INVESTIGATING THE RELATIONSHIP AMONG LANGUAGE LEARNING STRATEGIES, ENGLISH SELF-EFFICACY, AND EXPLICIT STRATEGY INSTRUCTIONS

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ABSTRACT

The present study aims to investigate the relationship among EFL college learners' language learning strategies, English self-efficacy, and explicit strategy instruction from the perspectives of Social Cognitive Theory. Three constructs, namely language learning strategies, English learning self-efficacy, and explicit strategy instruction, were investigated through a correlational and quasi-experiment study. Besides the descriptive analysis of the learners' background information, a series of ANCOVA and Pearson Correlation coefficients were conducted to demonstrate findings from the quantitative data. Given the results, the study reveals two significant findings. First, there is a more positive correlation between language learning strategies and English self-efficacy after the strategy instruction. Second, after the strategy instruction, the learners applied more language learning strategies, especially memory strategies. Therefore, the findings of the study could possibly shed light on EFL learning and could be of help to those who are interested in strategy building and self-efficacy enhancement.

Key Words: language learning strategies, English self-efficacy, Social Cognitive Theory

INTRODUCTION

Over the past three decades, the Grammar Translation Method or test-oriented instruction, as opposed to communicative approaches, has been highly emphasized in Taiwan's English education (Bax, 2003), making learners passive and waiting for correct answers from teachers. This kind of learner is used to being spoon-fed (Knowles, 1975) and prefers being told what to do. Memorization and rote-learning have

almost completely occupied the ideas of language learning in Taiwan learners' minds (Wei, 2004). Learners are like little ducks waiting to be fed by their mothers (the teachers). An old Chinese saying "Tian Ya Shi Jiao Yu" (spoon-fed education) criticizes the negative influence this kind of education has on learners.

Given the above discussion regarding English education in Taiwan, there is a necessity to explore an effective method to raise learners' interest and self-confidence in English learning and make them become independent and autonomous learners. Because of the dominant test-oriented environment in Taiwan, the learners are used to passive learning and rote memorization. Learners, however, could be promoted to be more independent and autonomous through a series of direct instruction. One of the effective instructions is explicit strategy instruction (Oxford, 1990, 2008). Numerous studies (Bandura, 1986; Nakatani, 2005; O'Malley, Chamot, Stewner-Manzanares, Russo, & Kupper, 1985; Oxford, 1986, 1990; Oxford & Leaver, 1996; Oxford & Nyikos, 1989; Pajares, 1996; Zimmerman, Bandura, & Martinez-Pons, 1992) have investigated the effect of explicit strategy instruction on learners' strategy building and strategy application by different types of learners. Due to the limited instruction time (normally two to four hours per week) in a tertiary-level classroom in Taiwan, what EFL teachers could do to help enhance learners' self-efficacy and promote their strategy use should be highly emphasized and must be included in the teaching training curriculum. However, little research (Hosenfeld, Arnold, Kirchofer, Laciura, & Wilson, 1981; O'Malley & Chamot, 1988) has concentrated on how to make less effective learners become more effective through strategy instruction.

The purpose of the study is to investigate whether language self-efficacy, language learning strategies, and explicit strategy instruction are correlated in language learning. Based on the model of Social Cognitive Theory (Bandura, 1986), the researcher intends to examine the inter-relationship among the three factors: personal (self-efficacy beliefs), behavior (strategy use), and environmental (explicit strategy instruction) factors.

REVIEW OF LITERATURE

In 1986, a cognitive interactional model of human functioning was put forth by Bandura in his publication, Social Foundations of Thought

and Acton: A Social Cognitive Theory. This theory holds that personal factors, behavior, and environmental influences interact with each other, leading to a triadic reciprocality (Bandura, 1986; Bandura & Adams, 1977). Triadic reciprocality means that "behavior is determined through the interaction of behavioral, cognitive, and environmental or situational variables" (Schultz & Schultz, 2005, p.4). Human beings, from this view, are not just shaped by environmental forces, but are both products and producers of their own environments and social systems (Bandura, 1977, 1986; Barone, Maddux, & Snyder, 1997). To put it another way, to explain how their own behavior would have an effect on people's environments and their personal factors, which in turn influences their subsequent behavior.

Self-efficacy beliefs, as defined by Bandura (1995, p.2), are "the beliefs in one's capabilities to organize and execute the courses of action required to manage prospective situations." In other words, self-efficacy, as claimed by Bandura (2004, p.622), is "rooted in the core belief that one has the power to effect changes by one's actions." In a similar vein, self-efficacy is a crucial factor determining how capable individuals think they are in terms of dealing with particular types of tasks (Bandura, 1997; Beihler & Snow, 2000; Maddux & Volkmann, 2010; Schunk, 1995; Zimmerman, 1989, 1990). Once people have the confidence in themselves to produce the desired outcomes, they will have the motive and incentive to perform the action and to continue doing so even in the face of difficulties or adversity.

Many studies across different academic domains suggest that there is a positive correlation between self-efficacy and academic achievement (Bandura, Bararanelli, Caprara, & Pastorelli, 1996; Bandura & Schunk, 1981; Collins, 1982; Elliot et al., 2000; Greene, Miller, Crowson, Duke, & Akey, 2004; Lent, Brown, & Larkin, 1984; Motlagh, Amrai, Yazdani, Abderahim, & Souri, 2011; Pajares, 1996; Schunk, 1995; Shell & Murphy, 1989; Zimmerman & Bandura, 1994; Zimmerman et al., 1992). Take the study of Greene et al. (2004) as an example. In their study, 220 high school students participated in and reported their perceptions of classroom structures on their academic self-efficacy and academic achievement. Their findings showed that self-efficacy had a positive effect on successful learning.

Given the above discussion on the significance of self-efficacy in education, the role of self-efficacy should be highly emphasized. Self-efficacy, moreover, has a close relationship with learning strategies.

Self-efficacy, according to some research, is claimed to have a positive influence on the use of deeper processing strategies (Pintrich & Schrauben, 1992; Pintrich & Schunk, 2002). When learners use language learning strategies, their self-efficacy is often strengthened (Chamot, Barnhardt, El-Dinary, & Robbins, 1996; Zimmerman & Martinez-Pons, 1990). Learners with higher self-efficacy use more cognitive and metacognitive strategies (Pajares, 2008; Zimmerman & Martinez-Pons, 1990). It could be concluded that self-efficacy plays a facilitating role in increasing cognitive and metacognitive strategies (Pintrich & De Groot, 1990). In addition to the abovementioned studies, Chamot, Robbins, and El-Dinary (1993) investigated the effect of strategy instruction on EFL learners' learning strategies and their level of self-efficacy. The findings of the study indicated that there was a positive relationship between the application of learning strategies and perceived self-efficacy, which were in accordance with other study results (Wong, 2005; Yang, 2004).

Language learning strategies are commonly defined as operations used by learners to assist in acquisition, storage, retrieval, and use of information (Rigney, 1978). The above definition, however, does not deliver the inspiring purposes of applying learning strategies. Oxford (1990, p.8), therefore, expands the definition to "specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferrable to new situations." In a similar vein, learning strategies are defined by Cohen (1990, p.5) as "learning processes which are consciously selected by the learner. Language learning strategies, according to Oxford (1990), can be classified into two categories: direct and indirect strategies. Direct strategies include memory, cognitive, and compensation strategies while indirect refers to metacognitive, affective, and social strategies.

Many studies investigating the relationship between learning strategies and language performance have found that proficient learners apply more strategies than less proficient ones (Bremner, 1999; Green & Oxford, 1995; Yilmaz, 2010). Similar findings are also reported by Gan, Humphreys, and Hamp-Lyons (2004) that more successful language learners use a wider range of strategies than less successful ones. Memorization strategies are the ones less successful learners significantly rely on. Less successful language learners, moreover, are less flexible and less effective in the way of using strategies and applying them to their learning (Vann & Abraham, 1990). Compared with less successful learners, more successful learners are able to monitor their

own learning process and performance and to overcome their learning and affective difficulties (Norton & Toohey, 2001). Some studies prove that learners' studying behavior and reading comprehension could be enhanced through metacognitive strategies (Carrell, 1989; Pintrich, 1999).

Explicit strategy training or instruction can highly facilitate language learning. Such instruction aims to raise learners' awareness both of their current strategy use and the existence of other strategies (Cohen, 1998; Oxford & Leaver, 1996). Once learners are more aware of learning strategies and gradually become more proficient in strategy application, both their learning skills and language skills would be improved. Strategy training or instruction refers to explicit instruction on how to apply learning strategies to learning in order to promote "learner autonomy and self-direction" and master the target language (Cohen, 1998, p.67). Strategy training could help learners know more about learning strategies, while at the same time, they are provided with chances to try out different strategies, thus becoming proficient in using them (Chamot, 2004; Grenfell & Harris, 2004).

In light of the above explanation and discussion, it may be claimed that the role of self-efficacy and learning strategies should be highlighted in learning a second or foreign language. Furthermore, strategy instruction should also be integrated into a language learning curriculum for the purpose of informing learners of the functions of each language learning strategy and of promoting their strategy application. However, there is little research regarding the effect of explicit strategy instruction on EFL learners' strategy use and their English self-efficacy based on Social Cognitive Theory.

To investigate the relationship among English learning self-efficacy, strategies, and explicit strategy instruction, the present study was designed based on the Social Cognitive Model developed by Bandura (1986). From the perspectives of the Social Cognitive Model, three constructs (behaviors, personal factors, and environmental factors) interact with one another (Bandura, 1986). Given the findings of previous studies, it is suggested that there is a correlation among behaviors, personal factors, and environmental factors. The three constructs, in the present study, were replaced by EFL college learners' language learning strategies, English self-efficacy, and explicit strategy instruction as little research has explored the relationship among these constructs.

RESEARCH QUESTIONS

The research questions were drawn from some empirical studies (Bremner, 1999; Chamot, 2004, 2007; Gan, et al., 2004; Green & Oxford, 1995; Grenfell & Harris, 2004; Lai, 2009; Norton & Toohey, 2001; Nyikos, 1991; O'Malley et al., 1985; Oxford, 1990, 2011; Vann & Abraham, 1990; Yilmaz, 2010; Zhang, 2010) but were incorporated with the ideas of the triadic reciprocalities among personal factors, behavior, and environmental influences. Therefore, three questions are formed to predict the outcomes and empirical results of the study.

Question 1: Are there any differences between the experimental and control group in the frequency of language strategy use after the explicit strategy instruction?

Question 2: Are there differences between the experimental and control group in the level of English self-efficacy after the explicit strategy instruction?

Question 3: Are language learning strategies correlated with English self-efficacy after the strategy instruction?

METHODOLOGY

Participants

The participants of the study consisted of 78 EFL college students (male: 16 and female: 62) from one university in Northern Taiwan, who mostly worked in the daytime (72.73%) and then took courses in the evening. Their average length of English learning was 12.45 years. The average age of the participants from the university (Groups 1 and 2), ranging from 18 to 61, was 33.67 years old. The study participants are evening class learners who are more mature college students than the average students, with an average age of 30. Recently, more and more mature learners have gone back to school to take credits after they have worked for a few years. The participants in the study, that is to say, do not only consist of young adults (aging from 18 to 20) but older ones. Given the situation, the study was also to examine the possibility of applying the strategy instruction to a college class with mixed-age learners. Based on the participants' General English Proficiency Tests

(GEPT) intermediate-level reading test results, the English reading level of the majority was pre-intermediate (53.85%), while the rest were intermediate-level (15.38%) and elementary-level learners (30.77%). The statistical results showed that there was no significant difference between the two groups in terms of their GEPT reading results, numbers of students, years of English learning, or age. For the strategy instruction intervention, one group was randomly chosen as the experimental group. The experimental group was Group 1 while Group 2, was the control group.

Settings

The participants from the two groups took the English Reading course in a university in northern Taiwan. The participants and the instructor met two hours per week; reading skills and comprehension were the foci for this course. The instruction site for all the participants was a face-to-face classroom but only the experimental group was taught the six kinds of strategies (memory, cognitive, compensation, metacognitive, affective, and social strategies) for six weeks, and was provided with handouts regarding the learning strategies, which were uploaded to Moodle after each strategy instruction. Moodle, an online platform mostly used for academic purposes, was available for all the participants from the experimental group. The purpose of using Moodle in the study was for sharing the strategy handouts.

The Pilot Study

Two major instruments (Strategy Inventory of Language Learning (SILL) and the English learning self-efficacy scale (ELSS)), which have been proved highly reliable and valid scales (Lai, 2009; Lee & Oxford, 2008; Oxford, 1990, 1993; Oxford & Leaver, 1996), were translated into Chinese and tested for their reliability and validity. The participants in the pilot study were 30 college freshmen in Taiwan. In order to test the reliability for Taiwanese college students, a pilot study was conducted. The pilot results showed good reliability (Cronbach Alpha = .94 for SILL and .89 for ELSS). Before testing the reliability, the two instruments were examined for content and face validity. Two EFL-related experts, who had at least five years of college English teaching experience, and three college EFL learners, who had at least six years of English learning

experience, participated in the pilot study. Content validity refers to the evaluation of the instrument content by experts working in a relevant field (Dörnyei, 2007). The two experts agreed that the instruments were readable and relevant to the study purposes. Face validity is to evaluate the instruments in terms of their feasibility, readability, and the clarity of the language (Dörnyei, 2007). All three college EFL learners reported that they understood the questions and found them easy to answer. The results, then, showed good validity.

Research Design

The present study integrates the features of correlational and quasi-experimental research, which was conducted to investigate the relationship among EFL learners' language learning strategies, English self-efficacy, and the strategy instruction. The learners' linguistic performance, first of all, was measured and studied through the intermediate-level GEPT reading test. Secondly, two questionnaires, in order to measure the learners' affective domain and learning behavior, were administered both before and after the intervention of strategy instruction to discover whether there were any significant differences between the two groups (the control and experimental groups) before and after the research implementation. The questionnaires consisted of language learning self-efficacy, and language learning strategies. Through this correlational and quasi-experimental study, the Social Cognitive Model could be tested to present whether language learning strategies, English self-efficacy and the explicit strategy instruction are correlated with one another.

Instruments

Five instruments were used in the study to collect data. They were (a) a background information questionnaire, adapted from the background questionnaire developed by Oxford (1990, p.282), (b) a GEPT reading test, chosen from the GEPT tests designed by The Language Training & Testing Center (LTTC) with approved validity and reliability, (c) the English learning self-efficacy scale (ELSS) (adapted from (Huang & Chang, 1996), (d) the Strategy Inventory for Language Learning (SILL)(Oxford, 1990), and (e) learners' perception questionnaire about the explicit strategy instruction (see Appendix A).

The details of each instrument will be described in the following parts.

First, the background information questionnaire, made up of 13 questions, was particularly designed to elicit the learners' information about personal data and their English learning experience. Sample questions are "How do you rate your overall proficiency in English as compared with the proficiency of other students in your class?" and "Do you enjoy English learning?" Second, the GEPT reading test, administered at the beginning of the study in order to examine the learners' general reading ability, was chosen from the GEPT tests designed by The Language Training & Testing Center (LTTC) in Taiwan with approved validity and reliability. Third, the ELSS consisted of 29 items (using a five-point Likert-type scale) asking four kinds of questions: perceived abilities; perceived aspiration, persistence, and enjoyment; perceived writing affect; and perceived reading affect. In the present study, however, all the items of the questionnaire had the word 'English' added for the purpose of pointing out that English was the target language the researcher would like to examine. Sample questions are "I have no problem learning how to read English" and "I find a lot of English readings hard to understand."

Fourth, Oxford's SILL consists of six strategy types: memory, cognitive, compensation, metacognitive, affective, and social. It is a 50-item questionnaire with a five-point Likert-type scale, which has been proved to be highly valid and reliable in a vast body of research (Chamot et al., 1993; O'Malley & Chamot, 1990; Oxford, 1986, 1990). Sample questions are "I physically act out new English words" and "I try to talk like native English speakers." Finally, in order to elicit their feelings, learners' perception questionnaire about the explicit strategy instruction consisted of four parts: perceptions of the teacher's role and facilitation, perceptions of the explicit strategy instruction, perceptions of the effect of the explicit strategy instruction on learning, and frequency of using strategies before and after the instruction. The content of the perception questionnaire was tested for its expert and face validity before actual implementation with the learners.

Design of the Explicit Strategy Instruction

The explicit strategy instruction in the present study was modified from the relevant studies (Chamot, 1998; Oxford, 1990, 1993) and conducted with the following five steps, which were awareness raising,

strategy instruction, hands-on activities, evaluation, and diagnosis (Table 1).

The instructional materials, additionally, were designed by the researcher and revised in the light of the feedback from the pilot study. Firstly, all the learners were required to do the self-reporting survey, that is, the SILL. After analyzing the data, the instructor-researcher had a better understanding of how the learners apply language learning strategies. Insufficient application of the strategies found from the pre-test results was also emphasized during the explicit strategy instruction. Secondly, the instruction was to raise learners' awareness of the six kinds of strategies (memory, cognitive, compensation, metacognitive, affective, and social strategies) and their sub-strategies. Learners from the experimental groups were informed of the meaning of each strategy and its significance in language learning. Thirdly, after the process of raising awareness, the instructor-researcher would instruct the learners on how to apply the strategies to their learning with vivid examples. All the examples were adopted and adapted from several English learning course books which were specifically designed for EFL adult learners. Fourthly, equipped with the knowledge of these language learning strategies, the learners were then asked to use the strategies to design their own version of strategy examples. They were given an activity sheet (see Appendix B for learners' examples) and were instructed to write down a concrete example of how they would apply each strategy to their learning. Finally, the instructor-researcher collected their activity sheets and evaluated on whether the learners understood each strategy or not. If the learners did not comprehend a strategy, they were taught again using different explanations and examples.

RESULTS

Descriptive Results

Table 1

Procedure of the Strategy Instruction in the Present Study

Step	Description	Time (mins.)	Participants
Awareness raising	Learners are informed of the definition and function of each strategy.	5	Learners The instructor
Strategy instruction	Learners are taught how to apply each strategy to their learning.	10	1. Learners 2. The instructor
Hands-on activities	Learners are given an activity sheet to work on in a small group.	10	1. Learners 2. The instructor
Evaluation	Activity sheets are collected and evaluated after each period of instruction.	45	The instructor
Diagnosis	Activity sheets are further diagnosed to check learners' understanding.	45	The instructor

The participants' demographics, their attitudes towards English learning and their perceptions of their level of English proficiency were examined and are presented in Table 2. As displayed, the participants thought their overall proficiency level in English as compared with that of other students in their class was close to 'fair' ($M = 1.94$) on the scale (excellent = 4; good = 3; fair = 2; poor = 1). When comparing their overall proficiency in English with that of native English speakers, they thought their English proficiency was close to 'poor' ($M = 1.35$) on the scale (excellent = 4; good = 3; fair = 2; poor = 1). However, when asked about their perceptions of the importance of being proficient in English, they thought English is close to 'very important' ($M = 2.55$) on the scale (very important=3; important=2; not so important=1). Generally speaking, Group 1's answers to Question 1 (How do you rate your overall proficiency in English as compared with the proficiency of other students in your class?), Question 2 (How do you rate your overall proficiency in English as compared with the proficiency of native speakers of English?), and Question 3 (How important is it for you to become proficient in English?) were slightly higher than those of Group 2.

Table 2

Participants' Attitudes toward and Perceptions of English Learning

	N	*M*	*SD*
Q1	78	1.94	.73
1.Group 1	44	1.93	.76
2.Group 2	34	1.94	.69
Q2	78	1.35	.53
1.Group 1	44	1.25	.44
2.Group 2	34	1.47	.62
Q3	78	2.55	.55
1.Group 1	44	2.57	.50
2.Group 2	34	2.53	.62

Note. *SD* = Standard Deviation.

From the above analysis, the participants' general background information was revealed, showing that Group 1 and Group 2 did not significantly differ from each other. In addition, quantitative analyses of the SILL and ELSS are presented in the following part.

Table 3

Frequency Distribution of all Strategies by the Two Groups of Participants

Descriptive Analysis				
	Group	*n*	*M*	*SD*
All Strategies	1	44	3.11	.59
	2	34	3.06	.55
Memory Strategies	1	44	2.78	.57
	2	34	2.77	.70
Cognitive Strategies	1	44	3.12	.74
	2	34	3.09	.61
Compensation Strategies	1	44	3.09	.67
	2	34	3.26*	.76
Metacognitive Strategies	1	44	3.50	.73
	2	34	3.23	.71
Affective Strategies	1	44	2.97	.74
	2	34	2.76	.70
Social Strategies	1	44	3.18	.73
	2	34	3.28	.77

Table 3 illustrates the mean scores of six categories of language learning strategies by the different groups (Groups 1 and 2). For all the strategies, Group 1 ($M = 3.11$, $SD = .59$) outscored Group 2 ($M = 3.06$, $SD = .55$). However, when examined in greater detail, Group 1 applied strategies more frequently than Group 2 in the four types of strategies (memory, cognitive, metacognitive, and affective strategies). Regarding the compensation and social strategies, Group 2 had higher scores. In order to find out whether there was any significant difference between Groups 1 and 2 in their use of the language learning strategies, an independent samples t-test was conducted and the findings show that there was no statistically significant difference between the two groups ($p = .708 > .05$) before the intervention of the strategy instruction.

From the results of Levene's test, homogeneity of variance was confirmed; therefore, they could be examined using an independent samples t-test.

Table 4 presents the different levels of English self-efficacy possessed by the two groups (Group 1 = the experimental group; Group 2 = the control group). The results show that the participants of Group 1 had a higher level of English self-efficacy for the self-efficacy scale overall and for each specific part, compared with Group 2.

Table 4

Level of English Self-Efficacy by Different Groups of Participants

Descriptive Analysis				
	Group	N	M	SD
All	1	44	3.19	.56
	2	34	3.08	.56
Part 1	1	44	3.06	.63
	2	34	3.03	.58
Part 2	1	44	3.92	.82
	2	34	3.53	.63
Part 3	1	44	2.64	.85
	2	34	2.52	.77
Part 4	1	44	3.21	.68
	2	34	3.19	.77

Note. Part 1: perceived abilities; Part 2: aspiration, persistence, and enjoyment; Part 3: writing confidence; Part 4: reading confidence.

In order to examine the participants' level of self-efficacy as to how they perceive their English proficiency, a t-test was conducted. The results indicate that there was a significant difference only in Part 2 of the English self-efficacy scale ($p = .019 < .05$) for the two groups. However, in the remaining parts of English self-efficacy, there was no statistically significant difference between the two groups of participants. Generally speaking, the two groups did not differ significantly from each other in their level of English self-efficacy.

Referential Statistic Results

To investigate whether there is a correlation of the language learning strategies and English self-efficacy between the two groups after the strategy instruction, ANCOVAs were run for an inter-group comparison. The independent variable (the pre-test) was set as a covariate in the analysis of covariance. The results show that there was no significant difference between the two groups in their application of language learning strategies after the instruction, except for memory strategies (F $(1,75) = 7.686$, $p = .007 < .05$) (see Table 5).

Speaking of English self-efficacy, the results display that there was no significant difference between the two groups in their level of English self-efficacy after the instruction (F $(1,75) = .147$, $p = .703 > .05$). Lastly, in order to examine the relationships between language learning strategies and English self-efficacy, a series of Pearson correlation coefficients were calculated and the results indicate that the relationship was weaker ($r = .272$, $p < .05$) than that after the strategy instruction ($r = .738$, $p < .05$), suggesting that strategy instruction could tighten up the relationship between language learning strategies and English self-efficacy.

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Table 5

ANCOVA Results of Memory Strategies

Tests of Between-Subjects Effects
Dependent Variable: Memory Strategies

Source	Type III SS	df	MS	F	Sig.	Partial Eta. Squared
Corrected Model	16.389[a]	2	8.195	35.780	.000	.488
Intercept	4.855	1	4.855	21.198	.000	.220
Part A Strategies	14.534	1	14.534	63.458	.000	.458
Group	1.760	1	1.760	7.686	.007**	.093
Error	17.177	75	.229			
Total	786.457	78				
Corrected Total	33.566	77				

Note. R Squared = .488 (Adjusted R Squared = .475); **$p < .01$.

Results of Learners' Perceptions after the Instruction

The first part of the learners' perception questionnaire (Cronbach Alpha = .929) was a five-point Likert-type scale, from 1 to 5. Overall, their perceptions of the explicit strategy instruction were satisfactory ($M > 3.5$). Among the ten questions (see Appendix A), Part A1 ($M = 4.27$) and Part B1 ($M = 4.27$) gained the highest score. The Part A1 question was "The teacher gave a clear explanation of how to apply different language learning strategies to English learning." The statement for Part B1 was "I think the strategy instruction is useful." Part C3, however, was the statement with the lowest level of agreement ($M = 3.51$): "I feel more confident in my English writing ability after the instruction."

Regarding the second part, the learners were free to provide what they thought about the explicit instruction and the influence of it on their way of learning and their confidence in learning. In the following part, the content of their perceptions was presented by systematic content analysis. Among the 44 participants, 33 (75%) answered part two of the perception questionnaire. Five of the 33 participants reported that they had no time to practice the strategies; therefore, they thought that there was no direct influence of the strategies on their learning. However, 28 out of 33 (84.8%) mentioned numerous advantages of applying the strategies to their English learning during the semester. To be more specific about the learners' perceptions, the following statements are direct quotes translated into English from the perception questionnaire.

S1: After learning the language learning strategies, it became more efficient for me to learn English. English was not as difficult as I thought before. I became more positive in English learning and more confident in learning.

S2: Before the instruction, I tried hard to learn and memorize in an inflexible way. At that time, I lacked confidence in my own ability. However, after the instruction, I learned some skills from it. I found my own way to learn English more efficiently and now I have become more confident.

S3: Before learning the strategies, I thought the process of English learning was dull and boring. However, after learning, I found the pleasure in learning. Before I just memorized the words unsystematically. Now I knew I should use some techniques, such as association, to make memorization more effective. Moreover, I gained more confidence in English learning.

CONCLUSION

Firstly, based on the results presented in the previous parts, there was no significant difference between the two groups in their application of overall language learning strategies after the instruction, except for memory strategies ($F(1,75) = 7.686$, $p = .007 < .05$). The study results are in line with previous studies (Huang & Van Naerrsen, 1987; O'Malley & Chamot, 1990; Oxford, 1994; Politzer & McGroarty, 1985; Tyacke & Mendelsohn, 1986), suggesting that Asian learners prefer memory strategies. We may conclude that Taiwan's EFL learners rely more on and focus more on vocabulary memorization.

Secondly, there was no significant difference between the two groups in their applications of overall English self-efficacy or in each individual part of self-efficacy after the instruction ($F (1,75) = .147$, $p = .703 > .05$), inconsistent with the results found in other studies (Chamot et al., 1993; Wong, 2005; Yang, 2004). It can be concluded that learners' affective factors are not easily influenced by only one environmental factor (the strategy instruction) for a short period of time. Their affective factors are combinations of motivation, anxiety, attitude and self-efficacy, which could inter-influence each other. Thus, it would not be easy to enhance learners' English self-efficacy by just providing them with strategy instruction. More possible factors influencing affective aspects of learning should also be considered in future studies.

Lastly, regarding the relationship between language learning strategies and English self-efficacy after the instruction, the results show that language learning strategies and English self-efficacy after the instruction are more correlated with each other ($r = .738$, $p < .05$), similar to the results found in other studies (Chamot et al., 1993; Wong, 2005; Yang, 2004).

The overall study results are consistent with findings from previous strategy and self-efficacy studies (Bremner, 1999; Chamot, 2007; Green & Oxford, 1995; Lai, 2009; O'Malley & Chamot, 1990; Oxford, 1986, 1990; Oxford & Leaver, 1996; Zhang, 2010), suggesting that more proficient learners apply more strategies and have higher levels of self-efficacy, and that strategy instruction has a positive effect on strategy application. This study, moreover, reveals two important findings. First of all, there is a positive correlation between language learning strategies and English self-efficacy. Learners who apply more strategies in their language learning are possibly those who possess higher levels of self-efficacy. It is also possible that learners with higher

levels of self-efficacy tend to apply more strategies to their learning. Secondly, language learning strategies are teachable and learnable. After the strategy instruction, learners claimed to apply more language learning strategies. Once they start to use more language learning strategies, they become more responsible for their own learning, which is a major characteristic of good language learners (Rubin, 1975). The abovementioned findings in the present study seem to provide some evidence that explicit strategy instruction may have a positive effect on language learners' strategy use. From the perspectives of the Social Cognitive Model (Bandura, 1986), environmental factors (the explicit strategy instruction) have an influence on learners' behavior (application of language learning strategies); however, the study results do not show any significant effect of environmental factors on personal factors (levels of English self-efficacy).

PEDAGOGICAL IMPLICATION

The findings of this current study at least suggest three pedagogical implications for the implementation of strategy instruction in an EFL tertiary curriculum. First of all, for language learners, strategy instruction could help them learn more about learning a target language. Secondly, for language teachers, the study presents the possibility of making learners learn how to learn more effectively and more efficiently through language learning strategies. Most importantly, strategy instruction could be tailored to meet learners' different needs. No fixed teaching materials are required; teachers could use the course books they have been using for their own class to show learners how to apply strategies to English learning.

In sum, based on the study findings, language teachers, on one hand, are more able to encourage learners' strategy applications through strategy instruction. Language learners, on the other hand, could become more aware of their own learning, know how to apply different strategies to learning, and be more responsible for learning through strategy instruction. The strategy instruction, therefore, works well for both teachers and learners.

LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

Firstly, the limitation is the external validity or generalizability of the study. The participants in the present study were not representative enough of the whole Taiwan English-major student population to make generalizations from this quasi-experimental study. Therefore, it is suggested that future researchers include participants from diverse backgrounds.

Secondly, the class size was too large to allow the instructor to pay attention to each individual learner. On average, both classes had more than forty students; therefore, it was challenging for the instructor to know whether each student understood the strategy instruction or not. Although group activities were conducted immediately after the instruction, it is possible that not all of the learners fully understood the strategies. Therefore, the researcher would like to suggest that in the future, researchers may allocate some instruction time for small groups. Researchers could spend ten or fifteen minutes assisting one group in getting familiar with each strategy.

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APPENDIX

Appendix A. Learners' perception questionnaire about explicit strategy instruction

I.   Please read the sentence in each item carefully, decide how much you agree with the sentence and write down one number on the answer sheet.
1=disagree a lot; 2=disagree a little; 3= not sure; 4=agree a little; 5=agree a lot

Part A. **Perceptions about the teacher's role and facilitation**
1.   The teacher did make a clear explanation on how to apply different language learning strategies to English learning.
2.   The teacher always provided assistance during the strategy instruction.
3.   I think the activity during the instruction helps me know how to apply different strategies to English.

Part B. **Perceptions about the explicit strategy instruction**
1.   I think the strategy instruction is useful.
2.   I did learn how to learn English effectively and efficiently after the instruction.

Part C. **Perceptions about the effect of the explicit strategy instruction on learning**
1.   I think my English learning has been enhanced because of the strategy instruction.
2.   I feel more confident in my English reading ability after the instruction.
3.   I feel more confident in my English writing ability after the instruction.

Part D. **Frequency of using strategies before and after the instruction**
1.   After the instruction, I have already started applying more strategies to my English learning.
2.   After the instruction, I have already started applying different strategies to my English learning.

II.   Please briefly describe your English learning before and after the explicit strategy instruction. Does it change your way of learning English? Does it affect your attitudes towards English learning? Do you feel more or less confident in English learning?

Appendix B. Learners' activity sheet (affective strategies)

Below is the example showed by the learners to introduce some ways to feel relaxed before an examination. They set up the situation first and then applied affective strategies to release some pressure from taking tests.

Name of the Strategy: Self-hypnosis

Activity Designing:

Situation: Before exam, I always tell myself I am so excellent, I will be doing great on my exam, everything is fine. I shouldn't be worried. Teachers also think I am an excellent student.

Before exam
↓
Doing exam — oh, It's so easy! I definetily can get a high score.
↓
After exam — I was doing great! Must have a good score.
↓
Find out the score — It wasn't too bad! There are still some people worse than me! I will be better next time!

探討語言學習策略、英語自我效能和學習策略教學之關係

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本研究旨在從社會認知理論的觀點來調查 EFL 大學生的語言學習策略、英語自我效能以及明確的策略教學，並藉由一個雙向關聯的準實驗來探討這三者之間的關係。除了針對學習者背景資料的描述性統計之外，一連串的推論統計(共變數分析和皮爾森相關係數)也運用於本研究中。本研究顯示出兩個重要的結果。首先，在策略教學之後，語言學習策略和英語自我效能之間有更強的正向關係。第二，學習者在策略教學後運用了更多的語言學習策略，尤其是記憶策略。因此，本研究的結果將可以針對外語學習的策略運用和自我效能的提升提供一個新的契機。

關鍵詞：語言學習策略、英語自我效能、社會認知理論