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# METACOGNITION IN LEARNING LANGUAGES

***Abstract:*** *this paper explores metacognition-the ability to monitor and regulate cognitive processes. It synthesizes key definitions, describes core components, and presents developmental levels. Particular attention is given to metacognition's application in language learning, where strategic self-regulation fosters proficiency, autonomy, and efficient acquisition.*

***Keywords:*** *metacognition, education, language learning, psychology, neuroscience.*

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## МЕТАПОЗНАНИЕ В ИЗУЧЕНИИ ЯЗЫКОВ

*Аннотация: в статье исследуется метапознание – способность контролировать и регулировать когнитивные процессы. Авторами обобщены ключевые определения, описаны основные компоненты и представлены уровни развития. Особое внимание уделяется применению метапознания в изучении языка, где стратегическая саморегуляция способствует повышению уровня владения языком, самостоятельности и эффективному усвоению материала.*

*Ключевые слова: метапознание, образование, изучение языков, психология, неврология.*

*1. Defining the term «Metacognition».*

Metacognition, a foundational concept in cognitive psychology and education, is defined as the ability to monitor, assess, and regulate fundamental cognitive processes such as decision-making, memory, and perception [6]. Encompassing the monitoring and regulation of processes such as perception and memory, this ability allows individuals to interpret cognitive signals and share their mental states. Crucially, it extends beyond high-level functions dependent on Theory of Mind (ToM), integrating components like metamemory, attention, conflict resolution, error correction, and executive functioning [3].

Different researchers have defined it in unique ways, each emphasizing specific aspects of «thinking about thinking.

John Flavell created the term metacognition in the 1970s, based on his earlier idea of metamemory. It refers to how people understand their own thinking processes, often called 'thinking about thinking.' This involves being aware of and controlling how you learn. This capacity involves learners' awareness and control of their learning processes, enabling them to recognize, evaluate, and reconstruct existing ideas [5].

Beyond mere cognitive awareness and regulation, metacognition also includes emotional and motivational dimensions, as posited by Papaleontiou-Louca [9].

William F. McComas defines metacognition as the act of thinking about one's own thinking. This involves monitoring cognitive processes during learning and understanding which personal strategies are most effective for completing tasks [7].

Ann L. Brown conceptualized metacognition as comprising two interrelated clusters:

Awareness (Knowledge of Cognition) – understanding one's own cognitive processes, strengths, limitations, and available strategies [2].

Executive Control (Regulation of Cognition) – real-time monitoring, planning, and adjusting of thinking during learning tasks [2].

Brown's work established that metacognition is teachable, not just an innate trait, where effective learning requires active self-regulation, not passive reception. Accordingly, classroom environments should be designed to scaffold metacognitive development through dialogue, collaboration, and authentic tasks [1].

These definitions converge on the idea that metacognition is a dynamic process intertwining learning and thinking. They identify two core clusters driving this process: awareness (what one knows) and executive control (how one manages learning in real-time).

*2. Components of Metacognition*

Based on the foundational work of Flavell, Brown, Schraw and Dennison, metacognition is generally divided into three main components: metacognitive knowledge, metacognitive regulation and metacognitive experiences [1], [5], [11].

Pic. 1. Components of Metacognition
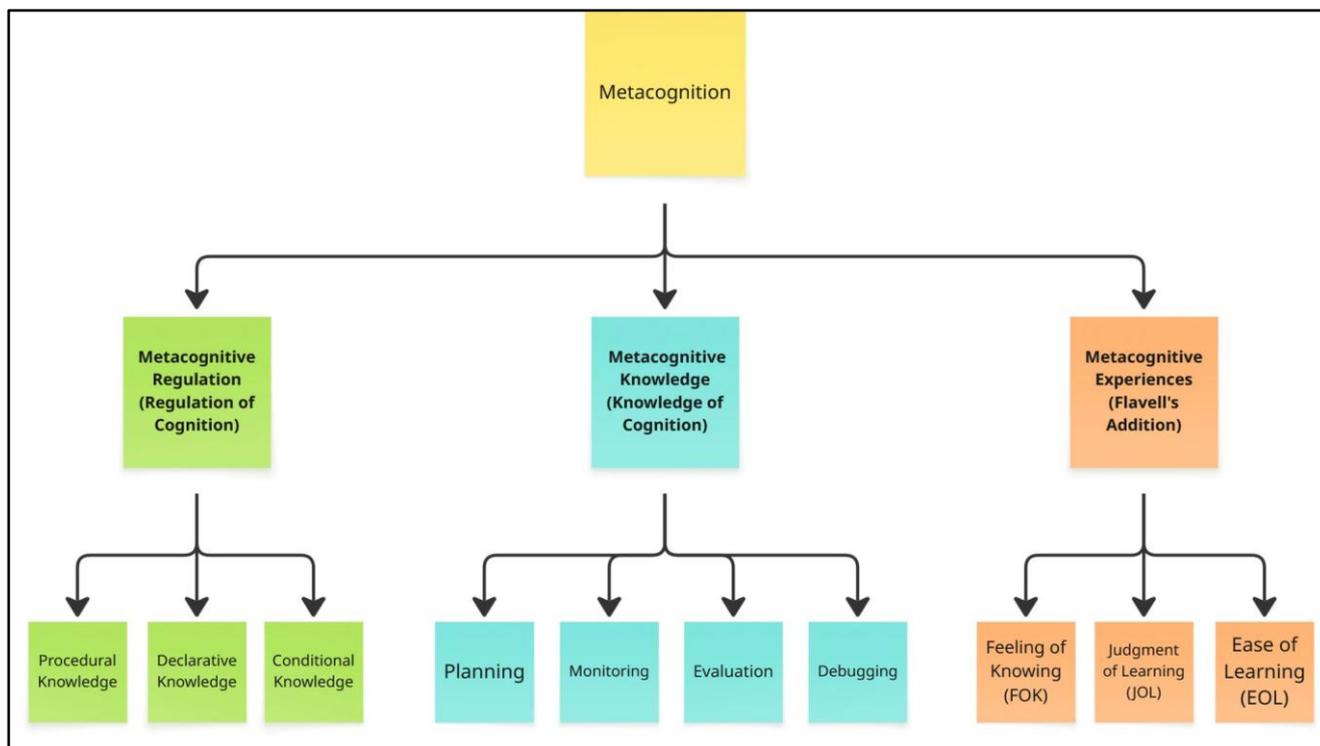


*1. Metacognitive Knowledge (Knowledge of Cognition)*

This refers to what individuals know about their own cognition or about cognition in general. It includes three sub-components: declarative knowledge, procedural knowledge and conditional knowledge [2].

*a. Declarative Knowledge.*

Knowledge about what factors influence cognitive performance (knowledge about self, tasks, and strategies) [2].

Example: I know that I have a better memory for visual information than auditory information.

*b. Procedural Knowledge.*

Knowledge about how to perform cognitive tasks (knowledge about strategies and how to use them) [2].

Example: I know how to create a concept map to organize information.

*c. Conditional Knowledge.*

Knowledge about when and why to use specific strategies (knowing the conditions for application) [2].

Example: I know that I should use summarizing strategies when I feel confused by a text.

*2. Metacognitive Regulation (Regulation of Cognition).*

This refers to the procedures used to monitor and control one's learning. It is dynamic and occurs in real-time during a task. The sub-components are planning, monitoring, evaluation, debugging [2].

*a. Planning.*

Selecting appropriate strategies and allocating resources before beginning a task [12].

Example: I will skim the chapter first, then read the summary, before reading the details.

*b. Monitoring.*

Assessing one's progress or comprehension during the task [12].

Example: I realize I haven't understood the last paragraph; I need to re-read it.

*c. Evaluation.*

Appraising the process and outcomes after the task is completed [12].

Example: My study method worked well for this exam; I will use it again.

*d. Debugging.*

Identifying and fixing errors in understanding or strategy use.

Example: This formula isn't working; I must have applied the wrong rule [12].

*3. Metacognitive Experiences (Flavell's Addition).*

Flavell originally noted that metacognition also includes conscious cognitive or affective experiences that occur during the enterprise [5].

*a. Feeling of Knowing (FOK).*

The sense that you know something even if you cannot recall it immediately [5].

*b. Judgment of Learning (JOL).*

An estimate of how well you have learned material and how likely you are to remember it later [5].

*c. Ease of Learning (EOL).*

Judgments made before learning begins about how difficult a task will be [5].

*Four levels of metacognitive learners.*

Building on Flavell's foundational work, Perkins proposed a developmental continuum of metacognitive competence comprising four distinct levels: tacit, aware, strategic, and reflective [10].

*At the tacit level*, learners lack awareness of their cognitive processes and accept knowledge passively without strategic planning [10].

*Aware learners* recognize certain thinking activities (e.g., idea generation, evidence evaluation) but do not apply them intentionally [10].

*Strategic learners* actively employ cognitive tools-such as problem-solving, classification, and evidence-seeking-to structure their learning [10].

Finally, *reflective learners* engage in ongoing self-monitoring, evaluating the efficacy of their strategies and adapting them dynamically during task performance [4].

*Metacognition in Language Learning.*

Metacognition serves as a powerful accelerator in second and foreign language acquisition. Research consistently demonstrates that learners who develop metacognitive skills achieve higher proficiency, greater autonomy, and more efficient learning trajectories [13]. This effectiveness stems from several interconnected mechanisms through which metacognition operates in the language learning context.

First, metacognition enhances strategic awareness by helping learners understand what strategies exist, how to execute them, and when to apply them [8]. This knowledge operates at three levels: declarative knowledge («what»), such as knowing that spaced repetition improves vocabulary retention more than cramming; procedural knowledge («how»), such as knowing how to use context clues to infer the meaning of unknown words; and conditional knowledge («when/why»), such as knowing to switch to listening practice when grammar study causes cognitive overload.

Second, metacognition enables real-time self-regulation through the cyclical processes of planning, monitoring, evaluating and debugging [14]. Before engaging with a language task, metacognitive learners set clear goals and select appropriate strategies. During the task, they actively monitor their comprehension, attention, and progress, making adjustments as needed.

Third, metacognition fosters learner autonomy, which is critical for long-term language development [14]. Metacognitively aware learners become less dependent on teachers and more capable of self-directed learning. They can identify their own strengths and weaknesses, select appropriate resources, and persist through challenges without constant external guidance.

Research shows that learners trained in metacognitive listening strategies demonstrate significantly greater gains than those who receive conventional instruction [14]. In reading, metacognitive awareness enables learners to set purposeful reading goals, monitor comprehension to trigger fix-up strategies when confused, and leverage text structure awareness to improve inference and retention. For writing development, metacognition supports pre-writing planning to organize ideas and reduce cognitive load, real-time monitoring during drafting to maintain focus on audience and purpose, and post-writing evaluation to promote revision based on explicit criteria. Studies indicate that embedding metacognitive prompts within writing tasks improves both the quality of written output and learners' self-regulation skills. In speaking and vocabulary acquisition, metacognitive learners plan utterances to increase fluency and accuracy, monitor their speech to catch errors in real time, and strategically select vocabulary learning techniques based on word type and learning context.

In conclusion, metacognition transforms language learning from a passive reception of input into an active, strategic, and self-directed process. By cultivating awareness of how they learn and developing the ability to regulate their cognitive processes, learners not only acquire language more efficiently but also build the lifelong skills needed to adapt to new linguistic challenges. Developing metacognitive competence, therefore, represents one of the most valuable investments a language learner can make.

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