to role play the different characters to practice their pronunciation and conversation so as to improve the fluency of their conversation.

The scenarios used in this study were designed by highly experienced university English teachers and experts with regard to the situations in daily life. There were six scenarios for the learning activities, namely, shopping, travel, office, transportation, ordering food, and social interaction.

The scores of the pre and post-tests were calculated on a 100 mark system. The content of the pre-test was basic vocabulary and sentences from first-year university English class. The content in
the post-test was 30 scenario-based vocabulary and related example sentences from the learning activity and a speaking test. And the sources of the questionnaire were based on past questionnaires developed by scholars and experts, and it was also reviewed and examined by expert researchers. The questionnaire was divided into four parts: learning satisfaction, learning motivation, and English learning anxiety.

3. Result and discussion

3.1. Pre and post-test results analysis

As shown in table 1, the respective scores of the two groups of students in the pre-test were: experiment group: 56.73; control group 56.91. There were no significant differences between the two groups in the pre-test results (t = -0.032, p > .05), so the basic ability levels of the two group of students was regarded as identical.

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>mean</th>
<th>SD</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>25</td>
<td>56.73</td>
<td>8.073</td>
<td>-0.032</td>
</tr>
<tr>
<td>Control</td>
<td>25</td>
<td>56.91</td>
<td>8.092</td>
<td></td>
</tr>
</tbody>
</table>

After the two groups took part in the learning activities under different system, the marks they scored were analyzed through an independent samples t-test. As shown in table 2, the average score for students in the experiment group was 73.23, and 63.65 for the control group. The two groups of students reached the statistical significance level (t = 5.32*, p < .0.001) in their learning results. We can conclude that after implementing the two different learning activities, the experimental group had better learning results than the control group.

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>mean</th>
<th>SD</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-test</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>25</td>
<td>73.23</td>
<td>8.073</td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>25</td>
<td>63.65</td>
<td>8.092</td>
<td></td>
</tr>
</tbody>
</table>
3.2. Learning motivation

Independent samples t-test was used to analyze the views and cognition of the students of the "learning motivation" variable to see if there any difference existed. As shown in table 3 below, the T-value of the subjects from different “groups” in the “learning motivation” variable, was .423 (p > .05), which did not reach the statistical significance level. This indicates that the two groups of students had the same views and cognition in regard to the "learning motivation" variable.

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>mean</th>
<th>SD</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning motivation</td>
<td>Experimental</td>
<td>25</td>
<td>4.27</td>
<td>0.31</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>25</td>
<td>4.23</td>
<td>0.42</td>
</tr>
</tbody>
</table>

3.3. Learning satisfaction

As regards the views and cognition of the students of the two groups of the "learning satisfaction" variable, they are shown in table 4 below. The T value of the subjects from different "groups" in the "satisfaction with the learning methods" variable was 2.413 (p<.05), which reached the statistical significance level. This indicates that the experiment group was better than the control group in respect of "satisfaction with the learning methods".

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>mean</th>
<th>SD</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning satisfaction</td>
<td>Experimental</td>
<td>25</td>
<td>3.95</td>
<td>0.33</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>25</td>
<td>3.61</td>
<td>0.67</td>
</tr>
</tbody>
</table>

3.4. English learning anxiety(ELA)

As listed in Table 4, the control group students' English learning anxiety were significantly
higher than the experimental group students, t=−6.082, p<.001). This result suggests that using the LINE-based English learning method can lower learner’s English learning anxiety.

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>mean</th>
<th>SD</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELA</td>
<td>25</td>
<td>73.23</td>
<td>5.132</td>
<td>5.32***</td>
</tr>
<tr>
<td>Control</td>
<td>25</td>
<td>63.65</td>
<td>5.214</td>
<td></td>
</tr>
</tbody>
</table>

*p<.05, **p<.01, ***p<.001

4. Conclusion and Future Work

Through a quasi-experiment design, this study investigated the effects of conducting learning activities using the LINE-based English teaching model designed by this study on the differences among learners in respect of their learning results, learning satisfaction, learning motivation, and English learning anxiety. This section will describe and explain the major findings of this study using the results of data analysis. First, the study results will be summarized, followed by an explanation of the limits of this study, and lastly, suggestions for future studies.

In the section of learning results, the research results show that the experimental group had higher post-test scores than the control group. This indicates that using the LINE-based English learning model designed by this study in conducting learning activities produced better learning results. In the questionnaire given after the learning activities, we found from the conclusion and analysis of the dimensions of the learners’ satisfaction with learning methods, learning motivation, English learning anxiety. In of the dimensions of learning satisfaction and English learning anxiety, there was significant difference between the experimental group and the control group.

This study mainly used common scenarios in daily life in designing teaching materials; at present, only a few scenarios have been used in designing learning activities. In future studies, we
hope to design teaching materials based on more scenarios. In respect of learning strategies, this study only worked through groups, without yet introducing learning strategies. In the future, if various learning strategies are to be introduced, the effects should be enhanced. In dividing students into groups, what we do at present is only to randomly assign them to groups. In the future, if groups are assigned according to students with different learning styles or with similar learning style, we should discover even more results. This study was implemented in a Year 1 Basic English course at a university. In the future, if it is to be implemented in the English courses of other year levels, how the system and learning activities are to integrate is still an area awaiting planning and exploration.

References


