Review of: "The H.O.T. Box as a Metacognitive Tool: Insights Into Effectively Fostering Formal Explicit Theory in the Physics Classroom"

Leonard Mselle[1]

1 University of Dodoma

Potential competing interests: No potential competing interests to declare.

The paper is of importance not only to physics instruction but to other high-level-cognitive demanding subjects such as computer programming, which require planning, monitoring, and evaluation.

1. The visibility and readability of Figure 2 could be improved.
2. The generic description of the traditional H.O.T box could be more elaborate by providing a brief background and description of the components of the box, which include planning, monitoring, and evaluation. A brief explanation of how these components are related to one another and how they relate to specific cognitive load (i.e., intrinsic cognitive load) would improve the impact of the paper and assist non-specialists to comprehend the concept. Answering questions such as “How does bad/wrong/good planning affect monitoring, and vice versa, how does misconception in monitoring affect evaluation, and vice versa, etc., would be of benefit to non-specialists.
3. Although the paper is of a qualitative nature, the impact of the model on students could be validated by including quantitative data from summative examinations.