

Review of: "Operations of the Cognitive-Metacognitive System in Promoting Learning: a Brief Theoretical Analysis"

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Potential competing interests: No potential competing interests to declare.

The article starts with the sentence "Metacognition is regarded as one of the most important tools in learning across disciplines and educational levels." This sentence should be supported with current research because metacognition is researched through neuroscience as well since it is not completely understood by only investigating human behaviors or think aloud words. Metacognition has been a phenomenon which exists but its limitations needs to be defined through more experimental research (As an example, see Fleur, D.S., Bredeweg, B. & van den Bos, W. Metacognition: ideas and insights from neuro- and educational sciences. *npj Sci. Learn.* 6, 13 (2021). <https://doi.org/10.1038/s41539-021-00089-5>) Another issue, I appreciated the literature review part considering 1987-2009, which are very valuable studies. In 2023, these articles were old for metacognition since neuroscience is involved. Both behaviors and brain work together for metacognition. For metacognitive and cognitive systems please check out Artzt and Armour- Thomas's studies, Schoenfeld and Flavell's other studies in detail.

For a research paper, formal structure was not given. Please mention, what is your framework, what is your research questions, your research design, data analysis, data collection and so. What about your findings? How you extracted these findings? These are not clear in your paper.

For the discrimination of cognitive and metocognitive thinking, please check out Artzt and Armour-Thomas (1992) as well.

Artzt, A. F., & Armour-Thomas, E. (1992). Development of a cognitive-metacognitive framework for protocol analysis of mathematical problem solving in small groups. *Cognition and Instruction*, 9(2), 137–175. | DOI 10.1207/s1532690xci0902_3

If instruction part see also Artzt and Armour-Thomas (2002).

Please check out according to APA 7 (intext and endtext referencing), which is a major feedback.

All in all, the paper should be revised based on the critic I have mentioned above.