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

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This paper seeks to make the idea of metacognition easier to understand for educators, so that they can make use of it in helping learners learn. I fully support this aim, but do not feel that the paper succeeds. The author proposes a six step model of the interactions between the ‘cognitive system’ and the ‘metacognitive system’, while recognising that these are not biologically distinct entities, but two systems ‘running within the same biolgical system’. I feel that in trying to describe cognition and metacognition as different systems the author is making a category error: metacognition is simply cognition about cognition; it is not a different system. The six step model demostrates this clearly, as a learner who does step 1 (generate models of the cognitive inputs at hand at the cognitive-level) followed by step 6 (process the cognitive inputs ... and produce the required cognitive outputs or cognitive goals) is not employing metacognition, but just doing the task routinely, without reflection on their cognition. Steps 2 to 5 represent the additional reflective metacognitive activity, in which the learner ‘accesses the cognitive-level models of the cognitive inputs’ (step 2), then ‘metacognitive knowledge, feelings, and judgments are applied to generate meta-level models’ (step 3), so that ‘learners become aware of the characteristics of the cognitive inputs, of the learners’ cognitive faculties, and state of their cognitive processing’ (step 4) and ‘employ metacognitive knowledge, judgments, and feelings to select and deploy cognitive strategies’ (step 5). The ellipsis I used in the description of step 6 stands in for ‘supported by metacognitive regulatory strategies’ which is where step 5 makes contact to influence the routine cognition. Split out like this, steps 2 to 5 are just cognitive activity about the cognitive task. When the meta-level models are generated at step 3, who is to say that there is not a potential MetaMetacognitive system called into operation to access these metamodels, to select and deploy metacognitive strategies to influence metacognition, and so on, ad nauseum? It is easier to see steps 3 to 5 as just the normal operation of cognition, with the learner's own internal thoughts and states as material. In the final section, the author states that ‘the metacognitive monitoring of the cognitive-metacognitive operation system and the cognitive monitoring of the cognitive system are not one and the same’, but has not demonstrated this point, and I believe they are wrong.

By making metacognition a seperate system, the author is contributing to the haziness surrounding the concept, and making it harder for educators to grasp the key principle, which is to encourage learners to reflect on their thinking, and to consider why they are thinking something, and how else they might think about it.

The paper has an important goal, and I feel it could be improved by simplifying its message an focussing on educators rather than debating the nature of metacognition. Table 1 is not at all helpful, but the descriptions of three learning scenarios are better. Showing there where an educator could influence the learners' metaconition by encouraging

reflection woudl make them of more practical use.