

## REVIEWER'S REPORT

Manuscript No.: IJAR-55230

Title: Innovative Teaching Strategies in Biology: Assessing Flipped Mastery vs. Flipped Classroom Learning.

### Recommendation:

Accept as it is .....

Accept after minor revision.....

Accept after major revision .....

Do not accept (*Reasons below*) .....

Rating	Excel.	Good	Fair	Poor
Originality		✓		
Techn. Quality		✓		
Clarity			✓	
Significance	✓			

Reviewer Name: Shafiya Akhter

### Reviewer's Comment for Publication.

The manuscript presents a **well-structured and methodologically sound quasi-experimental study** comparing the effectiveness of the **Flipped Mastery Approach (FMA)** and **Flipped Classroom Learning (FCL)** in enhancing biology achievement and retention among eleventh-grade students. The topic is timely and highly relevant, particularly in the context of technology-integrated pedagogy and competency-based learning.

The **abstract** clearly summarizes the objectives, sample, methodology, and major findings. However, minor grammatical corrections and sentence restructuring are needed to improve linguistic clarity and conciseness.

The **introduction and literature review** are comprehensive and well-supported by recent and relevant studies. The rationale for integrating mastery learning with flipped instruction is convincingly established, and the research gap is clearly articulated. Nevertheless, the literature review could benefit from improved organization to avoid repetition and enhance coherence.

The **methodology** is appropriate and adequately detailed. The use of a quasi-experimental post-test design, clear identification of variables, sample description, and statistical tools (t-test and two-way ANOVA) strengthen the technical rigor of the study. The categorization of students based on prior knowledge is a notable strength. Minor formatting issues and clearer explanation of the intervention duration and instructional procedures would further enhance transparency.

The **results and findings** are systematically presented with appropriate use of tables and statistical interpretation. The evidence strongly supports the superiority of the Flipped Mastery Approach over the Flipped Classroom Learning method in terms of achievement and long-term retention, particularly for low-achieving students. Graphical representations could be better labeled and integrated into the discussion for improved readability.

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The **discussion and conclusion** are implied within the findings but should be more explicitly articulated to link results with existing literature and educational implications. A separate conclusion section highlighting pedagogical implications, limitations, and directions for future research is recommended.

Overall, the manuscript makes a **significant contribution to biology education research** and demonstrates strong potential for publication. With **minor revisions related to language polishing, formatting consistency, and structural refinement**, the paper would be suitable for acceptance.