Empowering Second Language (L2) Learning through Metacognition
การเพิ่มประสิทธิภาพการเรียนรู้ภาษาที่สอง (ภาษาอังกฤษ) ผ่านการรู้คิดของผู้เรียน

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บทคัดย่อ

การรู้คิด (metacognition) เป็นสิ่งที่สำคัญต่อการเรียนรู้ของมนุษย์ งานวิจัยด้านการเรียนและการสอนภาษาอังกฤษเป็นภาษาที่สองได้แสดงให้เห็นว่า ทักษะการรู้คิดของผู้เรียน สามารถส่งเสริมการเรียนภาษาแก่ผู้เรียนได้โดยตรง บทความนี้บรรยายขอบเขตของการรู้คิดต่อความสำเร็จในการเรียนของผู้เรียน โดยเริ่มจากการอธิบายความหมายของคำว่าการรู้คิด จากนั้นนำเสนอความสำคัญขององค์ประกอบของการรู้คิดโดยเฉพาะอย่างยิ่งองค์ประกอบตัวที่ชื่อว่า metacognitive knowledge ในการส่งเสริมการเรียนภาษาอังกฤษเป็นภาษาที่สอง ตอนท้ายของบทความเป็นการนำเสนอประเด็นเกี่ยวกับแบบการเรียนการสอนที่เน้นพัฒนาการรู้คิดของผู้เรียน และแนะนำแบบการเรียนการสอนในห้องเรียนที่สามารถส่งเสริมให้ผู้เรียนมีทักษะการรู้คิดมากขึ้นอันจะนำไปสู่ความสำเร็จในการเรียน

คำสำคัญ: ความรู้เกี่ยวกับอภิปัญญา ความรู้เชิงอภิปริชาน การรู้คิด การเรียนการสอนที่เน้นพัฒนาการรู้คิด การเรียนรู้ภาษาที่สอง

Abstract

Metacognition is increasingly recognized as important to learning. Research in second language (L2) teaching and learning has shown

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that learners' metacognition skills can directly promote achievement in language learning. This article describes the extent to which metacognition facilitates students' learning achievement. The article begins by establishing a general understanding of the term 'metacognition' and then moves on to a discussion of two components of metacognition that directly influence one's metacognition skills. These two components are metacognitive experience and metacognitive knowledge. Then, I devote a section to exclusively discuss metacognitive knowledge, which is claimed to dominantly influence a student's L2 learning. Finally, I review research and literature on classroom pedagogy designed to facilitate the development of metacognition. In this respect, I particularly highlight the type of classroom instruction generally known as metacognitive instruction. The article concludes by proposing an effective and practical classroom instructional pattern which relates students' awareness (metacognition) to learning strategies. This instructional pattern is known as metacognitive processes.

Keywords: Metacognitive knowledge, Metacognition, Metacognitive processes instruction, Second language acquisition

Metacognition

Thinking about thinking is the definition of the term metacognition as commonly known in the educational arena (Anderson, 2002). Originating in the field of psychology, the term metacognition refers to the higher level of mental processes that human beings use to control their thoughts. The term has been simplified as the human ability to be conscious of one's mental processes (Flavell, 1979).

In learning contexts, the word metacognition is seen as indicating an awareness and control of a student's learning. Simply stated, it is a student's ability to understand and regulate his/her own thinking and learning

(Chamot, 2005). Scholars like Gourgey (1998) simply describe metacognition as the awareness of how a student learns; the awareness of when he does and does not understand; the knowledge of how to use existing information to complete a learning goal; the ability to judge the cognitive requirements of a task; the knowledge of appropriate strategies to use for various purposes; and the evaluation of his or her progress during and after a performance (p. 82). Flavell (1976) elaborates on the term by clearly illustrating an example of a person engaging in metacognition related activity:

> … I am engaging in metacognition if I notice that I am having more trouble learning A than B; if it strikes me that I should double-check C before accepting it as a fact… (p. 232).

Metacognition generally consists of two components, viz., (1) metacognitive experience (or regulation) and (2) metacognitive knowledge (Flavell, 1979). The former is associated with the '…ability to consciously and deliberately monitor and regulate ones' knowledge…' (Hacker, 1998, p. 11). The latter refers to knowledge and beliefs about factors that interact during a cognitive activity. Such metacognitive knowledge is further divided into three categories: knowledge of person, task and strategy (Livingston, 1997). More specifically, person knowledge consists of judgments about one's learning abilities and knowledge about internal and external factors that affect the success or failure in one's learning. Task knowledge is knowledge about the purpose, demands, and nature of learning tasks. This knowledge enables an individual to take into account factors that might contribute to the difficulty of a task. Strategic knowledge is knowledge about strategies. It refers to how one knows which strategies should be used in accomplishing a particular language task as well as how to apply strategies to best benefit his or her learning (Vandergrift et al., 2006).

When applied in a particular class such as an L2 classroom, the three types of knowledge mentioned above have been described in accordance to the learning context. Table 1 elaborates on the three types of metacognitive knowledge in an L2 classroom.

Table 1: The three types of metacognitive knowledge in an L2 classroom (Adapted from Goh, 2002, p. 38)

Metacognitive Knowledge	Explanations
Person knowledge	Knowledge about how factors such as age, aptitude, gender, and learning style can influence language learning. It also includes beliefs about oneself as a learner.
Task knowledge	Knowledge about the purpose, the demands, and the nature of learning tasks. It also includes knowledge of the procedures involved in accomplishing these tasks.
Strategic knowledge	Knowledge about strategies that are likely to be effective in achieving learning goals

During the L2 learning process, person, task and strategic knowledge interact and as a result yield learning outcomes (Wenden, 1998). To further explain, in completing a learning task, students utilize knowledge about task to make sense of the task requirement, use knowledge about person to realize their limitations at hand, and employ strategic knowledge to choose appropriate strategies to reach the goal.

Metacognition in Second Language (L2) Learning

Metacognition has long been closely connected with L2 learning as a main factor that directly affects the process and outcome of students' L2 learning (McCormick, 2003; Victori & Lockhart, 1995; Wenden, 1998). In relation to the process of learning, when students know their own

thinking while learning, they can effectively respond to a learning context and can manage their learning in an appropriate way (William & Burden, 1997, p. 147). Consequently, they could maintain their strengths and improve their weaknesses along their learning path, which in turn could result in improvement of learning performance (learning outcomes).

Existing literature has given credits to metacognitive experience or regulation and metacognitive knowledge as the two components of metacognition playing essential roles in the L2 learning process. In this regard, Vandergrift and Tafahodtari (2010) comment on the influences the two components have on a person learning a language. They state:

> …learners with a high degree of metacognitive knowledge and the facility [ability] to apply that knowledge are better at processing and storing new information, finding the best ways to practice, and reinforcing what they have learned… (p. 473)

Recent research-based evidence has shown that of the two components, metacognitive knowledge is dominant in enhancing students' metacognition, which in turn facilitates successful learning outcomes (Goh, 2008; Victori & Lockhart, 1995). Flavell (1979) has made a clear connection between metacogntive knowledge and positive learning outcomes as he states that when learners who have appropriate knowledge about the task they are working on realize their own learning ability and can select appropriate strategies that are suitable for the task, they will be able to successfully achieve their learning goals.

Supporting Flavell's idea, Chamot (2004) notes that successful (or proficient) learners always exhibit a high level of metacognitive knowledge. That is, proficient learners usually understand their own thinking and learning approaches, possess a good understanding of what a task entails, and demonstrate the ability to orchestrate strategies that best meet both task demands and their own learning strengths (p.14). Therefore,

it we want low proficiency students to improve their language performance, it is necessary to foster their metacognitive knowledge.

From this point, researchers, especially ones who are involved in L2 teaching and learning, have explored possible ways to foster students' metacognition through enhancing their metacognitive knowledge. Several linguists suggest increasing metacognitive knowledge through classroom instruction (Liu & Goh, 2006; Mareschal, 2007). It is assumed that teaching students to consciously manage their task during the learning process means that they will be able to recognize which learning tools, such as strategies, are appropriate for the task at hand; by knowing the appropriate strategies for the task, students will be able to replace ineffective strategies with effective ones that truly facilitate their learning (Berne, 2004, p. 525). In so doing, students' language skills could be improved (Chamot, 2005).

Along the same lines, Sitko (1998) notes that in order to promote learners' metacognition, it is necessary to make thinking about thinking (metacognition) visible. In so doing, the self-reflective activities should be considered integrated in the classroom instruction. Thus, Sitko suggests incorporating one of the self-reflective activities — the metacognitive instruction — in classes. Supporting Sitko's idea, Chamot (2004), Vandergrift (2007), Goh (2008) and Vandergrift and Tafaghodtari (2010) strongly encourage teachers to use metacognitive instruction that relates students' awareness (metacognition) to learning strategies. Such metacognitive instruction embeds learning strategies in the four metacognitive processes of planning, monitoring, repairing and evaluating. This instructional model is generally known as metacognitive processes instruction.

Fostering Metacognition via Metacognitive Processes Instruction

Metacognitive processes instruction has been claimed as an effective pedagogical model across L2 classrooms (Vandergrift, 2004;

Hinkel, 2006). Many language teachers have favored this model due to the assumption that it could help learners to systematically extract information from a text and so create meaning (Goh, 2008). This model uses a task sequence that engages learners in the processes of planning, monitoring, problem solving and evaluating. Such a task sequence is known as metacognitive processes (Chamot et al.,1999).

The concept of metacognitive processes instruction is usually associated with thinking about learning and controlling learning through the processes of planning, monitoring, problem solving and evaluating the success of the learning activity. These processes are crucial and effective in L2 learning. Anderson (2002) mentions that from learning through these metacognitive processes, one's internal thinking could be activated, which in turn could improve one's learning performance.

To further explain how the planning, monitoring, problem solving and evaluating enforce the learner's awareness of his or her own learning, such awareness includes knowing about what the learners are doing, the strategies they are employing, and about the actual process of learning. By being aware of their own learning processes, students are able to choose appropriate cognitive strategies for the purposes of obtaining, storing and retrieving information for their own learning. Cognitive strategies are learning strategies which aid students to obtain information from the learning material, according to O'Malley and Chamot (1990). In addition to their being able to use cognitive strategies, students who are aware of their learning would also be able to use appropriate social-affective strategies to get help from others (Williams & Burden, 1997, p. 148). Social-affective strategies refer to techniques that a listener applies when he or she needs to interact with others to 'verify' his or her comprehension or to 'lower anxiety' (Vandergrift, 2003a, p. 427).

As interest in how metacognitive processes develops students' learning performance has increased, a number of linguist, e.g. Vandergrift,

have become interested in investigating the effects of metacognitive processes instruction on students' awareness of the process of learning, which covers planning, monitoring, problem solving and evaluating (Hinkel, 2006; Vandergrift, 2004, 2007).

One of Vandergrift's 2003 studies examined how more skilled and less skilled grade 7 students managed their own learning in their listening class. The results of his study show that the skilled learners exhibited more frequency in working along the processes of planning, monitoring, problem solving and evaluating in order to complete their task than the less skilled ones. This could be restated by saying that students who have successful learning outcomes are the ones who usually know their own learning.

Thus, Vandergrift argues that improving L2 learning performance is equivalent to developing learner metacognition. Such development could be conducted by way of training students to plan how to regulate the task, monitor their own learning, solve an incoming problem, and evaluate their own performance (p. 489). Designing a learning task which engages students in the use of the four metacognitive processes can help students with developing metacognitive knowledge that is critical for the enhancement of their learning awareness (metacognition) (Vandergrift, 2007). The metacognitive processes model has been accepted by many teachers. For example, Cohen (2003) positively comments that the model could guide students into the process of task completion. Cohen (2003) explained individual characteristics of the four processes in the model:

> In planning, students plan ways to approach a learning task. In monitoring, student self-monitor their performance by paying attention to their strategy use and checking comprehension. In problem solving, students find solutions to problem they encounter. In evaluation, students learn to evaluate the effectiveness of a given strategy after it has been applied to a learning task.

A number of teachers have been applying the metacognitive process instruction in their L2 classes. This includes Vandergrift (2002)'s L2 class, in a study which aimed to raise students' consciousness during the learning process when students perform learning tasks. Vandergrift indicates that conscious reflection on the process of learning could develop students' metacognitive knowledge, which in turn enhances their learning performance.

An example of successful use of metacognitive process instruction in a Thai context can be seen in Ngonkum (2011), who implemented the four meta-cognitive processes of planning, monitoring, problem-solving, and evaluating with learning strategies in her L2 class. Table 2 illustrates the strategies which were embedded in each of the metacognitive processes. Ngonkum comments that metacognitive processes could drive the use of strategies, which in turn provides different learning support to students. By using strategies in the planning process, students obtain essential information about the learning content. This information will help students to make sense of the content they are going to work on in the next stage. Students may gain the information by applying any of the four strategies listed: set goal, selectively attend, activate background knowledge, or predict. In the monitoring process, students begin their task. Students may use any of these three strategies: check understanding, elaborate, or take notes, to facilitate their understanding while making sense of the content. The problem-solving process starts as soon as students face any problem that impedes their understanding. When this happens, students may make use of any of the three following strategies: infer, use context, ask questions to clarify, as tools to cope with the problem. The evaluating process occurs when students evaluate both their own performance and their ability to identify the obstacles. In essence, students may utilise either of the two strategies of performance evaluation or problem identification to complete their tasks in this stage.

Ngonkum notes that overall students in her class could improve their learning performance toward the end of the semester.

Table 2: Details of the four meta-cognitive processes and learning strategies (Ngonkum, 2011)

The four meta-cognitive processes	Strategies	Explanation
Planning	Set goal	Learners try to understand the task then make decisions about what they will get out of it (for each of the learning sessions).
	Selectively attend	Learners decide in advance to pay attention in general to a task and ignore distractions. Learners could choose a particular situation in listening texts, either - specific aspect of the language or - situational details.
	Activate background knowledge	Learners bring to mind the information that they know about the topic, the world, and the language to help do the task. Thinking about what they already know helps learners get ready for the topic by familiarizing themselves with it. For example If learners are going to listen to a fairy tale, they should think about typical characters, settings and plots used in fairy tales according to the previous tales they know.
	Prediction	Learners think of the kind of information they expect to encounter based on the information they have.
Monitoring	Check understanding	Learners check their own understanding by asking themselves if they understand parts of the task they are listening to.
	Elaboration	- Questioning — learners question themselves about what they know about the situation, topic. - Personal experience — learners think back to their experience in the related situation of the topic. - Use imagery — learners use mental imagery to create a picture of what they hear is happening.
	Take notes	Learners take notes as they follow some spoken text. The notes could be (1) main ideas, (2) situational details or (3) a summary of the whole text.

The four meta-cognitive processes	Strategies	Explanation
Problem-solving	Inference	Involves guessing the meaning of unfamiliar word(s) by linking them to the known words.
	Use context	Involves using the overall context in the text to guess particular meanings of words.
	Ask questions to clarify	Learners find out more about the text they have listened to by asking questions either of peers or teachers.
Evaluating	Performance evaluation	Learners judge how well they performed the task (listening) by: - **verifying predictions** — learners check whether the listening text they have gone through was the same as what they have previously predicted - **checking goals** — learners consider if the task they completed met the goal they have previously set - **self-evaluation** — learners consider how well they understand the listening text - **evaluation of strategies** — learners consider how well they applied the listening strategies to the listening text by (1) judging how effective and appropriate the strategies they used were for the task they have completed, (2) identifying why the strategies they used were helpful or not helpful for that task, and (3) thinking about applying different strategies they think should work better than the ones they used.
	Problem Identification	Involves thinking of the problems that still exist preventing learners from completing the task successfully.

Conclusion

The central message from this article is that students can enhance their learning by becoming aware of their own thinking as they learn. They need to understand what they already know, to associate it with the new information, and to retain it.

Developing metacognitive knowledge through metacognitive processes can do that for the students. Some students (usually the proficient ones) can work along metacognitive processes naturally; for others (low proficiency students), this is a process which must be learned.

Thus, it is the teachers' job to make metacognition a priority in their classrooms. This could be done by way of metacognitive processes instruction, which has the goal of using metacognitive processes in L2 learning activities in order to make students' thinking visible to them, which in turn will lead to learning improvements.

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