On Metacognitive Strategy Use for College Students in English Listening Teaching

Lihua Tang

School of Foreign Languages of China West Normal University, Sichuan Nanchong, China

Abstract—The frequencies of low achievers' metacognitive strategy use are examined in this study and in addition, it is proposed that a metacognitive strategy training model would be effective for low achievers. For these purposes, 146 students from China West Normal University were involved in a comprehensive research. The results indicate that language high achievers and language low achievers vary considerably in metacognitive strategy use and it is necessary to carry out the metacognitive strategy training to enhance the language listening proficiency.

Index Terms—language low achievers, language high achievers, metacognitive strategies, questionnaire, listening teaching, training

I. INTRODUCTION

Most ESL/EFL learners failed to become high-achieving and self-directed learners because don't know how to plan, monitor and evaluate their learning process (Tang, 2015). That is to say they are lacking knowledge of metacognitive strategies. Different studies found that what distinguished language low achievers was the inability to choose the right strategy for the task, not the lack of appropriate strategies (Tang, 2015). Some low achievers in their study are active strategy users, but it is appeared that they often failed to apply strategies appropriately to the task at hand. Apparently, they lacked certain necessary higher-order processes which would enable them to access the task and bring to bear the necessary strategies for its completion, and we often call them metacognitive strategies or self-regulatory skills (Tang, 2015).

Metacognitive strategies are the strategies a student uses when planning, monitoring, and evaluating learning or strategy performance and they are executive in nature (Ellis, 1994). Hence, they are often referred to as self-regulatory strategies. Language low achievers often find Learning becomes difficult when there are memory problems, difficulties in following directions, sustaining attention, trouble with the visual or auditory perception of information, or visual-coordination problems resulting in an inability to perform paper and pencil a task, so learning has become a difficult and painful process. Language low achievers are often overwhelmed, disorganized and frustrated in learning situations for the presence of a learning difficulty can make learning to read, write, listen, and speak especially challenging.

In order to resolve the problems mentioned earlier and help language low achievers to develop learning autonomy and improve their listening proficiency, the present research is designed to examine the frequencies of low achievers' metacognitive strategy use and propose an effective metacognitive strategy training model targeted at low achievers (Tang, 2015). For these purposes, 146 students from China West Normal University were involved in a comprehensive research. Modified SILL questionnaire was administrated to all the participants, and 85 low achievers, divided into an experimental group and a control group, attending a one-semester metacognitive strategy training designed by the researcher herself. Data were collected and analyzed using the statistical software of SPSS and adopting such statistical technique as simple descriptive statistics and T-test. This research will provide a new perspective on metacognitive strategy training since it may be one of the few who draw attention to a long-term collective instruction of language low achievers and involve them in a systematic training program. This new perspective, together with the findings in the research, will help teachers make decision in metacognitive strategy diagnosis, students counseling, and teacher training.

II. LITERATURE REVIEW

A. A Review of Metacognitive Strategy

Just as language learning strategies are defined as techniques, approaches and deliberate actions that learners take to improve their language competence or facilitate their language learning, and metacognition is defined as learners' awareness of their cognitive process and their ability to control those processes, so the definition of metacognitive strategies could be seen as a combination of the definition of language learning strategies and metacognition.

O'Malley et al. (1985) maintains that metacognitive strategies involve planning for learning, thinking about learning process, monitoring of comprehension or production while it is taking place, and learning self-evaluation after the language activity has been complete (Tang, 2015)d.

Oxford (1990) posits that metacognitive strategies provides a way for learners to coordinate their own learning process and they are actions which go beyond purely cognitive devices. Metacognitive strategies allow learners to control their own cognition which coordinate the learning process by using functions such as centering, arranging, planning, and evaluating (Tang, 2015).

Cohen (1998) views metacognitive strategies allow learners to control their own cognition by coordinating the planning, organizing, and evaluating of the learning process by dealing with pre-assessment and pre-planning, on-line planning and evaluation, and post-evaluation of language learning activities and of language use events (Tang, 2015).

Wenden (1999) regards by metacognitive strategies, learners can manage, direct, regulate, and guide their learning, and they include planning, monitoring, and evaluating.

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 learners use to control their cognition and learning process(Tang, 2015).

In addition, classification and categorization of metacognitive strategies have also been given by many scholars based on cognitive theory (Brown and Palincsar 1982; Anderson 1983; Wenden and Rubin 1987; O'Malley and Chamot 1990; Oxford 1990; Ellis 1994; etc.).

Brown and Palincsar (1982) use four designators---knowing about learning, planning, monitoring, and self-evaluation to describe metacognitive strategies.

Anderson (1983) mention three kinds of metacognitive strategies: planning, selective attention, and monitoring.

Wenden (1983) identifies three categories of metacognitive strategies which she calls "self-directing strategies"—knowing about learning, planning, and self evaluation. Wenden's classification corresponds to Brown's but lacks the monitoring categorization.

Oxford's metacognitive strategy classification generally matches Wenden's but has more or less different explanation concerning some items, and is more comprehensive. Since Oxford's taxonomy of metacognitive strategies contains more special planning and advance preparation strategies like setting goals and objectives, and makes more use of metacognitive knowledge such as finding out about language learning, identifying the purpose of a language task, etc, we will base our instruction on this system.

B. Differences between Expert and Novice Learners in Using Metacognitive Strategies

There are several differences between experts and novices in using metacognitive strategies. Generally speaking experts keep checking the process during making judgments.

In the use of metacognitive strategies, We take reading as examples and see in what aspects experts and novices differ. In reading, first, experts are aware of the general goals of reading and of the specific objectives of a particular task (Rohrer & Thomas 1989). Experts spend greater time and effort on more difficult tasks and allocate their time and efforts differently to different tasks. In other words, experts typically weigh the costs of using different strategies against the benefits of the goals to be achieved (Garner 1990). In contrast, novices adjust their reading behaviors to different kinds of content or reading situations and they do not tend to read for meaning. In addition, they do not slow down for difficult passages (Rohrer and Thomas 1989). Second, experts are aware of and use "fix-it" strategies when problems occur (Dole et al. 1991). By doing so, before they become major problems difficulties are solved. In contrast, novices use by-pass strategies when they meet problems. Third, experts are more likely to use the strategy of asking questions for themselves, looking back at prior text when a difficulty occurs which are available resource. Finally, experts is more flexible in the use of strategy than that of novices in two important ways. They are more likely to adapt question-asking strategies to different kinds of texts and use different strategies in different situations. Novices, however, do not apply them spontaneously (Rohrer & Thomas 1989). They tend to apply a single strategy across contexts, even though they may know how to use some strategies, such as context clues. Thus we conclude experts are more flexible in strategy use than novices in using metacognitive strategies because experts allocate their time and effort differently for different tasks, use "fix-it" strategies when problems occur.

C. Implications from the Previous Training

First, language-learning strategies can be taught to L2 learners (Chamot et al. 1999; Cohen 1998; Oxford 1990, 1996; Wenden 1987). Learning strategy instruction can help students acquire life-long learning ability, and strategy training is a very important part of learner autonomy development and hence an integrated part of curriculum. Although the training may hinder the pace of the curriculum in a certain period of time, but its benefits will pay off in the long run.

Second, metacognitive strategy training should come earlier than the other strategies, and developing learners' awareness of autonomy and their ability to learn autonomously should be the ultimate purpose of such training. Strategies are varied ability and the students will use new strategies autonomously even without the teacher's help.

Third, in carrying out strategy training, four basic principles should be followed (Wen Qiufang 2004): The wrong conception that strategies are a "wonder drug" must be cleared out; metacognitive strategy training must be conducted earlier than other learning strategies; strategy training must be based on the premise "I want to learn"; and strategy training must be done in a systematic way.

III. Methodology

A. Research Questions

The present study discuss whether it is necessary to propose an effective metacognitive strategy training model targeted at low achievers by probing into the metacognitive strategy use frequency of language low achievers in college and universities.

B. Subjects

The subjects in this study consist of 146 second-year students of non-English majors in China West Normal University for the questionnaire. 61 are language high achievers and 85 are low achievers.

C. Instruments

There are two instruments involved in the research: CEE (College Entrance Examination) and Modified Strategy Inventory for Language Learning (SILL) of Oxford (1990).

IV. DESIGN OF THE NEW METACOGNITIVE STRATEGY TRAINING

A. Framework of the Design

First, the design of the overall program of metacognitive strategy training was carried out by making use of Oxford's (1990) eight-step model, and then the concrete long-term strategy training of language low achievers follows by conducting Cohen's SBI model. The training program implemented into teaching content lasts 43 hours, totaling the whole term. By overcoming the limitation of being unsystematic which is characteristic of long-term training, the teacher has complete autonomy in the class arrangement and syllabus design in the process of the course. Besides, the collective instruction will suffice for an ideal result as far as the form of training organization is concerned because 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(Tang, 2015).

Besides the teacher's sole responsibility (i.e. carrying out the first six steps of the overall strategy design), the curricular metacognitive strategy training in the present research undergoes three stages: strategy assessment and awareness training; the actual SBI practice (i.e. conducting the explicit training in overall program design); strategy training evaluation and revision (i.e. the last two steps in overall program design).

B. Strategy Assessment and Awareness Training

The first step involves identifying and diagnosing the students' strategies they are already using to make the training program effective. 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) (Tang, 2015).

When conducting the survey, the teacher explains to the students that they will be completing the SILL based on their own language learning experiences and explains how they are to take the survey. After the completion, the teacher has the students compare their results in small groups so that the students can share their personal strategy use profiles, and then provides them with the results of the teacher's assessment. From the survey, it can be seen that compared with LHAs, LLAs exhibit much lower strategy use in terms of the metacognitive strategies.

After the assessment, the teacher goes on with awareness training which will focus on improving language low achievers' metacognitive ability to plan, monitor and evaluate their studies (Tang, 2015). In this training, two forms of awareness training are introduced into the program and carried out at two different stages. In the first stage, the awareness training is conducted in a general way, that is, learners do not have to use metacognitive strategies in on-the-spot language tasks. Then let them compare the outcomes before and after using the metacognitive strategies. Such kind of training is very important because it is the learners' introduction to the concept of metacognitive strategies. In the second stage, self-evaluation and discussions are respectively employed. Self-evaluation activities are conducted on order to enhance students' knowledge of one's own present language proficiency; and discussions are held to provide students with knowledge of metacognitive strategies. Students are asked to discuss study goals and make study plans. Such an explicit instruction on how to apply language learning strategies as part of the foreign language curriculum is the most effective way to heighten learners' strategy awareness.

C. Overall Program Design

Following Oxford's eight-step model, and taking the actual condition of subjects into account, the overall program design for the present research is now presented, with some steps being stressed while some others briefed(Wenden, 2002). The first five steps are for planning and preparation, with the responsibility mainly on the teacher's side. The middle two steps involve conducting and evaluating, requiring the participation of both the teacher and the students. The last step is for revising the training program, which is the teacher's responsibility.

Step 1: Find out the students' needs and the time available

The learners who receive training in the research are second-year college students (Wenden, 2015). They failed in their CEE and CET-4 in January 2005, and have to attend the remedial English course for a whole term. They are anxious about their learning performance and eager to make progress and pass the required exam, yet they do not work hard enough and do not know how to improve their study methods. Even some of them expect some miracles to occur.

They are using all the metacognitive strategies, but their frequency is very low. As for the time span, the training program lasts a whole semester of 43 hours (Wenden, 2015).

Step 2: Select strategies well.

According to the results of the study, the teacher selects the metacognitive strategies related to the needs and characteristics of the learners, that is, strategies in which the language low achievers are deficient(Wenden, 2015). Identifying the strategies to be trained is not an easy job. The strategies selected must be appropriate to the characteristics of low achievers and be of potential value to the completion of language tasks at educational settings. After the selection, the teacher decides to center on the training of these strategies.

Step 3: Consider integrations of strategy training

In order to make the learners better understand how the strategies can be used in a meaningful context, the teacher integrates strategy training into concrete learning tasks and materials concerning listening, reading, speaking and writing. SBI provides hands-on practice with and reinforcement of the strategies during authentic language learning tasks (Wenden, 2015).

Step 4: Consider motivational issues

These low achievers' motivation is heightened because, on the one hand, they want to be higher achievers and, on other hand, they are interested in participating in the training (Wenden, 2015).

Step 5: Prepare materials and activities

In the training, the teacher designs the strategies-based instructional materials. All these materials reflect the typical kinds of learning tasks that are included in the program. In addition, these materials include awareness-raising, as well as strategy training, practice and reinforcement activities (Wenden, 2015).

V. RESULTS AND DISCUSSION

A. A Comparison of Metacognitive Strategy Use Frequency between Language High Achievers and Language Low Achievers

Table 1 gives us the details of the differences in metacognitive strategy use between language high and low achievers.

TABLE 1:
A COMPARISON OF METACOGNITIVE STRATEGY USE FREQUENCY BETWEEN LHAS AND LLAS: A T-TEST A T-TEST

Variables	Mean of H	SD of H	Mean of L	SD of L	t	p
Overall strategies	3.22	0.520	2.10	0.470	7.2439	0.0000
1	2.79	0.621	1.85	0.576	4.355	0.0000
2	2.5	1.061	1.52	0.918	4.2604	0.0000
3	2.70	0.811	1.72	0.684	3.7468	0.0002
4	3.21	1.170	2.52	1.114	0.8781	0.3794
5	3.47	0.441	2.21	0.556	6.3984	0.0000
6	3.15	0.487	2.11	0.571	6.411	0.001
7	3.10	1.031	2.52	1.086	1.224	0.3244
8	3.11	0.851	2.64	0.610	0.9861	0.3251
9	3.61	0.624	1.93	0.763	6.9432	0.0000
10	3.24	0.780	2.30	1.063	3.6447	0.0004
11	2.72	1.114	2.17	1.134	6.9437	0.0000
12	3.07	0.657	1.72	0.655	5.6447	0.0000
13	3.65	0.554	2.44	0.594	7.7445	0.0000
14	3.61	0.602	2.24	0.745	8.0662	0.0000
15	3.53	0.764	2.54	0.845	4.2094	0.0000
16	3.41	0.787	2.47	0.810	4.878	0.0000
17	3.75	0.741	2.40	0.772	4.795	0.0001
18	3.49	0.887	2.45	0.714	4.287	0.0000

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

As is shown in Table 1, language high achievers use the metacognitive strategies more frequently than language low achievers. There is a statistically significant difference between language high achievers and language low achievers (p=0.0000), with the mean value of the former much higher than that of the latter (Tang, 2015).

B. Metacognitive Strategy Use Frequency between the Experimental Group and Control Group before Training

TABLE 2:
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	2.21	0.527	2.16	0.430	1.4675	0.1441
1	2.17	0.642	2.01	0.510	0.9893	0.3230
2	1.81	0.990	1.82	0.882	2.2558	0.7969
3	1.91	0.780	1.86	0.602	0.1064	0.9137
4	2.81	1.107	2.27	1.082	2.3183	0.0210
5	2.14	0.624	2.14	0.484	1.5645	0.1195
6	2.10	0.473	2.11	0.246	1.474	0.112
7	2.25	1.081	2.34	1.065	1.8613	0.0643
8	2.34	0.724	2.13	0.505	0.6161	0.5378
9	2.10	0.837	1.90	0.699	0.9820	0.3264
10	2.17	1.021	2.21	1.090	1.3551	0.1570
11	2.26	1.203	2.21	1.073	1.1386	0.2561
12	1.88	0.732	1.77	0.575	1.3300	0.1818
13	2.31	0.576	2.38	0.602	1.2341	0.2186
14	2.36	0.581	2.41	0.717	1.0639	0.2784
15	2.26	0.782	2.37	0.896	0.9902	0.3219
16	2.13	0.146	2.12	0.787	0.7879	0.1378
17	1.88	0.185	2.40	0.795	0.7732	0.2374
18	1.78	0.474	1.87	0.754	0.7214	0.1147

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

Before training, experimental group and the control group do not have statistically significant differences in the metacognitive strategies use. The two groups also show no statistically significant differences in all the strategy categories. All this shows that the strategy use frequencies between the two groups are very identical (Tang, 2015).

C. Metacognitive Strategy Use Frequency between the Experimental Group and Control Group after Training

TABLE 3:
COMPARISON OF METACOGNITVE 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	2.11	0.427	2.16	0.331	1.4575	0.1431
1	2.14	0.642	2.01	0.510	0.9892	0.3231
2	1.80	0.993	1.82	0.872	2.2457	0.7964
3	1.80	0.783	1.88	0.603	0.1064	0.9037
4	2.81	1.104	2.27	1.080	2.3184	0.0213
5	2.12	0.624	2.15	0.485	1.5635	0.1195
6	2.07	0.414	2.13	0.412	1.334	0.770
7	2.26	1.081	2.35	1.067	1.8603	0.0645
8	2.34	0.722	2.16	0.506	0.6161	0.5378
9	2.18	0.821	1.92	0.699	0.9830	0.3264
10	2.17	1.021	2.20	1.080	1.3451	0.1770
11	2.28	1.202	2.22	1.073	1.1386	0.2541
12	1.82	0.731	1.79	0.567	1.3400	0.1718
13	2.34	0.562	2.39	0.601	1.2341	0.2186
14	2.36	0.581	2.40	0.707	1.0639	0.2884
15	2.22	0.781	2.38	0.899	0.9822	0.3119
16	1.78	0.447	2.14	0.747	0.867	0.1271
17	2.45	0.757	2.17	0.741	0.757	0.2375
18	2.17	0.648	2.02	0.701	0.701	0.4544

Note: E stands for the experimental group; C stands for the control group

Table 3 shows the use differences in respect of the overall 18 strategies between the experimental group and the control group after training. From table 3 we can find that after the metacognitve strategy training there is an great increasing in low achievers' positive emotional factors in the experimental class. Low achievers have a correct learning motivation and confidence in learning English; the relationship between teachers and students increased. Their positive metacognitve factors increase significantly. Therefore, use of metacognitve strategies has a significant effect on English listening teaching in college; it can conduct an active atmosphere of classroom, and reduce anxiety and inhibition and then enhance the students' learning motivation. From the table four we can draw a conclusion, without the metacognitve teaching, the students' metacognitve factors of control class were stable, on the contrary, the whole experimental class' positive factors were raised. So we can see that metacognitve strategy could improve students' emotional factors and low achievers will benefit more from it.

D. The Language Proficiency between the Experimental Group and the Control Group after Training

TABLE4:
DIFFERENCES IN LISTENING COMPREHENSION 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	75.58	7.109	45.31	6.512	0.4008	0.4024
After-training scores	149.54	5.153	40.40	6.024	3.3235	0.0005

Note: E stands for the experimental group; C stands for the control group

By table 4 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=0.0006), with the former's proficiency much higher than the latter's. However, there is no statistically significant difference between the two before the training. This improved proficiency can be correlated with the training of metacognitive strategies (Tang, 2015).

VI. CONCLUSION

In respect of the overall strategy use, there is a statistically significant difference between language high achievers and language low achievers. Language high achievers use the overall strategies more frequently than language low achievers with the mean value of the former much higher than that of the latter (Tang, 2015). So it has been concluded that 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 (Tang, 2015). Its strategy use frequencies including the three strategy group and eight of eleven strategy categories are much higher than the control group. After training there appears significant difference in proficiency between the experimental group and control group, and the training program has resulted in the increased use of metacognitive strategies and the improved proficiency (Tang, 2015).

In metacognitive strategy training, the teacher's role is expanded from the traditional instructional and managerial function (Wright, 1987) to the more demanding role of providing learners with more opportunities to make learning a life-long and autonomous process (Yang, 1998). Zhuang Zhilin (1999) notes four issues that teacher should demonstrate to learners: what, why, when and how. In explicit teaching of metacognitive strategies, teacher should first make known the content to be learned with explanation of purpose. Then, the potential benefits in learning should be clarified so as to ensure positive response and active involvement on the part of learner. In addition, the teacher should also exemplify the situation in which a given strategy is applicable, so that learners can be informed of when the strategy can be used. Lastly, the teacher should model the use of certain strategies in a given situation. To achieve effective training, the teacher is no longer merely an information provider. As we have mentioned in the section of teacher training, the teacher should be termed as a "strategic teacher" (Jones et al.,1 987, cited in O'Malley & Chamot,1990). Wenden makes two general suggestions for the extension of teacher role in language training in her review on metacognitive knowledge and language learning: "(1) Teacher should try to gain an understanding of their learner's beliefs and acquired knowledge about language learning. (2) Teachers should also aim to help language learners develop a more reflective and self-directed approach to learning their new language" (1998). The first suggestion, gathering information about learners' metacognitive knowledge, is the preparation for the second suggestion, which concerns specific procedures to carry out awareness raising tasks with an aim at autonomous learning. In the first stage, the teacher should also assess learners' beliefs and attitudes towards language learning in addition to the traditional role that is focused on the diagnosis of students' linguistic proficiency. For example, what are students' views on some problematic tasks? Why don't some students take an active part in learning while others are highly motivated and learn independently? All these kinds of information can make up a profile of learners' metacognitive knowledge, and it is very important before any steps are taken in learner training. At the second stage, teacher role should not only include the provision of instruction that helps to improve learners' linguistic and communicative competence, but also include directions on enlarging knowledge about language learning. Careful and systematic task design is needed. Materials should also be well adapted to provide learners with opportunities to develop and improve their network of concepts about language learning.

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Lihua Tang was born in Sichuan, China in 1979. She received her B.A. degree in linguistics from China West Normal University, China in 2006. Her research interests include foreign language learning and teaching.