

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

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Potential competing interests: No potential competing interests to declare.

Title: The H.O.T. Box as a Metacognitive Tool: Insights Into

Effectively Fostering Formal Explicit Theory in the Physics

Classroom.

The research entitled The H.O.T. Box as a Metacognitive Tool: Insights Into Effectively Fostering Formal Explicit Theory in the Physics.

Classroom significantly contributes to the field. It provides valuable insights and potential advancements in its body of knowledge, which could profoundly impact the field, particularly in Physics education.

While this research provides valuable insights, it's crucial for the author/s to take the lead in addressing the specific areas outlined in the attached document. Your active involvement in ensuring the clarity of the language will not only significantly enhance the paper's accessibility and understanding for a wider audience but also ensure its alignment with journal requirements, thereby amplifying its potential impact.

Any abbreviation or acronym should first come with the full name used.

## Abstract

- Please remember the following guidance: Ensure the abstract's sequence is logical from the problem statement to the results and conclusion.
- Should we highlight why 'ionic conductivity' is vital?
- State the objective of this paper.
- The output should be stated clearly rather than saying, "In conclusion, ZnO presents a promising choice as a nanofiller to enhance the ionic conductivity of the CMC-LiTFSI S.P.E. system."
- The word promising is not scientific - more subjective than objective.

## Introduction

- Always start with a problem statement, as this is why researchers pursue any study.

- In the introduction, why is there an "assumption"? Should it be the hypothesis?
- The sequence should be,

i. the objective/s

ii. the research question/s and

iii. the hypotheses

#### Literature review

- The author should focus more on reviewing past research on each of the terms that appear in the keywords: The H.O.T. Box, Metacognitive Fostering, Formal Explicit Theory, and Physics classroom.
- What is crucial is the gap between the previous study and the present one. Emphasising this gap in the literature review will highlight the novelty and contribution of your research. Why did the author put more interest in these terms in his study?
- This will add more value to the paper's significance to the body of knowledge.
- Figure 2 should be more presentable and easy to read arrangement.
- The reference should also be up to date, as we know this H.O.T. Box is relatively recent and tacky.

#### Methodology

- The sample and population don't mention whether it was for secondary school, university level, etc.
- What do you mean by "The small sample size used in this study favoured qualitative research methods rather than quantitative research methods."? Are you suggesting the decision to use quantitative-based or qualitative-based methods is based on the data being collected completely? This statement needs to be rephrased.
- It will benefit the reader if the whole research design is illustrated in a flow chart or diagram, making it easy to grasp the whole idea of the research process.
- This is qualitative research; isn't it supposed to produce thematic outputs that came from the data? Or is it the coding?

#### Results & Discussion

- From the findings, what strong messages should be highlighted in this study?
- Compared to previous research, this should be thoroughly discussed as this will add more value to this paper.
- The author should discuss and compare the present study's output to any closely related previous study.
- From here, readers should know what the gaps are and how these gaps can be filled from the present study's findings.
- This feedback is meant to guide and support your research, and we believe it will help strengthen your work and its impact on the field.

#### Conclusion

- How do these significant outputs contribute to the research's key findings?

- Can these findings be generalised to all physics classrooms?
- State specifically and objectively the findings.

#### Format

Kindly adhere to the journal format for the paper.

#### Reference

Please refer to the Science Direct database.

[https://www.sciencedirect.com/search?](https://www.sciencedirect.com/search?qs=formal%20explicit%20theory%2C%20Higher%20Order%20Thinking%2C%20Tacit%20theory%2C%20metacognition)

[qs=formal%20explicit%20theory%2C%20Higher%20Order%20Thinking%2C%20Tacit%20theory%2C%20metacognition](https://www.sciencedirect.com/search?qs=formal%20explicit%20theory%2C%20Higher%20Order%20Thinking%2C%20Tacit%20theory%2C%20metacognition)

Under keywords:

Formal explicit theory, Higher Order Thinking, Tacit theory, metacognition

We have 136 references that can be potential references, rather than 25 references from the draft paper.