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A Study of Metacognitive Strategy Training for College Language Low Achievers

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Abstract
Language high achievers and language low achievers vary considerably in metacognitive strategy use. This study carried out a metacognitive strategy training session and it was conducted with the 105 low achievers (47 of them belonging to the experimental group and 58 of them belonging to the control group) by applying a newly constructed training model from the integration of Oxford's (1990) eight-step model with Cohen's 1997 Strategies-based Instruction (SBI).The results indicate that the training can greatly enhance both metacognitive strategy use and language proficiency and that the metacognitive strategy has great impact on the language low achievers and the training is effective.

Key words: Language low achievers; Metacognitive strategies; Questionnaire; Training

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INTRODUCTION
For most ESL/EFL learners who fail to become high-achieving and self-directed learners, the great difficulty lies in the fact that they don't know how to plan、monitor and evaluate their learning process. That is to say they are lacking knowledge of metacognitive strategies. Different studies found that what distinguished language low achievers was not the lack of appropriate strategies but the inability to choose the right strategy for the task. The low achievers in their study appear to be active strategy users, but they often failed to apply strategies appropriately to the task at hand. Apparently, they lacked certain necessary higher-order processes, what are often called metacognitive strategies or self-regulatory skills, which would enable them to access the task and bring to bear the necessary strategies for its completion.

Metacognitive strategies are executive in nature. They are the strategies a student uses when planning, monitoring, and evaluating learning or strategy performance (Ellis, 1994). Hence, they are often referred to as self-regulatory strategies. The present research is designed in order to resolve the problems mentioned earlier and help language low achievers to develop learning autonomy and improve their proficiency. The research intends to examine the frequencies of low achievers' metacognitive strategy use and propose an effective metacognitive strategy training model targeted at low achievers.

1. LITERATURE REVIEW

1.1 A Review of Metacognitive Strategy
O'Malley et al. (1985) posit that metacognitive strategies involve thinking about learning process, planning for learning, monitoring of comprehension or production while it is taking place, and self-evaluation of learning after the language activity is completed. Oxford (1990) maintains metacognitive strategies are actions which go beyond purely cognitive devices, and which provides a way for learners to coordinate their own learning process. Metacognitive strategies allow learners to control their own cognition, that is, to coordinate the learning process by using functions such as centering, arranging, planning, and evaluating. Cohen (1998) views metacognitive strategies as dealing with pre-

assessment and pre-planning, on-line planning and evaluation, and post-evaluation of language learning activities and language use events. Wenden (2002) firmly suggested learners should grasp some use metacognitive strategies to manage, direct, regulate, and guide their learning.

According to the definition of metacognitive strategies listed above, it is clear that there are similarities and agreements in these definitions. To put it simply, metacognitive strategies are skills, approaches, and thinking and actions of learners use to control their cognition and learning process.

1.2 Language Low Achievers

The term achiever in this study is used to refer to university students who learn English as a foreign language. Rubin (1975) pointed out "it is common knowledge that some people are more successful than others at learning a second language". In Vann and Abraham's research (1990), two Saudi Arabian women were defined as unsuccessful learners as measured by the relative speed with which they moved through an intensive English program. In Wen's study (1995), she compared two university students, defining one of them as language high achiever and the other as language low achiever, as the latter spent much more time learning English but got much lower score in the CET-4 Test, though their university admission scores were almost the same. In some other studies, high or low achievers were defined according to their scores of exams or specific tasks (see Liu, 2002; Yang, 2002). In the current study, the score of English in College Entrance Examination and CET-4 are used as the criterion of achievement. The students are defined as language low achievers as the score of each of the sample students is apparently lower than the total average score.

2. METHODOLOGY

2.1 Subjects

The subjects in this study consist of 166 second-year students (61 language high achievers and 105 low achievers) of non-English majors in China West Normal University for the questionnaire. Then the researcher conducted a one semester metacognitive strategy training session with the 105 low achievers (47 of them belonging to the experimental group and 58 of them belonging to the control group) by applying a newly constructed training model.

2.2 Instruments

There are three instruments involved in the research: Modified Strategy Inventory for Language Learning (SILL) of Oxford (1990), CEE (College Entrance Examination) and CET-4 scores (used to represent language proficiency level).

2.3 Design of the New Metacognitive Strategy Training

To make the training program effective, the first step involves identifying and diagnosing the students' strategies they are already using. In this research, the modified version of Oxford's (1990) SILL is employed as the assessment tool because it is "a valuable diagnostic tool" (Ellis 1994).

After the assessment, the teacher goes on with awareness training. Awareness training program will focus on improving language low achievers' metacognitive ability to plan, monitor and evaluate their studies.

And after That, with Oxford's (1990) eight-step model and Cohen's SBI model, the training program implemented into teaching content lasts the whole term, totaling 43 hours. In the process of the course, the teacher has complete autonomy in the class arrangement and syllabus design, thus overcoming the limitation of being unsystematic which is characteristic of long-term training. Besides, almost all the remedial students bear very similar features—low strategy use frequency, poor performance, yet comparatively high instrumental motivation to pass CET-4 and final English exam. Therefore, the collective instruction will suffice for an ideal result as far as the form of training organization is concerned.

To sum up, the complete sequence of the model adopted in research is presented as follows (see Figure 1).

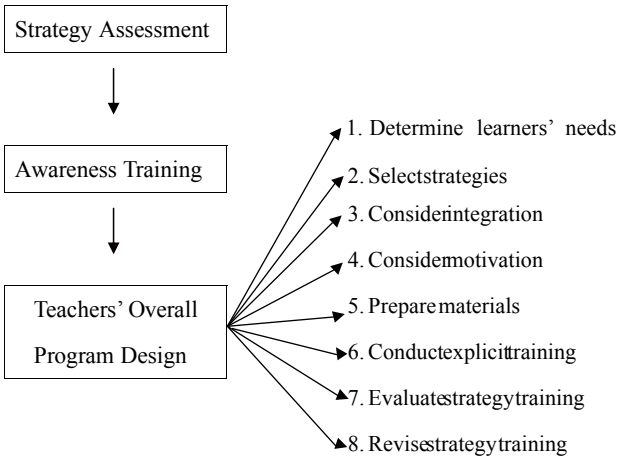

Figure 1
A Metacognitive Training Model for Language Low Achievers

3. RESULTS AND DISCUSSION

3.1 A Comparison of Metacognitive Strategy Use Frequency Between Language High Achievers and Language Low Achievers

Regarding the differences in metacognitive strategy use between language high and low achievers, we first look at the results of the questionnaire.

Table 1
A Comparison of Metacognitive Strategy Use Frequency Between LHAs and LLAs: A *T*-Test

Variables	Mean of *H*	SD of *H*	Mean of *L*	SD of *L*	*t*	*p*
Overall strategies	3.32	0.530	2.20	0.480	7.2449	.0000
Centering	2.89	0.631	1.95	0.575	4.3562	.0000
Overviewing	2.67	1.075	1.53	0.928	4.2614	.0000
Paying attention	2.80	0.863	1.79	0.685	3.7469	.0002
Delaying speech	3.21	1.180	2.54	1.118	0.8783	.3795
Arranging and planning	3.48	0.440	2.22	0.557	6.3986	.0000
Finding	3.10	1.033	2.54	1.087	1.226	.3246
Organizing	3.11	0.855	2.60	0.611	0.9860	.3255
Setting goals	3.65	0.629	1.97	0.764	6.9433	.0000
Identifying	3.29	0.781	2.31	1.064	3.6444	.0004
Planning	2.74	1.114	2.14	1.136	6.9433	.0000
Seeking	3.02	0.650	1.78	0.654	5.6442	.0000
Evaluating	3.61	0.559	2.42	0.592	7.7480	.0000
Self-monitoring	3.64	0.605	2.28	0.749	8.0668	.0000
Self-evaluating	3.59	0.767	2.57	0.849	4.2097	.0000

Note. *H* represents LHAs (61 persons), *U* represents LLAs (105 persons)

As is shown in Table 1, in respect of the overall strategy use, there is a statistically significant difference between LHAs and LLAs (p=.0000), with the mean value of the former much higher than that of the latter. This finding shows that LHAs use the overall strategies more frequently than LLAs.

3.2 An Outline of the 43-Hour Training Curriculum Adopted in the Research

Through the analysis of LLAs' questionnaire a conclusion can be reached that LLAs lack strategies of Identifying, Self-monitoring, Planning, Setting goals, Paying attention, Seeking practice and Overviewing. Furthermore, considering the significant difference between LHAs and LLAs in the overall strategies, the three strategy groups and eleven strategy categories, another focus can be Identifying, Self-monitoring, Planning, Setting goals, Paying attention, Seeking practice and Overviewing. Based on these conclusions, a strategy training program for one semester should be designed to focus on the Identifying, self-monitoring, planning, setting goals, paying attention, seeking practice and overviewing. Therefore, the 43-hour training curriculum containing specific materials has been designed for this purpose.

3.3 Metacognitive Strategy Use Frequency Between the Experimental Group and Control Group Before Training

The author designed one-semester metacognitive strategy training to find whether there are significant differences in the performance on metacognitive strategy use and language proficiency between the students who received the training and those without. Table 3 shows the use differences in respect of the overall metacognitive strategies, the 3 strategy groups and the 11 strategy categories between the experimental group and the control group before training.

Table 2
An Outline of the 43-Hour Training Curriculum Adopted in the Research

Task	Activities	Time(h)
Assessment	SILL survey	1.5
Assessment training	1. Awareness instruction in general, 2. Explanation of the eight steps concerning learners	3
Awareness training though SBI	Speaking: 1. An introduction of your learning strategies, 2. Plans for this semester's learning	1.5
Speaking and Requirement	1. Seeking practice opportunities 2. Debate: A small fish in a big pool or a big fish in a small pool?	0.5 1.5
Listening	1. How to make preparation for the listening 2. How to concentrate on the listening.	1 1
Listening	Listen for general idea and implied meaning 4 passages	2
Listening	Listen for specific details and facts 3 passages	2
Listening	Self-directed listening and discussion 2 passages	3
Grammar	Introducing some highlights, followed by reinforcement exercises 25 sentences	3
Reading	Reading for specific details and facts 2 passages	3
Reading	Reading for main idea and implied meaning 1 passage	3
Reading	Making inferences 2 passages	3
Reading	Self-directed reading and discussion 1 passage	3
Writing	1. What can be done before writing? 2. What are good materials?	2 2
Writing	1. The advantages and disadvantages of owning a car, 2. Online education	4
Writing	Self-directed writing and discussion 1 composition	2
Final assessment	SILL survey and evaluation of the program	2

Table 3
Comparison of Metacognitive Strategy Use Frequency Between the Experimental Group and the Control Group: Before training

Variables	Mean of E	*SD* of E	Mean of C	*SD* of C	*t*	*p*
Overall strategies	2.22	0.528	2.18	0.432	1.4676	.1440
Centering	2.18	0.643	2.00	0.512	0.9896	.3232
Overviewing	1.80	0.992	1.83	0.881	2.2558	.7969
Paying attention	1.90	0.781	1.88	0.603	0.1064	.9137
Delaying speech	2.83	1.109	2.29	1.081	2.3184	.0213
Arranging and planning	2.16	0.625	2.15	0.485	1.5645	.1195
Finding	2.27	1.080	2.35	1.067	1.8603	.0645
Organizing	2.35	0.725	2.16	0.506	0.6161	.5378
Setting goals	2.11	0.838	1.93	0.699	0.9830	.3264
Identifying	2.18	1.020	2.20	1.090	1.3551	.1770
Planning	2.29	1.204	2.22	1.073	1.1386	.2561
Seeking	1.89	0.733	1.79	0.577	1.3400	.1818
Evaluating	2.32	0.578	2.39	0.601	1.2341	.2186
Self-monitoring	2.37	0.582	2.40	0.717	1.0639	.2884
Self-evaluating	2.27	0.783	2.38	0.899	0.9922	.3219

Note. E represents experimental group, C represents control group.

Before training, experimental group and the control group do not have statistically significant differences as far as the overall strategies and three strategy groups are concerned. The two groups also show no statistically significant differences in all the strategy categories except Delaying speech. All this shows that the strategy use frequencies between the two groups are very identical.

3.4 Metacognitive Strategy Use Frequency Between the Experimental Group and Control Group After Training

Table 4 shows the use differences in respect of the overall metacognitive strategies, the three strategy groups and eleven strategy categories between the experimental group and the control group after training.

Table 4
Comparison of Metacognitive Strategy Use Frequency Between the Experimental Group and the Control Group After Training: After Training

Variables	Mean of E	*SD* of E	Mean of C	*SD* of C	*t*	*p*
Overall strategies	3.29	0.530	2.16	0.480	7.2449	.0000
Centering	3.33	0.631	2.03	0.575	4.3562	.0000
Overviewing	3.93	1.075	2.77	0.928	4.2158	.0001
Paying attention	3.46	0.863	1.99	0.685	1.4470	.1506
Delaying speech	2.60	1.180	2.34	1.118	3.8700	.0002
Arranging and planning	3.12	0.440	2.30	0.557	6.3986	.0000
Finding	3.60	1.033	2.24	1.087	5.4565	.0001
Organizing	3.42	0.629	2.60	0.611	5.5255	.0000
Setting goals	3.42	0.855	1.97	0.764	8.9498	.0001
Identifying	2.60	0.781	2.31	1.064	1.2807	.1997
Planning	2.51	1.114	2.14	1.136	1.3455	.1782
Seeking	2.86	0.650	1.78	0.654	7.0249	.0000
Evaluating	3.42	0.559	2.37	0.592	7.7480	.0000
Self-monitoring	3.30	0.605	2.28	0.749	6.9800	.0001
Self-evaluating	3.53	0.767	2.37	0.849	4.7149	.0000

Note. E stands for experimental group; C stands for control group.

After training, the experimental group and the control group exhibit extremely significant difference in their overall metacognitive strategy use (p=.0000). The mean score of the experimental is raised from 2.19 to the present 3.29, a 33% increase in frequency. The mean score of the control group reaches form2.15 to 2.16, a 0.2% increase in frequency. Although the control group does not receive any metacognitive strategy training, its overall strategy use frequency is also improved. But compared with the experimental group, its frequency increase is very low. The difference and the changes reveal that strategy training can greatly enhance the strategy use frequency.

3.5 The Language Proficiency Between the Experimental Group and the Control Group After Training

From the Table 5, it can be seen that, after the training, there appears statistically significant difference in CET-4 scores between the experimental group and the control group (p=.0008), with the former's proficiency much higher than the latter's. However, before the training, there is no statistically significant difference between the two (p=.6034). This improved proficiency can be correlated with the increased use frequency of metacognitive strategies.

Table 5
Differences in CET-4 Before and After Training

Time	Mean of E	*SD* of E	Mean of C	*SD* of C	*t*	*p*
Before-training scores	43.58	7.219	43.31	6.912	0.5208	.6034
After-training scores	50.54	5.853	46.40	6.224	3.4245	.0008

Note. E stands for experimental group; C stands for control group.

CONCLUSION

After examining the literature of metacognitive strategy research and training, the present research makes an attempt to construct a new metacognitive strategy training program aiming at the language low achievers in China West Normal University and carry out a one-semester training. Data are analyzed using SPSS and adopting such statistically techniques as simple descriptive statistics and T-test, with major findings listed as follows:

(a) In respect of the overall strategy use, there is a statistically significant difference between LHAs (language high achievers) and LLAs(language low achievers), with the mean value of the former much higher than that of the latter, which shows that LHAs use the overall strategies more frequently than LLAs.

(b) Strategy training can enhance the use of metacognitive strategies and academic progress of the language low achievers. After training, the experimental

group exhibits statistically significant differences from the control group in the overall metacognitive strategies, the three strategy group and eight of eleven strategy categories, and its strategy use frequencies in the above respects are much higher than the control group. Also, after training there appears significant difference in proficiency between the experimental group and control group. The increased use of metacognitive strategies and the improved proficiency results from the training program.

(c) The training program adopted from Cohen's (1997) SBI and Oxford's (1990) eight-step model proves to be effective not only in the way of improving proficiency but also in the way of increasing awareness and learning autonomy of the language low achievers, which can be easily observed from their class behavior.

PRACTICAL IMPLICATIONS AND SUGGESTIONS

Based on the above findings and the actual implementation of metacognitive strategy training, a number of practical implications and suggestions can be suggested for English teaching and learning.

A. Caring for the Language Low Achievers

Language low achievers form a particular group in college and universities. They differ from the higher achievers, even from the average learners in that they meet with various difficulties in their learning, but they do not know how to cope with them effectively. They can not learn autonomously or creatively because they depend too much on their teacher and book knowledge. They can not use strategies, especially metacognitive strategies in an appropriate and flexible way even though they have some of them. Without a teacher's help, some of them will remain depressed through their university days, and even some will leave the university as permanent failures.

Therefore, the teacher should make special efforts to care for their needs and help them to solve the problems in their studies. An effective way to improve their study, especially their English learning is to promote their metacognitive strategy awareness and strategy use. This will gradually arouse their interest in learning and cultivate their learning autonomy. In the end, such students can take control of their studies and make progress in English and in other fields as well. Only when the low achievers have achieved progress can we say our education is successful.

B. Implementing Metacognitive Strategy Training

To improve strategy use and language proficiency, it is desirable to integrate metacognitive strategy instruction into the teaching curriculum. There are a number of issues related to actual implementation of learner training. In language classroom, each of the issues should be taken into consideration.

(a) Learner Characteristics

The effect of learner characteristics on instruction in learning strategies should be emphasized. O'Malley & Chamot (1990) list some influential elements on the part of learners: motivation, aptitude or effectiveness as a learner, prior education and cultural background, age, sex, and learning style. These are all of great importance in the receptiveness of students to learner strategy training and in their ability to acquire metacognitive learning strategies.

(b) Teacher Training

Researchers have realized the essential role of intensive and ongoing staff development. That is, to help learners develop learning autonomy, a strategic teacher is needed. The so-called "strategic teacher" can really shed some light on teacher training: "A strategic teacher first spends considerable time thinking and making decisions about the variables of the instructional process, content to be learned, assessment, and development of strategy instruction, then draws on an extensive knowledge base in both the content of the curriculum and teaching and learning strategies to develop lessons, and finally engages in interactive instruction in which he or she models learning processes and mediates instruction by helping students organize and interpret what they are learning" (O'Malley & Chamot,1990).

(c) Training Materials and Curriculum Development

With the development of studies on learner training, there are some readily available materials to teach learning strategies in the second language learning, but these books are based on language learning studies in ESL setting. In China, a country with the largest group of people learning English as a foreign language, learner training materials are lamentably rare. Only two books are focused on learning strategy, one of which is written by Liu Ruiqing (2003), and the other by Zhu Yuan (2005). This makes it even more difficult for potential "strategic" teachers to incorporate learning strategy instruction into classrooms. Thus, teachers must develop materials as well as carry out the instructional techniques that will familiarize their students with learning strategy applications. Moreover, research is also needed on the development, implementation, and evaluation of a curriculum that integrates learning strategies with other instructional objectives.

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