

Internet-Assisted Learning Strategy Training in EFL Course: Effects on Learning Process

使用網路輔助語言學習策略訓練之成效-- 於學習過程效果之探討

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Abstract

Language learning strategy training has gained attention in the language learning education field for its improvement of language learning. Internet-assisted learning has shown great value in helping the learning process in different subject areas. In this study, the researcher designed an Internet-assisted learning strategy training series in a freshman English course and evaluated its effect on the students' learning process. The research was conducted with 76 freshmen in Taiwan. The results show that the Internet-assisted language learning strategy training did improve students' strategy use and their English learning motivation. Students' evaluations of the Internet-related activities are also presented and discussed.

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摘 要

由於語言學習策略訓練被認為可以增進語言學習，近年來此訓練已經在語言教育領域受到重視。另一方面，網路輔助學習在各學習領域展現了它在促進學習上的價值。基於以上兩點，本研究人員設計了一套網路輔助大一學生英語學習策略訓練課程，並在本研究裡面評量這套課程對於學生學習過程的效果。本研究參與人員為七十六位修習大一英文的學生。研究結果顯示，使用網路來輔助語言學習策略訓練的確增進了學生的語言學習策略的使用，並且增進了學生的學習動機。在本報告中，學生對於這一套訓練所使用的活動之評量亦有所討論。

1. Introduction

Researchers in foreign language education have found the differences between successful and less successful learners' language learning effectiveness rely heavily on the appropriate use of language learning strategies in completing language learning tasks (Chamot, 1998; Huang, 2000). Moreover, the use of learning strategies is closely related to the autonomy orientation of learners (Lee, 1995; Yang, 1998) as well as their learning motivation (Chang & Huang, 1999). Studies in language learning strategy training demonstrate the function of strategy training on strategy use improvement (e.g. Huang, 2000). Language learning strategy training appears to be indispensable in successful language instruction.

In recent decades, using computers in language instruction and learning has been widely discussed. Many researchers have proclaimed that computer use in language learning is efficient, convenient, flexible, and self-directed (e.g., Kenning, 1996; Ayres, 2002; Segler et.al, 2002), while some are still concerned about learners' adaptability in using computers (e.g., Lewis & Atzert, 2000). In recent years, the use of the Internet in assisting language learning has further obtained much attention for the variety it provides in language education: being interactive, resourceful, and far-reaching (Warschauer, 1995; Owston, 1997; Yang, 2001; Liou, 2002). Using Internet systems to assist the instruction of language learning strategies accordingly might help foreign language learners.

In Taiwan, mastering English is seen as necessary in many aspects of life. The government even plans to identify English as the second official language in the near future. For most non-English major university students, freshman English is the last formal English course they have. At this stage, researchers (e.g., Huang, 1999) have suggested that students not only learn to improve their English ability, but also learn to become independent English learners for sustaining English learning as a lifelong task. Thus, instruction in language learning strategies is needed.

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This study aims to design and evaluate an Internet-assisted language learning strategy training series in a freshman English course. Using the experimental research method, the researcher tried to investigate the following questions: 1) does Internet-assisted strategy training improve students' learning strategy use? 2) does Internet-assisted strategy training improve students' learning motivation? and 3) what are students' evaluation of the Internet-assisted strategy training activities?

2. Method

2.1 Participants

Two classes with similar English learning situations and backgrounds at a university in Taiwan were selected: one became the experimental group, and the other, the control group. Each class had 38 students, making 76 students in total. The students' ages ranged from 18 to 20 years old. All the participants were freshman students in the Chinese Department who entered the university mainly through college entrance exams. During the study, the students took the required course, freshman English, in which they met for three hours a week. In addition to the freshman English course, the students took other similar courses in the Chinese Department. None of these participants took extra lessons for improving their English abilities.

For both groups, the English course was designed and instructed in a way similar to other freshman English courses in Taiwan. The teaching activities included lectures, teacher demonstrations, doing exercises in the four language skills in textbooks, and sometimes watching English films. Students' learning evaluations mainly included class participation, a mid-term exam and a final exam. For the experimental group, the instructor, who is also the researcher, added the Internet-assisted learning strategy training series to the freshman English syllabus. The series will be described in the instrument section.

2.2 Instruments

The instruments used in this study will be reported in two parts: the instrument for study treatment, and the instruments for data collection. The instrument acting as the study treatment was the Internet assisted learning strategy training series. Learning strategies were mainly taught on the Internet by the E-Learning system of the students' university. Also, assignments for learning strategy training were given and handed in through this system. The researcher designed the strategy training series based on the language learning strategies previous researchers proposed and the outlines of the textbook *Transitions 2* (Lee, 1999), which was used in this course. The strategies taught included the six strategy categories proposed by Oxford (1990): memory, cognitive, compensation, metacognitive, affective, and social, and strategies for improving the four language skills: listening, speaking, reading, and writing, as summarized by Rubin and Thompson (1994). Each week, at least one strategy category was focused on in the series. The researcher posted the information regarding the strategy focus of the week on the E-Learning system. The information included the nature and use of the strategy, examples and demonstrations of the strategy use, and assignments for applying the strategy. The activities done through the Internet included sharing English jokes, looking for English learning websites, handing in assignments, and group discussions. Appendix A presents an example of the strategy training material shown on the Internet. The students in the experimental group handed in their assignments by the automatic deadline function of the E-Learning system.

The instruments for data collection included questionnaires, the Internet-related activity evaluation sheet, and learning diaries. For the quantitative phase of data collection, the researcher used two questionnaires: the Strategy Inventory for Language Learning (SILL) (Oxford, 1990) to investigate the students' strategy use and the Motivational Intensity Questionnaire (MIQ) (Gardner, 1985) to know the students' English learning motivational intensity. Also, the experimental group students were asked to keep language-learning

diaries. The participants in the experimental group were asked to write down their reflections in learning diaries every time they were involved in English learning activities, while the students in the control group were not asked to do so. This is because diary-keeping plays an important role in metacognitive strategy training. To prevent the diary-keeping method from functioning as learning strategy training for the control group, the diary-keeping activity was limited to the experimental group. The Internet-related activity evaluation sheet lists the four main activities held via the Internet: sharing English jokes, looking for English learning websites, handing in assignments, and group discussions. The students evaluated and rated on a scale of five according to their feelings toward each activity, with five points indicating "I like it very much." The students were also asked to write down their opinions about the activities.

2.3 Procedure

Before the semester started, the researcher designed the Internet-assisted learning strategy training series. At the beginning of the semester, she conducted the SILL and the MIQ with all the participants. After conducting the questionnaires, the researcher started to teach both groups freshman English, adding with the experimental group the Internet-assisted strategy training series. The experimental group students were also asked to start keeping learning diaries. At the end of this study, the researcher conducted the SILL and the MIQ with all the participants as a post-test, and collected the learning diaries of the experimental group students. Also, the students of the experimental group were asked to respond on the Internet-related activity evaluation sheet.

2.4 Data Analysis

The data collected from the two questionnaires was analyzed with the statistical analysis method. Both descriptive statistics and inferential statistics were obtained. The quantitative data from the Internet-related activity evaluation

sheet was calculated for its mean scores and standard deviations on every activity, thus obtaining the activities' rankings. For the data obtained from students' learning diaries, the researcher used the method of professional reviews. The researcher and one expert in foreign language learning conducted the professional review step. The viewers first examined the diaries and obtained categories revealed from the data. The inter-rating correlation coefficient of the diary examination attained 0.91. Also, the students' responses expressed on the Internet-related activity evaluation sheet were analyzed by the two viewers, who obtained a response summary of individual activity. The inter-rating correlation coefficient of the summary was 0.96.

3. Results

The results will be presented in terms all of the students' learning strategy use, their motivational condition, and the experimental group students' feelings for the Internet-related activities.

3.1 The students' learning strategy use

Results from the SILL show that the experimental group students' mean scores on the post-test were higher than the mean scores on the pre-test in all six strategy categories. Among them, the post-test mean score on the affective strategy category was statistically significantly higher than its pre-test mean score. On the other hand, the control group students' mean scores on the post-test were lower than the mean scores on the pre-test in all strategy categories, except for the affective strategy category. The post-test mean score on the affective strategy category was higher than its pre-test mean score, although not attaining a statistically significant difference. Table 1 presents the comparison of the pre-test and post-test scores of each group in the six strategy categories.

The comparison between the two groups shows that on the pre-test the experimental group was lower than the control group in memory strategy use frequency. On the post-test, the experimental group's mean score showed a statistically significant higher score than the control group's. In the pre-test affective strategy category, the experimental group's mean score showed higher than that of the control group. However, the post-test mean score of the experimental group was statistically significantly higher than that of the control group. Table 2 presents a comparison of the two student groups' strategy use frequencies on pre-test and post-test.

Table 1. Comparison of Pre-test and Post-test Within Each Group

| Strategy | Experimental | | | Control | | |
|---------------|--------------|------------|------|------------|------------|-----|
| | Pre-test | Post-test | t | Pre-test | Post-test | t |
| | Mean (SD) | | | | | |
| Memory | 3.02 (.48) | 3.15 (.48) | 1.47 | 3.07 (.54) | 2.87 (.57) | .18 |
| Cognitive | 3.08 (.49) | 3.20 (.38) | 1.8 | 3.15 (.55) | 3.04 (.55) | .40 |
| Compensation | 3.11 (.47) | 3.25 (.45) | 1.7 | 3.25 (.47) | 3.21 (.50) | .77 |
| Metacognitive | 3.05 (.61) | 3.10 (.61) | .54 | 3.21 (.70) | 2.97 (.67) | .14 |
| Affective | 2.81 (.57) | 3.07 (.54) | 2.6* | 2.69 (.65) | 2.74 (.59) | .74 |
| Social | 3.04 (.81) | 3.07 (.60) | .21 | 3.00 (.68) | 2.97 (.59) | .80 |

*p<.05

Table 2. Comparison Between Two Groups in Pre-test and Post-test

| Strategy | Pre-test | | | Post-test | | |
|---------------|------------|--------------|------|------------|--------------|--------|
| | Control | Experimental | t | Control | Experimental | t |
| | Mean (SD) | | | | | |
| Memory | 3.07 (.54) | 3.02 (.48) | .34 | 2.87 (.57) | 3.15(.48) | -2.29* |
| Cognitive | 3.15 (.55) | 3.08 (.49) | .59 | 3.04 (.55) | 3.20 (.38) | -1.52 |
| Compensation | 3.25 (.47) | 3.11 (.47) | 1.21 | 3.21 (.50) | 3.25 (.45) | -.39 |
| Metacognitive | 3.21 (.70) | 3.05 (.61) | 1.02 | 2.97 (.67) | 3.10 (.61) | -.86 |
| Affective | 2.69 (.65) | 2.81 (.57) | -.80 | 2.74 (.59) | 3.07 (.54) | -2.56* |
| Social | 3.00 (.68) | 3.04 (.81) | -.22 | 2.97 (.59) | 3.07 (.60) | -.70 |

*p<.05

In their learning diaries, students of the experimental group expressed their interest in using learning strategies. Also, they recognized the function of using learning strategies as helping their English learning. For example, one of the students wrote, “recently, I used the memory strategies the teacher taught us a lot, because I found the strategies are very useful in memorizing new words.” Another student wrote, “after learning metacognitive strategies, I would pay attention to English messages wherever I saw them. For example, I would read out the messages printed on the lotion bottle when I applied it.”

Also, it was found in the learning diaries that students’ affective strategy use is related to the challenge the learners felt in freshman English learning. For example, one of the experimental group students wrote, “I feel the challenge of freshman English is much bigger than any I had before. I told myself, ‘Go! Go! Go!’” Another learner wrote, “I felt very nervous because the deadline of the Internet assignment is coming. To relax myself, I played a CD and listened to my favorite songs before I got into work.”

On the other hand, most students recognized the function of using memory strategies. However, many of them felt awkward because of the change in their learning habits. Some of the students hesitated to use memory strategies because of the effort the strategies demanded. For example, after learning the linkage strategy under the memory strategy category, one of the students wrote, “using the linkage strategy to memorize new words is really useful. However, I worry that there might not be enough time for me to think of linkages for every new word.” Another student wrote, “Although using linkage to memorize words is supposed to last the memory span, it costs me too much energy and effort. I prefer using the strategy I used before.”

3.2 The students’ motivational conditions

Results from the MIQ show that the experimental group’s post-test mean score was statistically significantly higher than that of the pre-test. The control

group’s post-test mean score was higher than that of the pre-test, although not attaining statistical significance level. Also, the experimental group showed higher mean scores in both the pre-test and post-test than the control group.

Table 5 presents a comparison of the pre-test mean score and post-test mean score of each group. Table 6 shows a comparison between the two groups in the pre-test and post-test.

Table 5. Comparisons of Pre-test and Post-test Within Each Group in Motivation

| | <u>Experimental</u> | | t | <u>Control</u> | | t |
|------------|---------------------|------------|-------|----------------|------------|------|
| | Pre-test | Post-test | | Pre-test | Post-test | |
| | Mean (SD) | | | | | |
| Motivation | 1.91 (.19) | 1.99 (.17) | 2.11* | 1.88 (.18) | 1.94 (.19) | 1.37 |

*p<.05

Table 6. Comparisons Between Two Groups in Pre-test and Post-test in Motivation

| | <u>Pre-test</u> | | t | <u>Post-test</u> | | t |
|------------|-----------------|--------------|-----|------------------|--------------|------|
| | Control | Experimental | | Control | Experimental | |
| | Mean (SD) | | | | | |
| Motivation | 1.88 (.18) | 1.91 (.19) | .78 | 1.94 (.19) | 1.99 (.17) | 1.22 |

*p<.05

Students’ learning diaries show that they felt pressured by the workload of freshman English, in which they had to take the responsibility of managing their own learning. In other words, the students’ previous instructors took charge of the students’ study planning and pushed the students to complete learning tasks frequently. For example, one of the students wrote in her diary, “I feel much more

challenged in freshman English than in English courses in high school. A series of homework and activities kind of push me to make good study plans and keep up with the plan. I feel very much pressured and anxious."

On the other hand, experimental group students' learning diaries show that students' motivation related to their application of learning strategies. For example, one of the students wrote, "I feel much more confident in learning and using English, because every week, the teacher would show us ways of improving English abilities. This has made me more interested in learning English." Another student wrote, "In speaking English, I am not scared as before. What I have learned most from this course is the ways to encourage myself. I found I am getting to love English."

3.3 Experimental group students' feelings about the Internet-related activities

Results from the Internet-related activity evaluation sheet show that sharing English jokes was ranked as the most favorable activity, followed by looking for English learning websites, handing in assignments, and group discussions. Also, the mean scores for all the Internet-related activities were above average, although not very high. Table 7 presents the mean scores, standard deviations and rankings of the activities.

Table 7. Mean scores and rank of the Internet-related activities

| Activity | Mean score (SD) | Rank |
|---------------------------------------|-----------------|------|
| Sharing English jokes | 3.68 (.94) | 1 |
| Looking for English learning websites | 3.57 (.80) | 2 |
| Handing in assignments | 3.57 (.96) | 2 |
| Group discussions | 3.46 (.77) | 4 |

From the qualitative data for the Internet-related activity evaluation sheet, some results were obtained. For sharing English jokes through the Internet, most students valued the relaxation opportunities and cultural information this activity provided. However, some students expressed concern that this activity was only copy-paste work for their classmates. For example, one of the students wrote, "I learned much about 'American humor' from this activity." Another student wrote, however, "this activity is meaningless because what we did is just making a copy-and-paste movement."

As for looking for English learning websites, most students responded positively, this activity being interesting and providing many channels for English learning. Only four students responded that although this activity helped them know more about English learning opportunities, they did not actually use it in daily life.

As for the activity of handing in assignments via the Internet, about half of the experimental group students gave positive comments, which included the speed, the convenience, and the environmental protection value of the activity. About another half of the respondents made negative comments, which included their worries about the reliability of the E-learning system and their habits of relying on instructors' oral reminders of assignment deadlines. For example, one of the students wrote, "I feel very anxious that the teacher might not have received my homework whenever I sent one out through the Internet." Another student responded, "Handing in homework through the Internet is very convenient and speedy. But I just tended to forget to look at assignment announcements on the Internet. In the past, teachers would remind us of the deadline in the class."

Lastly, most students recognized group discussions as enhancing classmates' interactions and experience sharing. A few students expressed concern that this activity provided chances only for chatting, depended too much on the involvement of group members, made it hard to fully focus on English learning, and was not able to provide face-to-face interaction. For example, one of the

students wrote, "This activity is fun. We can also share our personal experience, which is very important in English learning." However, another student responded, "When we had group discussions through the Internet, many times, we chatted and lost focus." Another student wrote, "some group members are quite involved, but some aren't. This has influenced very much our discussion atmosphere and results."

4. Discussions and Conclusions

Some facts were revealed from the results, which will be discussed in terms of Internet-assisted language learning strategy instruction and activities through the Internet.

4.1 Internet-assisted language learning strategy instruction

The results show that Internet-assisted language learning strategy instruction helped students' learning strategy learning. Among all the strategy categories, the instruction helped students' development in memory strategy use significantly. According to previous research (Ku, 1995; Huang, 1997; Chen, 2002), although there is a great demand for memory strategy use, students in Taiwan did not use memory strategies often partly owing to their lack of strategy knowledge. The instruction in memory strategies obtained most students' positive feedback in this study. Also, the experimental group students' use of memory strategies showed a statistically significant increase after the instruction.

The results also show that experimental group students' increase in their English learning motivation was related with learning strategy application. The use of newly-learned learning strategies increased the experimental group students' success possibilities in English use, from which the students obtained a sense of achievement and confidence in English learning. The enhancement of a sense of achievement and English learning confidence, in turn, motivated students

highly in learning English. This finding echoes the claim of previous research (e.g., Chang, 1999), in that "Students' confidence in their ability was found to be another great contrast between the high and low motivation classes" (p. 123). In this study, the Internet-assisted strategy training series increased students' motivation in learning English by strengthening the students' English learning performance and confidence.

Moreover, according to students' learning diaries, the students perceived their learning situations being changed to self-reliant, and their learning load increased. Many of them expressed worry about the learning situation, which might be related to their increasing use of affective learning strategies. To help students' application of taught strategies, the students' needs should be considered for instruction efficacy.

Since freshman English students have learned English for at least six years, they keep certain habits in learning English. Instruction in learning strategies deals with students' learning habits and beliefs. The results show that although most students identified the values of the Internet-assisted learning strategy series, some of them showed doubts and hesitation, which were related to the long-term function of the series, and students' willingness to learn. In designing strategy instructions, teachers may need to provide contrastive situations to reveal the differences in learning results before and after the use of learning strategies, to strengthen students' confidence in strategy applications. Also, ample strategy application practices need to be designed in the series for students to form the habits of using learning strategies (Huang, 2000).

4.2 Activities through the Internet

Based on the study results, the design of strategy learning activities through the Internet will be discussed as follows. First of all, in this study some students expressed doubts about the language learning function of some activities, for example, sharing jokes through the E-Learning system. However, the teaching

goals of certain activities relied rather on the applications of learning strategies than on language practices. It is suggested that the goals of activities be presented along with the announcements of the application activities.

Moreover, students expressed concern about the effects of group discussions through the Internet because of group members' varied degrees of involvement. When students were processing group discussions over the E-Learning system, the situation differed from a classroom environment in that there were no teachers around as monitors. The arrangement of student groups becomes essential for facilitating active and focused discussions. Activity designers should assign roles to students in each group to ensure the full participation of all students through their interdependence (Johnson et al., 1993). Also, the group members in each group need to be carefully arranged to include students with various characteristics and learning styles. In addition, although teachers through the Internet may not play the role of immediate monitors as in classrooms, they should monitor their students' group interactions every now and then to render possible help.

Finally, the ultimate goal of integrating internet-assisted language learning strategy instruction into the freshman English course was to develop students become autonomous English learners in the long run. The transition of students' dependent learning habits to independent habits demands instructors' toleration of students' failures and weaknesses during the process. In this study, students showed carelessness in catching up with the assignment deadlines, of which they used to be reminded by their teachers. Researchers asserted that differences in strategy use are related to differences in metacognitive awareness (e.g., Swanson, 1990). The more practice of learning strategies, the more likely students will become learners with self-awareness, which will pave their way to become autonomous learners.

5. Conclusions

This study has found that Internet assisted language learning strategy training helped freshman students' English learning in terms of increased learning strategy use and enhanced learning motivation. Also, the activity designs of strategy training through the Internet were discussed based on students' opinions. Future studies are suggested to be conducted in comparing Internet-assisted and non-Internet-assisted strategy training designs on language learning strategy training effects.

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APPENDIX A



