

# Metacognition and Second Language Learning

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## ABSTRACT

Metacognition had drawn a lot of attention since the birth of it. The present paper expands metacognition mainly from three parts. The first part is about the definition and classification of metacognition, and then is concerned with the utility of metacognition in second and foreign language learning with a brief review of the relevant empirical researches, and the last part turns to the issue on how to instruct and train metacognition based upon the relevant literature review.

**Keywords:** *metacognition, metacognitive knowledge, metacognitive strategy*

## 1. INTRODUCTION

Metacognition, as a scientific concept, was first put forward by an American psychologist, Flavell. Since the birth of it, metacognition has contributed great effects to the language learning especially to the learning strategy. Generally described as a complex of associated phenomenon related to knowledge about and the regulation of domain of cognition, metacognition is considered by some writers as central to learning —the process of that underlies the efficient use of strategies and the essence of intelligent activity [1]. The present paper intends to expand this concept from three aspects, the definition and classification of metacognition, the utility of metacognition in second and foreign language learning and teaching, and the instruction and training of metacognition.

## 2. DEFINITION AND CLASSIFICATION OF METACOGNITION

Admitting that it is a “fuzzy concept”, Flavell defined metacognition as “knowledge or cognitive activity that takes as its object, or regulates any aspect of cognitive enterprise” [2]. This definition, though clumsy, is intended to refer to cognition about cognition. Metacognition is consisted of two parts, metacognitive knowledge and metacognitive strategy [3]. Both parts are complementary to each other by keeping respective characteristics and systems.

### 2.1. Metacognitive Knowledge

Metacognitive knowledge or the learner’s psychology of learning, refers to the set of facts learners acquire about their own cognitive processes as they are applied and used to gain knowledge and acquire skills in varied situations Flavell described it as “... the segment of your acquired world knowledge that has to do with cognitive matters. It is the knowledge and beliefs you have accumulated through experience and stored in long-term memory that concerns not politics, ... but the human mind and its doing” [2]. From the above discussion, it can be concluded that metacognitive

knowledge is not born with, and it can be acquired, learned and even taught.

Flavell distinguishes three categories of metacognitive knowledge: knowledge about person, task and strategy. The person category includes any knowledge and beliefs you might acquire concerning what human being are like as cognitive processors. Flavell subcategorized the person category into knowledge and beliefs about cognitive difference within people (intra-individual difference), cognitive difference between people (inter-individual difference) and cognitive similarities of all people (universal cognition). The task category has two subcategories. One has to do with the nature of the information you encounter and deal with in any cognitive task. The other concerns the nature of the task demands. The strategy category refers to general knowledge about what strategies are, why they are useful, and specific knowledge about when and how to use them.

### 2.2. Metacognitive Strategy

Metacognitive strategies or regulatory skills are higher executive skills that may entail planning for, monitoring, or evaluating the success of learning activity [4]. These include planning or predicting outcomes, scheduling, and trial and error; monitoring, or testing, revising and rescheduling learning activities; and checking outcomes, or evaluating the outcomes of strategic actions for efficiency and effectiveness. Among them, planning is a key metacognitive strategy for second language acquisition, involved in directing the course of language reception and production. Planning may be influenced by goals or input features that seem most useful for performing a task. Monitoring can be described as being aware of what one is doing or bring one’s “mental process under conscious scrutiny and thus more effectively under control” [4].

### 2.3. Relationship between Metacognitive Knowledge and Metacognitive Strategy

Metacognitive knowledge and metacognitive strategy are two separate and distinct components of the broader notion

of metacognition. Therefore, they should not be considered interchangeable or similar. Metacognitive knowledge refers to information learners acquire about their learning, while metacognitive strategies are skills through which learners manage, direct, regulate, and guide their learning [5]. What is more, metacognitive knowledge is relatively stable, thus it is retrievable for use with learning tasks. It is also stable, therefore it can be reflected upon and used as the topic of discussion with others. Finally, it appears late in development, since it requires prior learning experiences as a point of reference. However, metacognitive strategies do not necessarily share the quality of being stable and stable with metacognitive knowledge, and it may be more task-than-age dependent.

Nevertheless, researchers also maintain that there is a close relationship between the two. In fact, these two dimensions can be conceived as existing in a reciprocal relationship — what is known is constructed, in part, from what is done and approaches to problems being constructed, in part, by past experience. That is, metacognitive knowledge is utilized through metacognitive strategies to be applied to a learning task, and insights gained through the exercise of those metacognitive strategies can be assimilated into one's existent metacognitive knowledge. Another aspect of the relationship between metacognitive knowledge and metacognitive strategies has to do with when metacognitive knowledge may be brought to bear on a learning task. Lefebvre-pinard suggests that this involves defining those behaviors, which benefit from conscious regulation as opposed to those where automaticity may be more adaptive [4].

### **3. THE UTILITY OF METACOGNITION IN SECOND AND FOREIGN LANGUAGE LEARNING AND TEACHING**

From the above expansion of metacognition, it can be concluded that metacognition plays a quite important part in language learning, especially the role of regularity. Wenden argued for the utility of metacognition to further the understanding of what learners do to acquire a second language and to use that understanding to inform endeavors to facilitate the process [1]. He pointed out that 1) metacognition, consisting of different categories of metacognitive knowledge (person, task and strategy) and metacognitive strategies (planning, monitoring and evaluation), provided an expand view on L2 learners' cognitive abilities; 2) metacognition provides an added perspective from which to view difference between successful and less successful language learner; 3) metacognition has been shown to influence the continued and appropriate use of strategies.

To be specific, metacognitive knowledge plays an important role in many cognitive activities related to language use, e.g. oral communication of information, oral persuasion, oral comprehension, reading comprehension, and writing, to language acquisition, and to various types of self-instruction. Of special relevance, however, is the influence of metacognitive knowledge in the self-regulation of learning, i.e. in planning, monitoring, and evaluating.

Reviewing selected theoretical writings and research reports, Wenden aimed to determine the function of metacognitive

knowledge in learning [5]. His review has shown that metacognitive knowledge is a prerequisite for the self-regulation of learning: it informs planning decisions taken at the outset of learning and the monitoring processes that regulate the completion of a learning task; that is, self-observation, assessment of problems and progress, and decisions to remediate; it also provide the criteria for evaluation made once a learning task is completed. In addition, the review has shown that in some aspects of planning, that is the procedures that constitute task analysis, metacognitive knowledge is insufficient, and domain knowledge plays an essential and complementary role.

As for metacognitive strategies, they are applicable a variety of learning tasks[4]. Among the process that would be included as metacognitive strategies for receptive and productive language tasks are: 1) selective attention for special aspects of leaning task, as in planning to listen for key words or phrases; 2) planning the organization of either written spoken discourse; 3) monitoring or reviewing attention to a task, monitoring comprehension for information that should be remembered, or monitoring production while it is occurring; 4) evaluating or checking comprehension after completion of a receptive language activity, or evaluating language production after it had taken place.

A lot of empirical researches have justified the above conclusion. It has already been noted that in order to better understand how a second language acquired, some researchers have investigated the strategies that characterize good language learners. It has been assumed that one of the reasons for the lack of success of some language learners is their limited repertoire and/or inappropriate use of strategies [1]. Studies that have compared good and poor learners in areas other than L2 learning have led to the conclusion that metacognition is another variable to be taken into account in any explanation of successful and unsuccessful learning outcomes.

In china, a lot of theoretical and empirical researches have been conducted on this issue of metacognition. Some researchers were concerned about the correlation between metacognition and reading and other researchers suggested applying the metacognition into English reading and have found that the successful learner use metacognitive strategies more frequently than the less successful ones [6][7][8][9][10].

What is more, it has been found that the less successful learners didn't always use less cognitive strategies than those successful ones. As for the reason for this phenomenon, Vann Abraham ever attributed it to that those less successful learners didn't know when and how to use the appropriate strategy in certain situation, that is, the lack of metacognition. Wen ever argued that the effects of learning have no great difference in themselves, and the efficiency of the learning strategy depends on the appropriate use of them and proposed that learning strategy should be composed of two parts: belief and strategy [8]. Belief here nearly has the same meaning as metacognition. Therefore, the importance of metacognition has to be put forward.

#### 4. THE INSTRUCTION AND TRAINING OF METACOGNITION

From the above discussion it can be concluded that the metacognition has great effects on language learning as well as teaching. It has also been shown that knowledge about and the ability to regulate cognition (i.e. metacognition) has begun to emerge in pre-school children and that efficiency of use and complexity of knowledge and skill increase with age [1] [2]. Still, the research also shows that metacognition does not develop automatically. Working across all age groups, researches have noted that not only younger but also poorer learners are deficient in metacognitive knowledge and skills. Another assumption underlying research on learner strategies is that learners' repertoire of strategies can be expanded and refined and that poor learners may benefit from learning how to use strategies utilized to good effect by their more efficient companions. What is more, intervention research in the training of cognitive strategies to learners in other skill areas has demonstrated that the continued choice and appropriate use of strategies in a variety of situation --- the ultimate test of successful strategy training --- is related to metacognition. Therefore, the instruction or training of metacognition is quite necessary.

Consequently, subsequent studies included a metacognitive component. Either learners were told about the significance of the strategy and /or taught how to monitor and evaluate its use and, therefore, determine its relevance for themselves. Results of these studies have shown that such training can influence learners' choice and use of strategies. Once aware of the significance of a strategy, they would choose to use it without the guidance of the researchers. Other studies, though fewer, have further shown that the conclusion of a metacognitive component can influence the maintenance of strategies and their transfer to other situation. In sum, these studies have provided evidence of the critical role of metacognition in the acquisition of cognitive strategies--- one that should be provided for in the research designs and/or classroom activities of L2 researches and teachers who seek ways to help refine the learning competence of language learners [1].

Currently, the instruction or training of metacognition mainly focuses on the reading, and the way to train the metacognition can be divided into three categories: separate training of metacognition, integrated training of metacognition and cognition, and integrated training of metacognition and classroom instruction. Ji reviewed the three kind of training of metacognition in the L2 reading [13]. The first kind of training exemplified in the training conducted by Carrell on two metacognitive strategies: semantic mapping and experience-text-relationship, and the purpose of this training is to help students to think about the necessary preparation before the reading by relating the semantics to the text and by comparing the new and old knowledge [14]. As a result, Carrell found that the students who receive this training score better than those who don't especially in answering the open questions. O'Malley ever conducted a training of integrating metacognitive and cognitive strategies to students of Grade two in senior middle school and found that this kind of training had significant effects on improving the oral ability, but no effects on listening [4]. The third kind of training is to embed the training of metacognition in the classroom

instruction. Holec has done such research by case study and found that students benefited a lot after the training. For example, they did not know how to study, but after the training, they began to set aims, make plans and conduct evaluation for their study. All of these studies have shown that conducting training of metacognition on students help students to improve their ability to manage and design their study and to develop their ability to choose the appropriate strategy and method in their study and to arouse their automaticity in the study.

It is obvious that the training of metacognition should include two parts: training of metacognitive knowledge and training of metacognitive strategies. As for the principles of training, some researchers have proposed several ones based on the principles of training of learning strategy. After all, metacognitive strategy is included in learning strategy [1] [4]. For instance, Wenden ever suggested that students should be informed of the knowledge and importance of learning strategies and then the training should improve the students' awareness of metacognition and specific metacognitive strategies such as planning, monitoring and evaluating etc, and the students' attitude toward the training can be used to evaluate the efficiency of training. In fact, these principles have been adopted in the training of metacognition and the training achieved a satisfying results[13].

#### 5. CONCLUSION

It is obvious that metacognition have great effects on the language learning, and it is lucky that it can be acquired and learned through instruction and training. Therefore, the metacognition should be paid more attention in the future language learning and teaching. Nevertheless, researches on the training of metacognition are relatively fewer and the results of those researches are not always consistent with each other, and thus the training of metacognition needs the further study.

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