

Journal of Mathematics Education

# AlphaMath

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## **AlphaMath:** *Journal of Mathematics Education*

AlphaMath: Journal of Mathematics Education is a mathematics education journal that presents articles from research results that are appropriate for the latest developments. AlphaMath is a peer-reviewed and open-access journal. AlphaMath is a journal published by the Department of Mathematics Education, Faculty of Teacher Training and Education, Universitas Muhammadiyah Purwokerto. AlphaMath invites lecturers, observers, mathematics education researchers, and mathematics teachers from various schools worldwide to exchange ideas and advance science in mathematics education.

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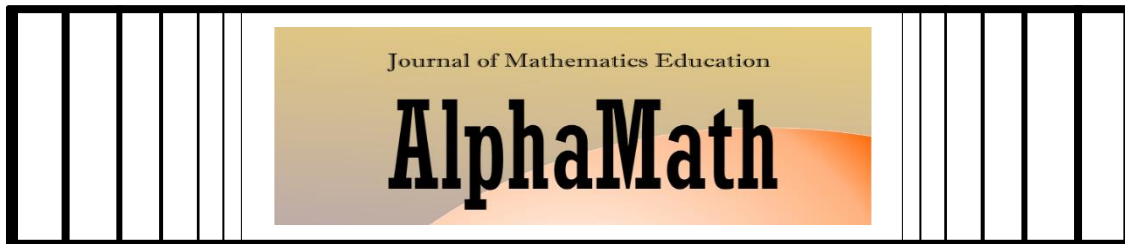
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## FOREWORD

Praise be to Allah SWT for His grace and guidance, enabling the publication of *AlphaMath: Journal of Mathematics Education*, Volume 11, Number 2, in November 2025. We are pleased to present this issue, which offers a concise yet meaningful collection of contemporary research addressing innovation, pedagogical effectiveness, and assessment development in mathematics education.

The articles featured in this edition highlight a range of approaches emphasizing technology integration, inquiry-based learning, and the strengthening of students' mathematical literacy and critical thinking skills. These works contribute valuable insights for improving educational practices and advancing research-based decision-making.

The issue begins with *The Design and Development of FarmQuest as an Innovative Learning Media* by Ratnah Kurniati and colleagues, presenting a digital gamification-based instructional tool designed to increase student motivation and active engagement. The second article, *Mapping Students' Mathematical Literacy Skills in Basic Geometry: A Study Based on Stacey and Turner's Indicators* by Abdul Hakim Ma'ruf et al., investigates students' performance in geometric literacy and offers recommendations for instructional improvement.

Advancing contemporary perspectives, *Knowledge Mapping of Deep Learning in Mathematics Instruction: A Bibliometric Study* by Muhammad Firman Annur and team analyzes research trends in deep learning as a transformative approach to mathematics instruction. Complementing this, *The Effectiveness of the Problem-Based Learning Model in Enhancing Students' Mathematical Literacy at the Senior High School Level* by A. Safwan Ibrahim Haz et al. provides evidence of the pedagogical impact of structured inquiry on literacy outcomes.

Responding to the rapidly developing digital landscape, *Mathematics in the AI Era: The Effectiveness of ChatGPT in Helping Students Solve HOTS Problems* by Meyla Tri Fadila and colleagues evaluates the use of artificial intelligence as a learning support tool to enhance higher-order thinking skills. The final article, *Development of an Ethnomathematics-Based Test Instrument to Measure and Foster Students' Critical Thinking Skills* by Miftahul Fitri et al., presents the construction of a culturally contextual assessment instrument to support critical-thinking development.

We extend sincere appreciation to the authors, reviewers, and editorial team for their contributions and dedication. We hope this publication inspires further innovation, collaboration, and scholarly advancement in mathematics education.

### Editor-in-Chief

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