Does Metacognitive Instruction Improve Listening Comprehension?*

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Abstract—**Listening comprehension is an active and complex process, and is a major concern for Chinese English learners. Based on previous theory and practice of teaching English listening, this paper reports a case study of three English language learners in a Chinese university. It is found that metacognitive instruction proves to be more effective in intermediate to more advanced level students than in less-skilled students. It is also found that the effectiveness of metacognitive teaching is also much related to learning motivation.**

Index Terms—**metacognition, listening, Chinese learners, case study**

I. INTRODUCTION

Listening comprehension is an active and complex process, in which listeners must combine the detection of sounds, meaning of vocabulary and grammatical structures and interpretation of stress and intonation, and finally interpret it within the immediate and even the larger sociocultural context (Vandergrift, 1999). It is the basic and essential skill which is challenging for both learners and instructors. Listening comprehension is by no means a passive activity, which deserves thorough research and pedagogical support. Metacognition is referred to as higher order of thinking involving active control over the thinking processes involved in learning. Activities such as planning, monitoring comprehension, and evaluating progress toward a task are metacognitive in nature. Thus is metacognitive instruction beneficial to listening activity? This paper investigates the effectiveness of metacognitive instruction in the context of China through a case study of 3 students of different English levels.

II. LITERATURE REVIEW

"Metacognition" is generally and often simplified as "thinking about thinking or cognition about cognition". In recent years, there has been an increasing concern on raising language learners' metacognitive awareness recently (Berne, 2004; Mendelsohn, 2006, Vandergrift, 2007). Metacognition is defined by Flavell as:

"'Metacognition' refers to one's knowledge concerning one's own cognitive processes and products or anything related to them…Metacognition refers, among other things, to active monitoring and consequent regulation and orchestration of these processes in relation to the cognitive objects or data on which they bear, usually in the service of some concrete goal or objective." (Flavell, 1976, p. 232)

"Metacognitive knowledge" is first used by Flavel (1979) to refer to an individual's personal knowledge or beliefs about learning. Wenden (1991) applies the term to language learning, which can be further distinguished into three types: person knowledge, task knowledge and strategy knowledge. Person knowledge refers to what language learners believe themselves to be as learners, including one's cognitive, affective traits. Task knowledge, as the name suggests, refers to learners' understanding about the listening tasks, e.g. the purpose, the demands and nature. Strategy knowledge is learners' effective use of strategies that may facilitate learning and achieve desired learning goals (Goh, 1997; Zhang & Goh 2006; Goh & Taib, 2006; Goh, 2008). Wenden's application has been followed by more research into metacognitive knowledge about language learning and learning specific skills in listening (Goh, 1997), reading (Zhang, L.J., 2001) and writing (Victori, 1999; cf. Zhang & Goh 2006).

Goh (1997) introduces the idea of using listening diaries as a learning and reporting tool for the purpose of improving learners' metacognitive awareness. She concludes that listening diaries demonstrate a high degree of metacognitive awareness in students and offers implications for teaching practitioners to foster learner autonomy by raising metacognitive awareness (Goh, 1997). Vandergrift's (2002) research on beginning-level French students on listening tasks makes use of instruments that engage the students in prediction, evaluation, and other processes involved in listening. He argues that reflection on the processes of listening can help students develop metacognitive knowledge and achieve success on listening tasks (Vandergrift, 2002). Vandergrift (2004) introduces a metacognitive cycle in which learners employ strategies to regulate listening and achieve good comprehension. This cycle is best featured by typical

metacognitive elements: verification, evaluation, et al. These are aimed to raise learners' awareness about strategy use and offer necessary scaffolding in the process of listening. Using these strategies not only help learners to improve their comprehension, but also experience an increase in motivation (cf. Goh, 2008).

Goh (2008) claims that sole focus on utilizing strategies for comprehending listening materials is not enough. She then proposes an expansion in a wide range of metacognitive activities, aiming at deepening learners' understanding of themselves as L2 listeners, realizing the demands and process of listening activities, and managing learners' comprehension and learning (Goh, 2008). She again emphasizes process-based approach to teaching listening (Goh, 1997, 2008).

Metacognition is deeply rooted in cognitive psychology and has been introduced to language learning for more than two decades (Goh, 1997; Zhang & Goh 2006). The study on metacognition is difficult due to its cognitive nature, as has been commented by Goh "Like all mental processes, learners' awareness about listening cannot be observed directly" (Goh, 1997, p. 362). Metacognition has ever been referred to as "seventh sense" (Nisbet and Shucksmith, 1986; cf. Goh, 2008) and more in-depth and systematic investigation are called for. Research has always centered on self-report or similar methods, including Goh's (1997) self-report by keeping diaries, Goh and Taib's (2006) process-based listening lesson involving three-stage sequence(listen and answer-reflect-report and discuss), Vandergrift's (2002) instruments engaging learners in prediction, evaluation, and other processes involved in listening.

Furthermore, the basic idea underlying metacognitive awareness is encourage students' planning, monitoring and evaluating listening processes, which has been incorporated in the management of classroom activities. This is vital in developing self-regulated learning. Wenden (1998) claims that learners are no longer passive recipients of instruction. Learners are expected to actively construct their own understanding of knowledge. In listening context, listeners can plan a listening task, monitor their comprehension and evaluate listening performance. Through this process, listeners achieve success in listening tasks and the responsibility is shifted from the teachers to the students. However, a great deal of work and research are needed to study the effectiveness of metacognitive instruction in younger learners, to study how the process of mental development influence metacognitive development in L2 listening (Goh, 2008), how the metacognitive instruction for young learners is different from adult learners (Goh, 2008), et al.

Then, research on metacognition has never been separated from process-based approach of listening instruction (Goh, 1997, 2008). This may serve as good guiding principles for teaching practitioners. However, studies on metacognitive instruction have mostly centered language learners' prior knowledge, use of listening strategies and strategy training. Goh (2008) points out that there still great needs to investigate and clarify the role of metacognitive instruction and what may affect the effectiveness of it, so as to better inform teaching practice. This is of great importance for practical purpose. In the following, the case study of metacognitive instruction and English as a foreign language teaching context in China will be introduced.

III. RESEARCH FOCUS

The aim of the case study is to see whether and metacognitive instruction will benefit English learners. In the context of the university the researcher is teaching, non-English majors have 4 in-class contact hours each week for English learning. Students meet English teachers twice a week, each lasting two 45-minute sessions. One session is dedicated to intensive reading course, and the other two 45-minute period is for listening and spoken course. Generally teachers will incorporate listening and speaking in class, which means about 45 minutes are allocated for listening instruction in class. Furthermore, the students are required to listen to more materials outside of class on their own, and the teachers can assess their performance via online control of students' listening activities. There are two main reasons for doing so in the context of non-English majors. First, the number English teachers is smaller than that is needed. Therefore, much work has to be done out side of the class, and the well designed textbooks may help learners complete the listening tasks on their own. Another reason is the popularity of fostering learner autonomy in teaching. The self-access center is established to encourage students learn independently and encourage teachers to do research in this area.

A. Participants

The researcher and teacher did a small survey of the students' previous learning experience and expectation of the four language learning skills (listening, speaking, reading and writing) in a cohort of 38 students in one classroom, at the beginning of the semester. Three of them reported that listening had not been included in their high school, with sole emphasis on reading. They hoped that listening skills needs improving most. Most of them (twenty-nine) reported they did get listening training in high school, but still found it hard. They expressed varied needs, like improving speaking and writing as well. Only seven of them showed confidence in listening skills and expected the willingness of improving English in an all-around way.

Based on a general idea of the students' past learning experience and their College Entrance Exam (the most important exam for high school learners) scores, 8 students (3 from the less-skilled, 3 intermediate and 2 advanced) are further negotiated to ask for their intention of joining the research project. In the end, 6 learners from the three different levels expressed willingness of participating the project. The other 2 students declined the offer. In the end, 3 of them followed the researcher's research plan. They belong to different levels: a boy with the lowest score, two girls with higher scores (1 intermediate and 1 advanced).

B.   Materials

New Standard College English (Listening Level 1) textbook published by Foreign Language Teaching and Research Press, which is one of the most prestigious foreign languages publishing organizations in China. The textbook involves different tasks and exercise types, like multiple choice question, true or false statements, short answer questions, etc. It is the required textbook in the university the teacher and research works for.

C.   Procedure

The teacher explicitly explains the metacognitive listening methodology to the students in class instruction. Metacognitive processes are typically predicting, planning, monitoring, evaluating and problem solving (Goh, 2008). After each session, the participants will be asked to write learning journals on their use of metacognitive listening process in Chinese, so that their ideas can be fully conveyed. The lower level English learner submitted 4 learning journals altogether in the 16 weeks of teaching. The intermediate and advanced learners submitted 6 and 7 respectively. Six interviews have been conducted to in the middle of the semester and the end of the semester. The three participants are interviewed on a one-to-one and face-to-face basis. Each participant has been interviewed twice. The interviews involve the learners' listening process, their reflections on predicting-monitoring-evaluating listening process. During the interview processes, learners didn't know they were recorded. At the end of each participant's interview, they were told that they were recorded for the purpose of future study. All of the three students willingly accept it.

IV.   RESULTS

To report the results of journals keeping and interviews in this session, LL refers to "Lower Level", IL to "Intermediate Level" and AL to "Advanced Level". The journals are numbered according to the sequence of their submission time, and numbered for the purpose of future analysis.

A.   Journal Keeping Result

In the first journal kept, all 3 students showed ignorance of "metacognitive listening".

LL Journal 1: I didn't have listening class in high school, so my listening is very poor. I need to work harder in it (高中没有听力课，我的听力很差，我得努力).

IL Journal 1: Listen and answer questions. That's all (听完答题，没想那么多).

AL Journal 1: Sounds interesting, but I have never heard of it (听起来挺有意思，但从未听说过元认知).

As the course went on, the three students exhibited different attitudes towards listening. LL student experienced great hardship in listening process. He was "completely helpless". When the teacher approached him, he was not as cooperative and optimistic as he had been. In several weeks, he was not pressed to keep journals. The 2nd and 3rd journal mainly featured his inability in listening comprehension.

LL Journal 3: When I come across unfamiliar words, I forget everything (当我听到那么多不认识的词时，大脑一片空白，一切想法都没有用了).

LL Journal 4: I seem to know what metacognitive learning is, but I could do it on my own. I need someone else to help me (我似乎明白什么是元认知学习了，但是我是自觉独立操作，我需要别人管我).

IL and AL students submitted journals around every other week. They were less stressed and worried than the LL student. They reflected their own listening experience and reported their understanding. In coping with exams, they have both previewed the test items and listened with questions. The listening process is much question-oriented.

IL Journal 3: I think I predict what the question is like, but I don't plan and monitor my listening process, let alone evaluating it (我会预测题目会是什么样的，但是我不懂得计划、控制，更谈不上评估自己的听力过程).

IL Journal 5: Metacognitive listening is a systematic process. It's quite hard to practice the skill. we need to do more listening activities (这是个比较系统地听力过程，但用起来，不是很容易，还是需要多练习).

AL Journal 4: We have been doing something which we have developed in dealing with exam papers, although I don't know what the skills are (我们在学习过程中开发了些应试的技巧，还说不好这些听力技巧是什么).

AL Journal 7: I find metacognitive knowledge useful. Actually it is also applicable in campus life. We also need planning, control and evaluation in life. I think this is a much needed aspect for me as the only child in my family (我觉得这个技巧还是很有用的，其实不只是听力需要元认知，我们的大学生活也是需要计划、控制、评价的，这对于我这样的独生子女来说是很重要的).

B.   Interview Result

The interviews are guided by questions, though the talk might cover more than that is expected. To make sure the interviews do not deviate from the topic, some questions were preset. The first interview, conducted during the 2nd to 3rd teaching week, focuses on their past English learning experience, their idea about listening skills and their expectations of the course. The second interview, conduced during the last 2 teaching weeks, then focuses more on metacognitive listening process, including their understanding of it, and difficulties in practicing it.

LL student showed his eagerness of improving listening. To him, listening and speaking are "the most important skills", but he sure didn't know how. He showed little interest in English listening and labeled himself as "exam-sitter

（应试机器）" like learner. IL is very helpless in exercising metacognitive listening process. After several weeks explicit teaching, he expressed better understanding of metacognition. However, he still preferred to be pressed by the teacher. He preferred to finish a task in an environment in which everything is set well for him. So he concluded he would work hard to learn how to plan and control his learning.

IL student has been very cooperative both in the classroom and outside of the classroom. She loved listening to English songs and watching English movies. She enjoyed learning English very much. She was more confident in listening than in speaking and writing. IL student found metacognitive process very useful and effective. She even predicted what a movie is about before watching a new movie. Movie title, posts and clips together form necessary information for her to make predictions. "I feel like I could be a director when I could foresee the result of a movie". Her conclusion is she could exercise the skill better when she wanted to do something enjoyable. To better perform in tests, as well as other skills, she still needed more exercise and treatment.

AL student's English has always been the top three in her high school class and in the present class. She had a very expectation of her academic performance. She modestly saw herself as a good exam taker, and could develop a series of strategies in sitting for tests. However, she expressed the difficulties in performing the metacogintive listening in class. She couldn't explain why conscious application of the skill was harder for her. She would be more comfortable when she didn't exercise the skills consciously. She expressed the needs of more explicit listening strategy training so that she could exercise them more effectively. Her encouraging conclusion was she found metacoginitive awareness is very important in other aspects of life besides listening.

V. DISCUSSION

Based on the students' learning journal and interviews conducted, the effectiveness of metacognitive instruction depends on at least two factors. One very important factor is learners' English level. It can be inferred from the research that intermediate and advanced level learners would be more capable of employing new methods. The relatively low level learners, on the other hand, exhibit more difficulties. Furthermore, learning motivation can also be a very significant factor. The intermediate level learner is highly motivated in learning English. She expresses more comfort with the new idea and strategy. Another finding is that learner autonomy is highly related to metacognitive awareness, which is in line with previous research such as Goh's (2008). However, it is found that although learning autonomy is stressed in school, the students find it hard to plan, monitor and evaluate their own learning.

Then the questions arise: Is metacognitive instruction is feasible? What makes it easy or difficult to carry out metacognitive instruction? First of all, as Wenden (1998) has claimed that metacognitive awareness is vital in developing self-regulated learning via engaging students in planning, monitoring and evaluating listening processes. On the one hand, it quite fits teaching listening context in China. Students' self-regulated learning is what the teachers most expect to see in them. On the other hand, maybe due to the one child policy in China, which was launched more than thirty years ago, the young learners lack the ability to plan and control their life. It is possibly because children's life has been managed by parents, resulting in youngsters' lack of experience in exercising control over their learning process. Therefore, the contact hours in class may be dedicated to scaffolding learners in fostering the habit of planning, monitoring and evaluating listening process. More importantly, this habit will benefit learners in the long run as lifelong learners.

Secondly, reflection on successful completion of listening task through raising consciousness and using strategies may build student motivation for L2 listening and hence learning (Vandergrift, 2002). Also, Chamot, Barnhardt, El-Dinary, and Robbins (1999) point out success may be achieved through raising strategy awareness and deployment of proper strategies, and thus building self-efficacy for language tasks. This again is what teachers desire through teaching. However, one of the problems which have obsessed me in my own teaching experience is that college students lack the motivation of learning foreign language. The question is: Does metacognitive awareness raise motivation, or does it work in the reversed way? Measures of raising metacognitive awareness, such as diary keeping, anxiety graph, evaluation checklist, (cf. Cross, 2010) would be extremely difficult to carry out in less motivated learners. So, more research is needed to study the relationship between the two in Chinese context.

Thirdly, Vandergrift (2002) gives a final caveat in teaching practice. Development of metacognition in L2 listening can be achieved only outside the context of evaluation. Anxiety and apprehension brought by testing might probably debilitate metacognitive knowledge development (Vandergrift, 2002). In the context of China, Chinese learners of English learn English as a compulsory course and listening for tests is a strong motivation for some learners. This caveat is, on the one hand, valuable in guiding teachers' scaffolding, and on the other hand, discouraging in the Chinese learners' context. Therefore, teachers may help learners cope with anxiety and help foster a favorable learning environment.

VI. CONCLUSION AND LIMITATIONS

In all, metacognitive instruction is important in listening, and learning, just as O' Malley and Chamot (1985) have commented that "Students without metacognitive approaches are essentially learners without direction or opportunity to review their progress, accomplishments, and future learning directions." (p.561) In the context of English as a foreign

language teaching in China, metacognitive instruction is still rather new, and more research is needed to study the feasibility and effectiveness of it. However, promoting motivation and fostering self-regulated learning are indeed most desired.

The importance and effectiveness of metacognitive instruction could not be neglected. However, teachers need to do more empirical research to investigate what might be done to ensure the feasibility. No matter what strategy is employed, teachers need to take their students' English levels, different learning styles, etc. into consideration.

Finally, it is worth mentioning that this research is a case study involving only 3 English learners. Thus the conclusion might be biased to some extent. Also, due to the small number of participants, caution should be exercised to generalize the result to all Chinese learners. Furthermore, this paper only discusses the influence of learners' English levels and motivation, there might be more behind what is presented in discussion part. Future study could be carried out to see, for example, the social cultural factors that would influence metacognitive instruction, which may be more interesting. The methods can be varied as well to give a panorama of metacognitive instruction in listening process.

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