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RESEARCH ARTICLE

A SEM-PLS ANALYTIC STUDY OF LANGUAGE-LEARNING STRATEGY USE: INTERPRETATIONS OF STUDENTS' PROFICIENCY PERFORMANCE AND STRATEGY USED AMONG ENGLISH-MAJORED UNIVERSITY STUDENTS IN TAIWAN

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ABSTRACT

Numerous of previous studies on language learning strategies are found to discuss the importance of adapting language strategies to help individuals improve their language learning. SILL inventory was developed by Oxford in 1990; since then it has been used to investigate the language learners' strategies used at different study groups around the world. Many studies indicated that English majored students have better strategies applied into their language learning. English learning efficiency is consistent to be found to be enhanced by individual's proper use of language learning strategies (Oxford, 1990), which are memory, cognitive, compensative, metacognitive, affective, and social strategies. The study aimed to explore how English strategies as good predictors help students achieve their language requirements of university graduations; and furthermore, a good learning experience and better test results lead to help students' lower their anxiety levels and become better motivated language learners. The PLS Analysis is used to investigate possible predictors to English proficiency levels at a small group of the English-majored university students. The results of statistical analysis and the model are presented in the paper. Four factors (SILL, period of studying English, cognitive and social strategies) are found to be statistically significant predictors to students' test scores.

INTRODUCTION

Language learning strategies are being identified as distinct behaviors and mental processes used among learners to help assist language acquisition (Park, 2011; Weinstein and Mayer, 1986). Various studies have proved the language strategies are greatly impacting on learning L2 (Bialystok, 1981; Chamot & Kupper, 1989; Cohen, 1990; Naiman, Frohlich & Todesco, 1975). Good language learners are being identified as the following: active and accurate guessers, strong-motivated communicators, mentally-independent individuals, brave persons to making mistakes, persons tend to analyzing language-patterns, and enjoying taking any opportunities to use the language, monitoring others' talks, and paying close attentions on meanings (Oxford, 1994; Rubin, 1975). However, Cohen (1997) argued that Rubin (1975) failed to take into individual difference into language learning process. Cohen (2003) offered a more comprehensive way to understand a variety of language learning strategies adapted among different individuals. The following table is classification and examples of learning strategies suggested by Cohen in 2003. The table is to giving a clear and better understanding of how language skills corresponding to the learners' goal and functions.

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Oxford (1995) developed the Strategy Inventory for Language Learning (SILL) inventory structured based on a statistical procedure of factor analysis grouping language learning strategies. The strategies in categorized in the SILL are memory, cognitive, compensation, metacognitive, affective, and social strategies. Memory strategies can be obtained through the following activies, such as grouping, imagery, rhyming, and structured reviewing. Cognitive strategies can be practiced as reasoning, analyzing, summarizing, and general practicing. Compensation strategies are trained through the activities of guessing meanings, and using synonyms and gestures to express the unknown words. Metacognitive strategies are trained and practiced through the activities of paying attention, searching for practice opportunities, scheduling for language learning tasks, self-monitoring own learning paths and progress, and self-checking own errors. Affective strategies could be trained via the list activities of anxiety reduction, self-encouragement, and self-reward. Social strategies are practiced through asking questions, working together with native speakers, and being cultural awareness of the language (Oxford, 1995).

Strategy Inventory for Language Learning (SILL) are one of the most popular measure of language strategies; there are six learning strategies identified as memory, cognition, compensation, met cognition, affection, and social strategies.

SILL has been commonly used to study L2 learners' overall learning strategy use, the relationships of strategies used and L2 proficiency, the factors relating to learners' choice of adopting different strategies, and language training curriculum (Green and Oxford, 1995; Griffiths, 2003; Hong-Nam and Leavell, 2006; McMullen, 2009; Nisbet *et al.,* 2005; Nyikos and Oxford, 1993; Park, 1977, 2011; Riazi and Rahimi, 2005; Wharton, 2000; Yang, 1999). SILL was being examined and proved its fair reliability with an acceptable alpha value of .60 and .70 in most of the previous researches (Hair *et al.,* 1998; Landau and Everitt, 2004; Park 2011). Hence, SILL is used for this study to study the group of 67 sophomore English-majored students at a private four-year technology university in Northern Taiwan. It is designed to investigate those students' language learning strategies adapted to improve their English proficiency. Compared to other non-English majored students, those students should be more aware of language learning strategies and benefited from them.

Table 1. Classification and examples of learner strategies, Cohen (2003) (Abhakorn, 2008; Wu & Lin, 2009; Yeh, 2014)

Language Skill	Learning Goal	Strategy/ Function	Strategy Applications
Listening	Language learning strategies: conscious processes learners select in order to learn language	Memory strategy	1.Creating mind -mapping connections; 2. using audio and vedio aids & materials; 3. detailed and well structed reviewing, Using; 4. Using phsical, sensory as well as mechancial skills to strengthen the memory strategy.
Reading		Cognitive strategy	1.repeativey practicing; 2.receiving and communicating messages; 3.analyzing and reasoning; 4. Building input and output system, such as notetaking and summarizing.
Writing	Language learning strategies: conscious processes learners select in order to use language	Metacognitive strategy	1.Intensive learning; 2.Scheduling the learning plans; 3. Organizing, self-monitoring and self-evaluation.
Speaking		Compensation strategy	1.tactic gussing with clues; 2. Overcoming limitations on speaking and writing to using other words, such as coining words.
		Affective strategy	1.Relaxing & lower learning anxeity; 2. Self-inspiring and motivating; 3.understanding & sharing emotions with others.
		Social strategy	1.Asking for corrections; 2.working with others; 3. Understanding and appreciating differences between others and self.

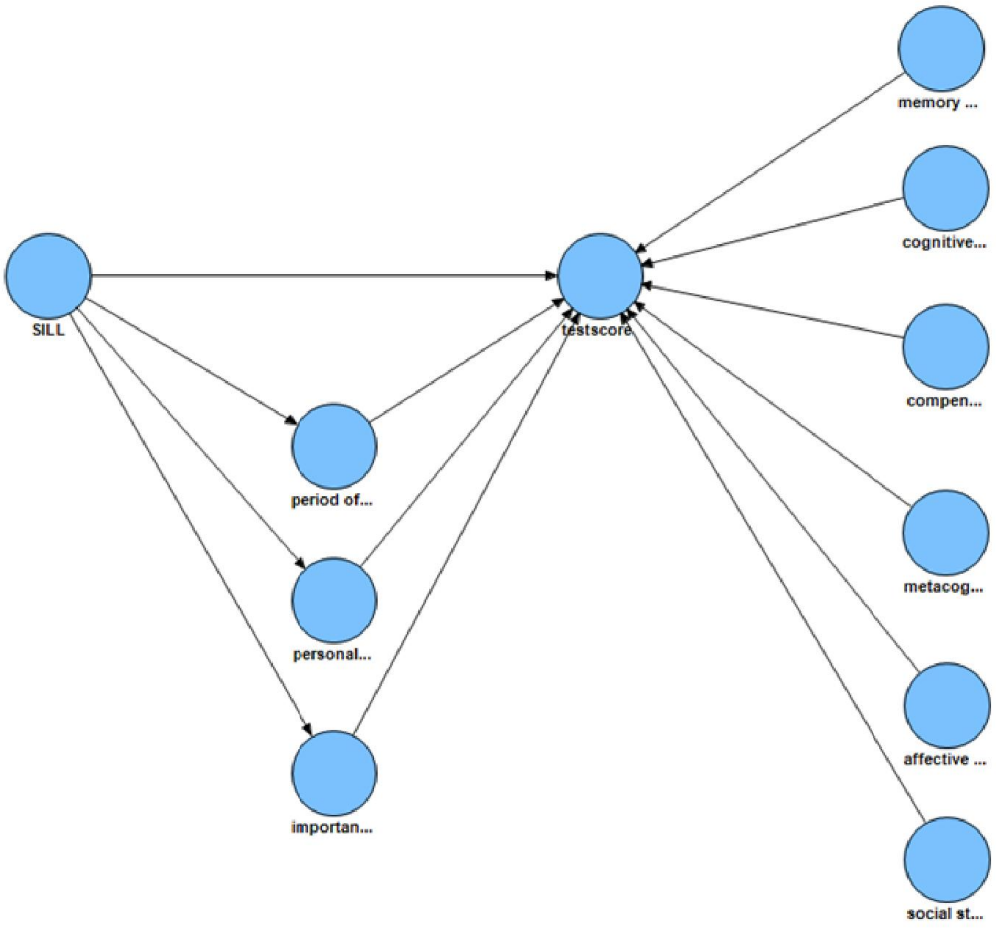
Background

Oxford (1994) listed some important findings which they all support the effectiveness of using language learning strategies to enhance learners' proficiency. These findings are listed as following: (1) appropriate language learning strategy use can improve leaners' language proficiency (Oxford *et al*., 1993; Thompson and Rubin, 1993), (2) successful language learners are usually using language learning strategies tactically to reach the requirement for various language tasks (Chamot and Kupper, 1989), and they can easily explicate their various engaged language strategies (O'Malley and Chamot, 1990); (3) both cognitive and metacognitive strategies are often employed together to support each other. Combination of two or more strategies used helps better in language learning (O'Malley and Chamot, 1990); (4) certain language learning strategies are bonded together for specific language tasks (Chamot and Kupper, 1989); (5) language learners are not much paying attentions on their feelings and social relationships with others; thus, few studies on social and affective strategies are found in L2 research (Oxford, 1994).

Passing English proficiency tests and getting proficiency certificates are always being one of the most important learning goals to Asian learners. The English-proficiency certificatesare crucial not only to meeting the English-proficiency requirement of graduation upon high schools to colleges, but also to identifying their language abilities for locating competitive jobs. A great number of Asian students in Taiwan are experiencing certain level of frustration and challenge when they are encountering a pressure of passing the English-proficiency certification tests, such as GEPT, ILETS, TOEFL, and TOEIC to be seen as most common used instruments among schools and business industries. English proficiency certificates are used to be the most recognized and commonly used index of individual's language proficiency levels; therefore, students, parents, teachers, and administrators are setting the teaching goals to help students pass the English proficiency certificates which they are seen as a requirement of university graduation at most high educational institutes in Taiwan. A study done by Carol Mango in 2010 investigated 302 Korean students, aged between 14 and 18,at a high school in Philippines. The study students were all Korean native-speakers who were studying English as their second language. Three research questions were being asked in the study: "(1) will the language learning strategies significantly contribute in increasing Korean students' English proficiency?; (2) does number of months learning formal English increase the English proficiency of Korean students?; (3) will the overall relationship of the language learning strategies and English proficiency increase when length of formal study of English is added as a predictor of English proficiency?" (Mango, 2010, p.48). Her study group had self-reported English-study ranged from one to 144 months. The scores of student English proficiency were ranged from 5 to 35, which the mean of English proficiency test was 18.48. The SILL scores were ranged from 0.56 to 5, which it meant the language learning strategies were from very low to highly using across the study group. The mean scores of SILL were memory (2.05), cognitive (2.05), compensation (3.48), metacognitive (3.34), affective (3.14) and social (3.51) strategies. From her study, there were only compensation strategy and period of studying English found to be significant; and the rest of predictors were not found significantly.

This study has two main purposes: comparison of few previous studies, and explore of language learning characters among the English-majored students at a private four-year Technology University in Northern Taiwan. Three more study variables (years of studying English, importance of English, and

personal interest) are added to predicting students' English proficiency levels. The structure and hypotheses are listed as the following.



Graph 1. Structure of the study model

The research hypotheses and questions are listed as the following.

Hypotheses:

1. Language learning strategy (SILL) has statisically significant influence on students' English test scores.
2. SILL has statistically significant influence on the year of studying English.
3. SILL has statistically significant influence on personal interest.
4. SILL has statisticallysignificant influence on students' perceptions of English importance.
5. The year of studying English has statistically significant influence on students' English test scores.
6. Personal interest has statistically significant influence on students' English test scores.
7. Students' perceptions of English importance has statistically significant influence on students' English test scores.
8. Memory strategy has statistically significant influence on students' English test scores.
9. Cognitive strategy has statistically significant influence on students' English test scores.
10. Compensation strategy has statistically significant influence on students' English test scores
11. Metacognitive strategy has statistically significant influence on students' English test scores.
12. Affective strategy has statistically significant influence on students' English test scores.
13. Social strategy has statistically significant influence on students' English test scores.

From above hypotheses, the reserch questions are developed based on the study structure. The research aims to find out how well the model could be not only used to predicting students' English proficiency, but also to understanding the language learning strategies adapted among the study students. The research questions are listed as following.

1. Does Language learning strategy (SILL) havestatistically significant and positive influence towards students' English test scores?
2. Does SILL have statistically significant and positive influence on the period of studying English?
3. Does SILL have statistically significant and positive influence on personal interest?
4. Does SILL have statistically significant and positive influence on students' perceptions of English importance?

5. Does the period(year) of studying English have statistically significant and positive influence on students' English test scores?
6. Does personal interest have statistically significant and positive influence on students' English test scores?
7. Does students' perceptions of English importance have statistically significant and positive influence on students' English test scores?
8. Does memory strategy have statistically significant and positive influence on students' English test scores?
9. Does cognitive strategy have statistically significant and positive influence on students' English test scores?
10. Does compensation strategy have statistically significant and positive influence on students' English test scores?
11. Does metacognitive strategy have statistically significant and positive influence on students' English test scores?
12. Does affective strategy have statistically significant and positive influence on students' English test scores?
13. Does social strategy have statistically significant and positive influence on students' English test scores?

METHODS

Study participants

The study student group was the sophomore English-majored students enrolled in the fall semester of 2010. A total number of the study group is 67 as they were from two classes at the department. There were only a few students missing the study and placement tests, which it leads to a group of 67 students participating the study. The mean of their age is 19.26. The group has 39 (58.2%) female and 28 (41.8%) male students, as it is quite normally distributed for the study.

English proficiency test

Anglia Examinations (http://anglia.org/about-anglia) has started and based in Chichester College, Chichester, England since 1994. Anglia Examinations has regional offices around the world, including Africa, Europe, Asia, and Ibero-American Network; the Greater China office covers the areas of Taiwan, Hong Kong, Macau, and Mainland China. The tests offer a variety of English proficiency tests and training programs from educational to business domains, from young children to adults in academe and business industries. The Anglia Examinations develops a comprehensive four-skill (listening, speaking, reading, and writing) tests to assessing the learner's English competence based on the CEFR standard. Appendix 1 shows a graphic of an indication of Anglia Examination proficiency levels related to the CEFR. The placement test of the study was compiled by the team of Anglia Examinations in Taiwan. A one-hour placement test with one-hundred multiple-choice questions of listening and reading was given to the students in class, along with the revised SILL survey. It took about almost two hours to complete both the placement test and SILL survey, including the clearly explained instruction to the students.

Revised Chinese SILL inventory (34-item)

The first version of 80-item SILL were tested and proved its reliability between 0.91 to 0.95 from the respondents given the survey in their native languages (Oxford, 1995). SILL given to ESL/EFL students, Cronbach's alpha values were being proven high: 0.94 to a sample of 590 Taiwanese university EFL learners (Yang, 1992a); 0.92 to a sample of 255 Japanese university EFL learners (Watanabe, 1990); 0.91 to a group of 59 Korean university EFL learners (Oh, 1992); and 0.93 to another group of 332 Korean university EFL learners (Park, 1994); and 0.91 to a group of 374 EFL learners in Puerto Rico (Oxford, 1986, 1995; Oxford and Nyikos, 1989; Wildner-Bassett, 1992a; Bedell, 1993; Nyikos and Oxford, 1993; Oxford and Burry, 1993). The revised Chinese SILL inventory contained 34 questions which were selected from the 80-item SILL (Oxford, 1990). The shorten version was created and translated in Chinese for the students in order to increasing the survey-competition rates. The questions were selected based on the pretest result from a group of 50 students at the university. The pretest was given to randomly chosen students from the junior-year students at the department. The reliability and validity remained statistically significant. The survey was administrated to other group of students at the university which it remained a good model (Yeh, 2014).It is suggested the acceptable values of individual item loadings should be greater than 0.5 (Chin, 1998; Shepherd, Tesch & Hsu, 2006, p.208). SILL has been proven its high reliability and validity through different study groups around the world in the past three decades. The reliability of SILL had been proved by Oxford and her associates (1986 & 1995), which it is 0.99. The internal consistency reliability of SILL is 0.94 from Yang's study (1993) of 505 participants, and 0.92 from Watanabe's study (1990) of 315 Chinese participants (Magno, 2010). SILL was being examined and proved its fair reliability with an acceptable alpha value of .60 and .70 in most of the previous researches (Landau and Everitt, 2004; Park 2011).Oxford (1996) reported the Chronbach's alpha of SILL is 0.93 to 0.98 as the SILL given in learner's language or in L2. Numerous studies have reported the high validity of SILL as a significant index tolanguage learning performance (Landau and Everitt, 2004; Mango, 2010; Nisbet, Tindall, & Arroyo, 2005; Oxford, 1990b; Park 2011).

Procedure of Data Collecting & Coding

Survey data were collected along with the one-hour placement tests were given in class. The survey took about ten to twenty minutes to finish, and then following by the one-hour Anglia placement test. The tests were be collected and graded by the team of Anglia Examination in Taipei, Taiwan; the SILL surveys were be coded into an Excel file for further statistical analyses. The scores of test results were being transformed and recalculated to TOEIC scores (see the table 2).

Table 2. Result of Pretest to the English-majored student based on the equivalence table of language proficiency on the CEFR standard

Anglia test result with level classification	N.	Percentage	English proficiency (Converted to TOEIC score based on CEFR standard)
A2/ Elementary	1	1.5	173
A2+/Pre-Intermediate	11	16.4	280.5
B1/ Intermediate	41	61.2	388
B2/ Advanced	13	19.4	668
C1/ Proficiency	1	1.5	888
Total	67	100	

Statistical analyses

Partial least squares structural equation modeling (PLS-SEM) method and the PLS-SEM algorithms are now growing their popularity in the academe around the world since 1990 (Lohmoller, 1989), especially in the field of management information system (MIS) (Ringle, Sarstedt, and Straub, 2012). Gefen *et al.* (2000, 2011) offered a well-organized summary of the reporting requirements for SEM analytical methods. Ringle, Sarstedt, and Straub (2012) listed ten reasons, used by previous researches across disciplines, to use PLS-SEM to analyze collected data for their studies published in the journal of MIS Quarterly. These reasons are small sample size, non-normal data, formative measures, focus on prediction, model complexity, exploratory research, theory development, use of categorical variables, convergence ensured, theory testing, and interaction terms (Ringle, Sarstedt, and Straub, 2012). The reasons to using PLS-SEM for this study are due to small sample size (n = 67), non-normal data, focus on prediction, and its model complexity of the study. Another additional advantage of applying PLS-SEM is to easily draw out the study model which it helps the research and readers clearly and logically understand the study issues.

RESULT OF THE STUDY ANALYSES

The results of the study are presented in two parts based on the structure of three proposed research questions: descriptive analyses and PLS analysis.

Descriptive results from SPSS

Upon the completion of data entry, some important descriptive analyses are displayed to explore the background of the study group. The study group of 67 students included 39 (58.2%) female and 28 (41.8%) male students. Based on the responses on their perceptions of learning English, Fifty three (53) students (79.1%) of the group think of English as very important, and 14 students (20.9%) express English is important to them; no student reported it not important of learning English. As the students reporting their learning interests, five (5/ 7.5%) said they have no interest to studying English, as 60 students (89.6%) reported themselves interested in learning English. Two students missed answering the question. The means of student age and test score (converted to TOEIC scores) are 19.26 and 428.85. The average period of studying English is 8.93 years. The simple guideline is if that skewness is less than the absolute value of 1 (+/- 1), the variables are at least approximately normal (Hair *et al.,* 2009). The Kurtosis values of language learning strategies in the study are all acceptable with an absolute value less than 3. Table 3 displays all the values of Skewness and Kurtosis show a good distribution of normality. From the above table, the English-majored students of the study showed their most frequently used compensation strategy (M = 3.248), followed by social strategy (M = 3.20), metacognitive strategy (M = 3.15), affective strategy (M = 3.100), cognitive strategy (M = 3.127), and memory strategy (M = 3.058). The English-majored students of the study show above the average level of

Table 3. Mean, range and score distribution of Language Learning Strategies

	Rank	Min.	Max.	Mean	Std. Error	Skewness	Kurtosis
SILL	--	1	5	3.141	.512	.468	.138
Memory	6	2	5	3.058	.664	.260	.658
Cognitive	3	1	5	3.127	.639	.492	-.125
Compensation	1	2	5	3.248	.623	-.201	.426
Metacognitive	4	1	5	3.122	.647	.343	.000
Affective	5	2	4	3.100	.658	-.285	.585
Social	2	1	5	3.202	.646	.121	-.722

Table 4. Discriminant Validity (Cross-loading values) of the studied variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) SILL	1										
(2) Affective strategy	0.714	1									
(3) Compensation strategy	0.605	0.24	1								
(4) Cognitive strategy	0.852	0.456	0.509	1							
(5) Importance of studying English	0.042	-0.109	0.04	0.045	1						
(6) Memory strategy	0.783	0.346	0.405	0.617	0.166	1					
(7) Metacognitive strategy	0.852	0.662	0.251	0.703	-0.017	0.676	1				
(8) Period of study	0.105	0.142	0.007	0.134	0.117	0.077	0.105	1			
(9) Personal interest	0.107	-0.006	0.023	0.245	0.140	0.099	0.042	-0.036	1		
(10) Social strategy	0.820	0.720	0.468	0.596	-0.022	0.496	0.626	-0.001	0.038	1	
(11) Test score	0.364	0.269	0.177	0.309	0.059	0.305	0.351	0.263	0.163	0.212	1

The statistics analytic software of Excel, SPSS 20,and Smart PLS 2.0 (Partial Least Square) were used to analyze the collected data. The survey were collected and coded in Excel files and transformed into sav and csv files for further analyses in SPSS 20 and PLS. The PLS statistics is used to see how the prediction model of English proficiency could be explained of the study model (Gefen, Straub and Boudeau, 2000, p.25; Roldan and Leal, 2003, p.75). Descriptive, T-test, and regression analyses were executed by SPSS; the study model was performed by PLS 2.0.

equally using all six language learning strategies, which it corresponds the finding by Oxford (1990 & 1995).

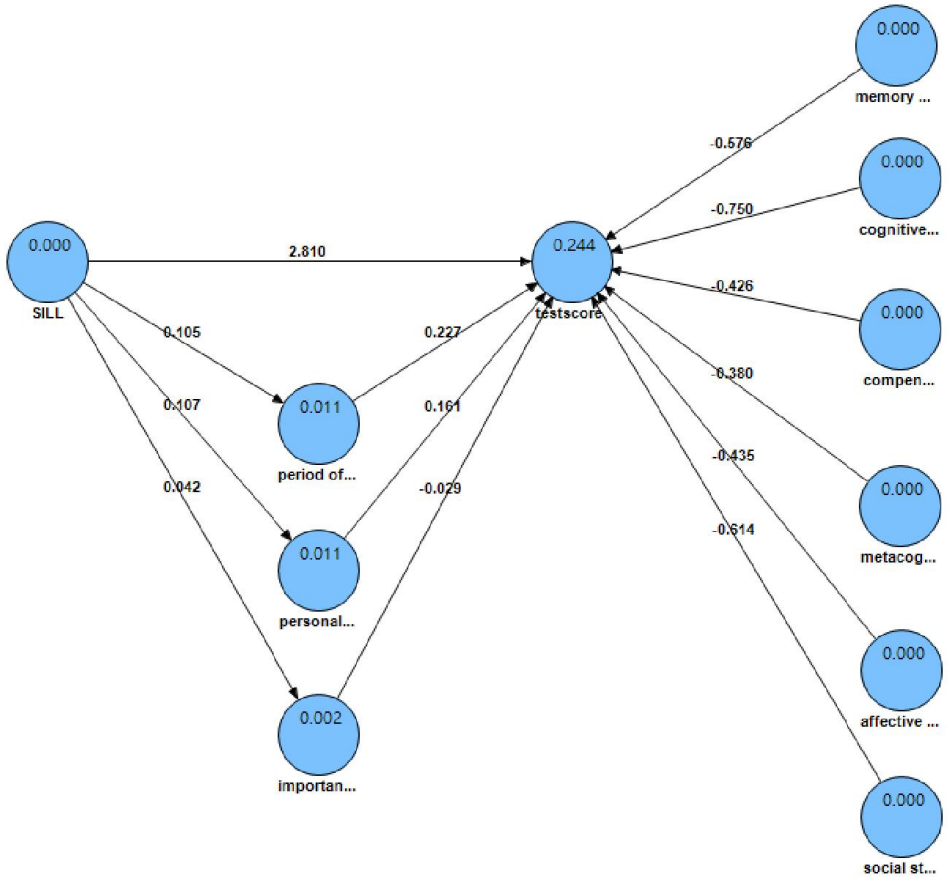
SEM-PLS analysis

For its simplified analysis procedure in the statistical analysis, all the constructs in the model are single-item constructs of taking the mean values from each measured variables.The analysis model is constrcted as Graph 1. Table 4 displays the discriminant validity and cross-loading values of all the studied variables.

All the six language learning strategies have shown the highly correlating to the SILL which both cognitive (R = 0.852), metacognitive (R = 0.852), and social (R=0.820) strategies have most strongly affecting on learners' abilities to SILL.

Table 5. The structural model statistics of the study

Study variables/categories	R Square	Cronbach's Alpha	Communality	Redundancy
SILL		1	1	
affective strategy		1	1	
compensation strategy		1	1	
cognitive strategy		1	1	
importance of studying English	0.002	1	1	0.002
memory strategy		1	1	
metacognitive strategy		1	1	
period of study	0.011	1	1	0.011
personal interest	0.011	1	1	0.011
social strategy		1	1	
Testscore	0.244	1	1	-5.850



Graph 2. Factor loading values and R^2 of the study model

Test score is mostly affected by the SILL (R = 0.364), metacognitive (R = 0.351), cognitive (R = 0.309) and memory (R = 0.305) strategies. Thus, the result indicates that for those students who apply both cognitive and metacognitive strategiesmore frequently in their English learning, they have higher English test scores. For its simplified SEM-PLS analytical procedure in the statistical analysis, all the constructs in the model are single-item constructs of taking the mean values from each measured variables which the values of Cronbach's alpha and communality are calculated as 1 (see Table 5). Test score is being measured as a mediate level of R square value at 0.244 (see Graph 2 and Table 6). The test score has shown the mediate level of explanation to the study model. Table 6 and Graph 3 display the path coefficients of the study model. There are four paths found statistically significant in the PLS model. SILL has proven to the test score with the t-value at 2.439. Cognitive strategy has found statistically significant to the test score with t-value at 2.22. Period of study has found to be the best predictor to test score with the t-value at 2.497. Social strategy is also found to be statistically significant to test scores with t-value at 2.142. Table 7 lists the inner model t-test of the study model. There are only four

Table 6. Significance table ofPath coefficients

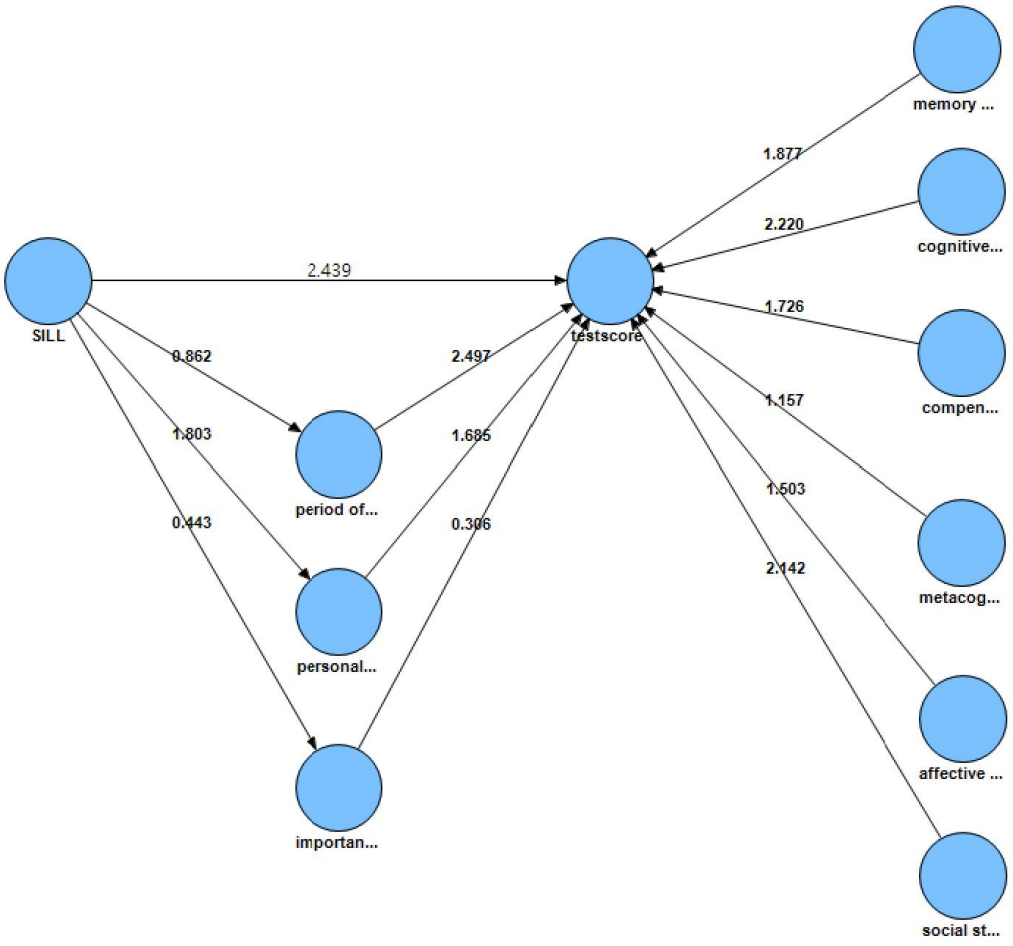
Path coefficients	Original Sample (O)	Standard Error (STERR)	T Statistics (|O/STERR|)
SILL -> importance of studying English	0.042	0.095	0.443
SILL -> period of study	0.105	0.122	0.862
SILL -> personal interest	0.107	0.059	1.803
SILL -> testscore	2.810	1.152	2.439*
affective strategy -> testscore	-0.435	0.290	1.503
compensation strategy -> testscore	-0.426	0.247	1.726
cognitive strategy -> testscore	-0.750	0.338	2.220*
importance of studying English -> testscore	-0.029	0.095	0.306
memory strategy -> testscore	-0.576	0.307	1.877
metacognitive strategy -> testscore	-0.380	0.329	1.157
period of study -> testscore	0.227	0.091	2.497*
personal interest -> testscore	0.161	0.095	1.685
social strategy -> testscore	-0.614	0.286	2.142*

*t > 1.96 statistical significance at 2-tailed 0.05level.

Table 7. Inner model t-test of the study

	importance of studying English	period of study	personal interest	Testscore
SILL	0.443	0.862	1.803	2.439*
affective strategy				1.503
compensation strategy				1.726
cognitive strategy				2.220*
importance of studying English				0.306
memory strategy				1.877
metacognitive strategy				1.157
period of study				2.497*
personal interest				1.685
social strategy				2.142*

*t>1.96 at 2-tailed 0.05 of statistical significance level.



Graph 3. The PLS-analysis study model with T-values of path coefficients

Table 8 lists the study result of research hypotheses and questions which four out of thirteen hypotheses were being proved to show statistically significances. Language learning strategy (SILL) has proven to show its statistically significant influence to students' English test scores (t-test = 2.439; see Table 7). The period of studying English is proven to have statistically significant influence on students' English test scores (t-test = 2.497; see Table 7).The study found that cognitive strategy is proved to have statistically significant influence on students' English test scores (t-test = 2.220; see Table 7).Social strategy has been proved to have statistically significant influence on students' English test scores (t-test = 2.142; see Table 7). Table 8 lists the results of the research hypotheses and questions.

Table 8. List of studied hypotheses & questions result

Research hypotheses& questions	Research question	Hypotheses
1.Language learning strategy (SILL) has statistically significant influence to students' English test scores.	●	●
Q: Does Language learning strategy (SILL) have statistically significant and positive influence towards students' English test scores?		
2.SILL has statistically significant influence on the period of studying English.		
Q: Does SILL have statistically significant and positive influence on the period of studying English?		
3.SILL has statistically significant influence on personal interest.		
Q:Does SILL have statistically significant and positive influence on personal interest?		
4.SILL has statistically significant influence on students' perceptions of English importance.		
Q:Does SILL have statistically significant and positive influence on students' perceptions of English importance?		
5.The period of studying English has statistically significant influence on students' English test scores.	●	●
Q:Does the period(year) of studying English have statistically significant and positive influence on students' English test scores?		
6.Personal interest has statistically significant influence on students' English test scores.		
Q:Does personal interest have statistically significant and positive influence on students' English test scores?		
7.Students' perception of English importance has statistically significant influence on students' English test scores.		
Q: Does students' perceptions of English importance have statistically significant and positive influence on students' English test scores?		
8.Memory strategy has statistically significant influence on students' English test scores.		
Q: Does memory strategy have statistically significant and positive influence on students' English test scores?		
9.Cognitive strategy has statistically significant influence on students' English test scores.	●	●
Q: Does cognitive strategy have statistically significant and positive influence on students' English test scores?		
10.Compensation strategy has statistically significant influence on students' English test scores.		
Q: Does compensation strategy have statistically significant and positive influence on students' English test scores?		
11.Metacognitive strategy has statistically significant influence on students' English test scores.		
Q: Does metacognitive strategy have statistically significant and positive influence on students' English test scores?		
12.Affective strategy has statistically significant influence on students' English test scores.		
Q: Does affective strategy have statistically significant and positive influence on students' English test scores?		
13.Social strategy has statistically significant influence on students' English test scores.	●	●
Q: Does social strategy have statistically significant and positive influence on students' English test scores?		

● means the research question and hypothesis being supported by the results.

DISCUSSION

As table 8listed the study result, the major finding for the study has proven that SILL has the strongest effect in increasing English proficiency among the study students. Both Cognitive and social strategies, and length of the study are also found to significantly impacting on increasing students' English proficiency levels. The similar findings are also found to other studies (Mango, 2010; Chamot & O'Malley, 1994). Mango (2010) found that compensation strategy and years of studying English. As Oxford pointed in 1990, cognitive skills are needed for learning a new language. Social strategy is needed for interacting with others who speak the language; in short, the learner learns the language from socializing with others. Many researches have proven that the longer time is spent on language learning, the better language proficiency will be performed. The previous studies show that four to nine years are needed to develop academic language skills, and two years will be needed to develop communicative skills in the targeted language (Cummins, 1980, 1994; Mango, 2010; Vazquez, Vazquez, Lopes & Ward, 1997).

Chamot and O'Malley (1994) found three important factors to influence learners' effectiveness of language learning; these three factors are length of language training, degrees of integrated language training into curriculum, and teachers' professional knowledge on conducting language-learning strategies in their class activities (Abhakorn, 2008).O'Malley and Chamot (1990) found that cognitive and metacognitive strategies are most often used together (Oxford, 1994). The similar result is also found from this study, as both cognitive and metacognitive strategies (R = 0.852) to SILL. The period of study and SILL are both found to have the most efficient indicators to the students' test scores, which it all strongly corresponding to the previous studies (Chamot and O'Malley, 1994; O'Malley and Chamot, 1990; Oxford, 1994). It does imply the language strategies can be taught through designed curriculum and professional expertise from English teachers.

All types of foreign language instruction have been developed and employed in various educational settings, such as awareness training and workshops, peer tutoring sessions, and specified-strategy-based classes (Cohen, 2003; Abhakorn, 2008). All the language instruction classes should be planned purposely to: "(1) heighten learner awareness of their strengths and weaknesses in language learning and the range of strategies from which they can choose to help them learn the target language most efficiently (Metacognitive knowledge); and (2) develop responsibility of their own learning; in short, to develop their autonomy (Cohen, 2003)" (Abhakorn,

2008).The finding of this study could also give to the future English curriculum to help college students improve their English proficiency and enhance their learning motivations. Cohenproposed the advantages of the strategy-based instruction (SBI) helping language learning (Cohen, 1996, 1998, 2003). Cohen prompted the learner-centered teaching in foreign language classes. The strategy-based instruction (SBI) should be well planned and given by instructors; SBI teachers have the following roles: (1) to explain characters of language learning strategies, and demonstrate the useful tips to practicing each strategy; (2) to give more extra opportunities to practicing the strategies from learner's learning experiences; (3) to conduct discussions about practicing the strategies, so learners will be able to explicit their feelings and remember what they practice; (4) to encourage learners to extending their strategy-practice in varied situations and tasks; (5) to integrate the strategies into the class learning materials, and to keep learners practice all the learned strategies(Cohen, 2003; Abhakorn, 2008).

Limitations of the study

The study has some limitations. First, the size of data collection is small due to the study only conducted in the Applied English department at the university. It is hard to generalize the study results to other English-majored university students at other higher educational institutions in Taiwan. Second, the study should explore students' listening and reading skills, instead of only test scores with both skills examined in one test. Listening and reading skills are differently achieved in terms of learners' language strategies adapted (Abhakorn, 2008; Cohen, 2003; Oxford, 1990; Wu and Lin, 2009; Yeh, 2014). In order to help the students reaching the English requirement for university graduation, it is necessary to clarify and target students' weakness in order to help them develop proper learning strategies and pass the English-proficiency tests. The more clarified and specified language skills are identified for the learners, the better the improvement will be achieved. Furthermore, the findings should be given to the future curriculum improvement as to help students learn efficiently and bridge their skills to the future employment upon their graduations.

Conclusion

There are few studies proven that successful language learners are applying more than one strategy, which they use those strategies interchangeably based on their goals and tasks. O'Malley and Chamot (1990) found that cognitive and metacognitive strategies are most often used together. The same result is also found from this study, as both cognitive and metacognitive strategies (R = 0.852) to SILL (see Table 4). The period of study and SILL are both found to have the most efficient indicators to the students' test scores, which it all strongly corresponding to the previous studies (Chamot and O'Malley, 1994; O'Malley and Chamot, 1990; Oxford, 1994).
The study students are found to apply more than one strategy which they are considered themselves of being interested in studying English. These students are shown to use compensation strategy most often, followed by social, cognitive, metacognitive, affective and memory strategies. It shows that the students have been changed their learning styles comparing to the students in the past. The students are more relaying on their compensation and social strategies since the conception of learning English has been quite different than that in the past decades. The young generation is much more using the language to communicate with others, instead of learning language in a quite mode. Memory strategy is the least strategy applied among the study group which it confirm the quiet learning style in language learning is not preferred and accepted among the college students in Taiwan. It might explain the current challenges to university faculty of how most of our students are not interested in learning English. Perhaps they are not being well trained to be aware of the language learning strategies and the skills to apply them interchangeably to accommodating to their tasks and goals.
As Oxford (1994) suggested it, the language teachers should have responsibilities to help their students as more efficient learners:

(1) identifying students' current learning strategies through surveys, interviews, or other well-designed investigations; (2) helping their students understand what strategies are most relevant to their learning styles, tasks, and goals; (3) helping student to develop language learning strategies in a composed style rather than a scattered approach (Oxford, 1994). The similar findings are found from this study which employed different statistical analytical method (SEM-PLS) rather than SPSS as most SILL studies were done before. The consistency on the language learning strategies (SILL) has proved that this study showed some certain level of reliability and validity. The SEM-PLS analysis is not yet widely used in the educational studies, and should be more used in the future study as we are dealing with the small sample sizes. By using other analytical methods in educational studies, it is proactive and innovative which it should be encouraged and welcome in the field as its profundity in academe. In general, this paper has proven similar results from previous studies, and explored the English learning strategies employed among the English-majored students at the university. Thus, it could be valuable to help future English curriculum in the university program.

REFERENCES

Abhakorn, J. 2008. The implications of learner strategies for second or foreign language teaching, *ARECLS*, 5, 186-204.

Bedell, D. 1993. Crosscultural variation in the choice of language learning strategies: a mainland Chinese investigation with comparison to previous studies. *Unpublished master's thesis*, University of Alabama, Tuscaloosa, AL.

Bialystok, E. 1981. The role of conscious strategies in second language proficiency, *Modern Language Journal*, 65, 24-35.

Chamot, A. U. & Kupper, L. 1989. Learning strategies in foreign language instruction. *Foreign Language Annals*, 22, 13-24.

Chamot, A.U. & O'Malley, J.M. 1994. *The CALLA handbook: implementing the cognitive academic language learning approach*. Reading: MA Addison- Wesley.

Cohen, A.D. 1996. *Second language learning and use strategies: clarifying the issues.* Minnesota: Center for advanced research on language acquisition, University of Minnesota.

Cohen, A.D. 1998. *Strategies in learning and using a second language*. London: Longman.

Cohen, A.D. 2003. *Strategy training for second language learners.* Minnesota: Center for advanced research on language acquisition, University of Minnesota.

Cummins, J. 1990. Knowledge, power and identity in teaching ESL. In F. Genessee (Ed.), *Educating second language children: The whole child, the whole curriculum, the whole community*, New York: Cambridge University Press.

Cummins, J. 1994. The cross-lingual dimensions of language proficiency: Implications for bilingual education and the optimal age issue. TESOL Quarterly, 14, 175-187.

Hair *et al.* 2009. *Multivariate data analysis*. New York: Prentice Hall.

Lohmoller, J.-B. 1989. *Latent Variable Path Modeling with Partial Least Squares*, Heidelberg; Physica.

Mango, C. 2010. Korean students' language learning strategies and years of studying English as predictors of proficiency in English, *TESOL Journal*, 2, 39-61

Nisbet, D.I., Tindall, E.R., & Arroyo, A.A. 2005. Language learning strategies and English proficiency of Chinese university students. *Foreign Language Annuals in Proquest Journal*, 38(1), 100-108.

Nyikos, M. & Oxford, R. 1993. A factor analysis study of language-learning strategy use: interpretations from information-processing and social psychology. *Modern Language Journal*, 77, 11-22.

O'Malley, J.M. & Chamot, A.U. 1990. *Learning Strategies in Second Language Acquisition*. Cambridge: Cambridge University Press.

Oh, J. 1992. Learning strategies used by university EFL students in Korea. Language Teaching, 1, 3-53.1.

Oxford, R. & Burry-Stock, J. A. 1995. Assessing the use of language learning strategies worldwide with the ESL/EFL version of the strategy inventory for language learning (SILL). *System*, 23(1), 1-23.

Oxford, R. & Nyikos, M. 1989. Variables affecting choice of language learning strategies by university students. *Modern language Journal*, 73(2), 291-300.

Oxford, R. 1986. *Development and Psychometric Testing of the Strategy Inventory for Language Learning (SILL).* ARI Technical Report 728. Alexandria, VA; Army Research Institute.

Oxford, R. 1990. *Language learning strategies: what every teacher should know.* Boston: Heinle & Heinle.

Oxford, R. 1990b. Language learning strategies and beyond: a look at strategies in the context of styles. In S. S. Magnan (Ed.), *Shifting the instructional focus to the learner (pp. 35-55).* Northeast Conference on the Teaching of Foreign Languages. Middlebury, VT: Middlebury College.

Oxford, R. 1994. Language learning strategies: an update. ERIC Digests. Retrieved Jan. 2014 from http://www.cal.org/resources/digest/oxford01.html

Oxford, R. 1996. Employing a questionnaire to assess the use of language learning strategies. *Applied Language Learning, 7,*retrieved Dec. 2013 from http://www.dliflc.edu/Academics/academic_materials/all/ALLissures/all7.pdf#page=28

Park, G.P. 2011. The validation process of the SILL: a confirmatory factor analysis. *English Language Teaching*, 4(4), 21-27.

Ringle, C.M., Sarstedt, M., and Straub, D. W. 2012. Editor's Comments: a critical look at the use of PLS-SEM in MIS Quarterly, *MIS Quarterly*, 36(1), iii-xiv.

Rubin, J. 1975. What the "good language learner" can teach us, *TESOL Quarterly*, 9(1), 41-51.

Tsai, Y.R., Ernst, C., Talley, P.C. 2010. L1 and L2 strategy use in reading comprehension of Chinese EFL readers, *Reading Psychology*, 31, 1-29.

Watanabe, Y. 1990. External variables affecting language learning strategies of Japanese EFL learners: effects of entrance examination, years spent at college/university, and staying overseas. *Unpublished master's thesis, Lancaster University, Lancaster, England*.

Wildner-Bassett, M. 1992. Data set of foreign language students' strategies. Unpublished manuscript, University of Arizona, Tucson, AZ.

Yang, N.D. 1993. Understanding Chinese students' language beliefs and learning strategy use. *Paper presented at Annual Meeting of the Teachers of English to Speakers of Other Languages, Atlanta, Georgia, USA*.

Yeh, H.C. 2014. CFA analysis of the Second-language learning strategies used among university students in China, *International Journal of Education and Research*, 2(4), 425-436.

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