



## META-COGNITION IN TEACHING AND LEARNING PROCESS

## Education

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## ABSTRACT

Meta-cognition is the knowledge and awareness one has of their own thinking processes and strategies and the ability to evaluate and regulate one's own thinking processes. It is learning to think about the how and why of what one does. Thus study explain about the teaching meta-cognitively and also about why the teacher teach meta-cognitively. Teachers need to self-regulate their instruction before, during and after conducting lessons in order to maximize their effectiveness with students. Many teachers conduct lessons without adequate advance planning and without adequately checking to see how a lesson is going while it is underway. Teachers often teach the way they were taught rather than consider the advantages and disadvantages of alternative approaches and how to use them most effectively. Teaching for meta-cognition, or thinking about their own thinking as learners.

## KEYWORDS

Meta-cognition, Developing For Strategies, Advantages, Language Learning Process.

## INTRODUCTION

Meta-cognition is defined as “cognition about cognition”, or “knowing about knowing”. It comes from the root word “meta”, meaning behind. It can take many forms; it includes knowledge about when and how to use particular strategies for learning or for problem solving. There are generally two components of meta-cognition knowledge about cognition, and regulation of cognition. Meta-memory, defined as knowing about memory and mnemonic strategies, is an especially important form of meta-cognition. Difference is meta-cognitive processing across cultures have not been widely studied, but could provide better outcomes in cross-cultural learning between teachers and students. Teaching meta-cognitively can improve classroom communication and facilitate effective academic performance. Research on expert versus novice teachers shows that experts, or more experienced teachers, are better able to monitor interpret and evaluate what occurs in a classroom during instruction than novices, or inexperienced teachers.

## CONCEPT OF META- COGNITION

The ability to reflect on one's own thoughts and experiences is probably a unique human capability; humans can reflect on their lives, thoughts and actions, whereas animals cannot. Furthermore, humans are the only species that can plan their future, think about their past and learn from their experiences, and to some extent also foresee what will happen to them. They can also imagine what it is like to be someone else; that is, they can feel empathy for others. Metcalfe (2008) argues that people's ability to reflect on their own thoughts, or meta-cognition is a recent result of evolution; whereas animals are purely instinct and stimulus bound, meta-cognition allows humans to exert self-control over their actions.

## WHAT IS META-COGNITION?

Meta-cognition refers to “thinking about thinking” and was introduced as a concept in by John Flavell, who is typically seen as a founding scholar of the field. Flavell said that met cognition is the knowledge you have of your own cognitive processes (your thinking). It is your ability to control your thinking processes through various strategies, such as organizing, monitoring and adapting. Additionally, it is your ability to reflect upon the tasks or processes you undertake and to select and utilize the appropriate strategies necessary in your intercultural interactions.

## COMPONENTS FOR META-COGNITION

Five main components for meta-cognition have been proposed.

## 1. PREPARING AND PLANNING FOR LEARNING:

The reason for this component is that students make a plan of what they need to do to organize their thoughts and activities in order to engage in complex tasks. This preparation helps them to complete more complex tasks than would otherwise be possible. Organizing or planning is helpful before starting any large assignment that can be divided

into smaller parts in order to make it more controllable.

## 2. SELECTING AND USING LEARNING STRATEGIES:

This strategy is vital to problem solving. Students reflect on their personal learning styles and strategies. They control their own learning conditions to take full advantages of achieving their goals. Students realize how they learn best, they organize conditions to help themselves learn, they focus their attention on the task, and they seek opportunities for practice in the target language. Managing one's own learning is an important part of problem solving on any task.

## 3. MONITORING STRATEGY USE:

Learners question whether an idea makes sense in order to check the clarity of their understanding or expression in the target language. Students are aware of how well a task is progressing and notice when comprehension breaks down.

## 4. ORCHESTRATING VARIOUS STRATEGIES:

Knowing how to coordinate the use of more than one strategy is an important meta-cognitive skill. The ability to direct, systematize, and make connections among the various existing strategies is a key distinction between strong and weak second language learners. The teachers also need to show students how to recognize when one strategy is not working and how to shift to another.

## 5. EVALUATING STRATEGY USE AND LEARNING:

Deciding for themselves how well they acquired some materials or performed on a task helps students categorize their strengths and weaknesses so they can do even better the next time. Assessing how well a strategy works for them helps students decide which strategies they prefer to use on particular tasks.

## META-COGNITIVE STRATEGIES

Meta-cognitive strategies are defined as “general skills through which learners manage, direct, regulate, guide their learning, i.e. planning, monitoring and evaluating” (Wenden 1998, 519). In accordance with cognitive psychology, Wenden categorizes planning, monitoring and evaluation as the three components of self-regulated learning. She refers to what learners already know about a subject as domain knowledge. Consequently, domain knowledge is viewed as separate from meta-cognitive knowledge, but Wenden underscores that both these knowledge types are necessary when solving a task.

## WHAT IS TEACHING META-COGNITIVELY?

Teaching meta-cognitively involves teaching with and for meta-cognition. Teaching with meta-cognition means teachers think about their own thinking regarding instructional goals, teaching strategies, sequence, materials, students' characteristics and needs, and other issues related to curriculum, instruction and assessment before, during and after lessons in order to maximize their instructional effectiveness. Teaching for meta-cognition means teachers think about how their

instruction will activate and develop their students, meta-cognition, or thinking about their own thinking as learners.

### WHY TEACH META-COGNITIVELY?

Teachers need to self-regulate their instruction before, during and after conducting lessons in order to maximize their effectiveness with students. Many teachers conduct lessons without adequate advance planning and without adequately checking to see how a lesson is going while it is underway. Teachers often teach the way they were taught rather than consider the advantages and disadvantages of alternative approaches and how to use them most effectively.

### STRATEGIC META-COGNITIVE KNOWLEDGE ABOUT TEACHING STRATEGIES

Many teachers are likely to have inert knowledge about teaching and learning. Teacher education commonly provides teachers with a variety of classroom methods, but doesn't always ensure teachers understand when, why, and how to use them. As a result, much of what teachers have learned may remain inert or inactive, due to lack of knowledge of the contexts and procedures for using these methods. Think about teaching strategies (IATS) asks teachers to think about their typical use of a variety of teaching, strategies (e.g. questioning, thinking aloud). Small groups of teachers discuss their experiences with these strategies and when, why and how to use them, they evaluate their advantages and disadvantages and consider applications of new or modified teaching strategies to their classes.

### STRATEGIES FOR DEVELOPING META-COGNITIVE BEHAVIORS

At the beginning of any learning activity, students need to list their pre-requisite knowledge and the knowledge to be constructed. As they delve into their investigation, they will vary, clarify and expand or replace their pre-requisite knowledge with more accurate information.

### TALKING ABOUT THINKING

Students need a thinking vocabulary and

- Teachers should think aloud so that students can follow the same.
- Labeling thinking process when students use them
- Paired problem solving in which one student talks about the problem, describing his thinking process the partner listens and asks question that helps to clarify thinking.
- Reciprocal teaching- where small groups of students take the role of teachers, asking questions clarifying and summarizing the material being studies

### KEEPING A THINKING JOURNAL

Another means of developing meta-cognition is through the use of a journal or learning log. This is a diary in which students reflect upon their thinking make note of their awareness of ambiguities and inconsistencies, and comment on how they have dealt with difficulties. This journal is a diary of process.

### PLANNING AND SELF-REGULATION

Students must assume increasing responsibility of planning and regulating their learning. It is difficult for learners to become self-directed when learning is planned and monitored by someone else.

### DEBRIEFING THE THINKING PROCESS

Closure activities focus student discussion on thinking processes to develop awareness of strategies that can be applied to other learning situations.

### SELF-EVALUATION

Guided self-evaluation experiences can be introduced through individual conferences and checklists focusing on thinking processes. Gradually self-evaluation will be applied more independently. As students recognize that learning activities in different disciplines are similar, they will begin to transfer learning strategies to new situations.

### PROMOTING META-COGNITION IN LANGUAGE LEARNERS

- Preparing and planning for learning
- Selecting and using learning strategies
- Monitoring strategy use
- Orchestrating various strategies
- Evaluating strategy use and learning
- When reviewing research on meta-cognition, it becomes clear that certain principles are part of most meta-cognitive instructional

model. The activation of learners prior knowledge, reflections on what learners know and want to learn, explanations and modeling of learners strategies by the teacher, and learners, own involvement in making goals for monitoring and the learning process.

### LANGUAGE TEACHERS' META-COGNITION

Teachers often find themselves in highly unpredictable settings, every day, they meet students with varying abilities and motivations who are placed together in groups with different and consultancy changing dynamics. In other words, teachers must be reflective in a constantly changing environment (Lin, Schwarts, and Hatano 2005).

- Language users
- Language analysts
- Culture Educators
- Language learning educators

### TEACHERS' KNOWLEDGE ABOUT META-COGNITION IN LANGUAGE LEARNING

Meta-cognition enables and helps us to become successful learners, and has been associated with intelligence. The Merriam Webster online dictionary defines it as "awareness or analysis of one's own learning or thinking processes". In other words, meta-cognition is the knowledge that a person has on his/her own cognitive process. Little is known about teachers' knowledge and beliefs about meta-cognition and to what extent they have actually implemented a meta-cognitive instructional approach. However, Wilson and Bai (2010) imply that an emphasis on meta-cognition is not widespread in classrooms and that teachers are still "more likely to test comprehension than teach comprehension". Because meta-cognition has a crucial function in successful learning, it is essential to study meta-cognitive activity and development to establish how students can be taught to better apply their cognitive resources through meta-cognitive control. Meta-cognitive often occurs in situations when learners become aware of the fact that their cognition, their ability to comprehend something has failed them.

### CONCLUSION

Meta-cognition enables and helps us to become successful learners, and has been associated with intelligence. Language teachers play a key role in supporting their students in their language learning efforts by reflecting on and modeling what learners know and how languages can be learnt. However, in order to support students in their language learning, language teachers themselves must be meta-cognitively aware in several respects.

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