Volume 6, Issue 1 (April 2025)

JOURNAL OF DIDACTIC MATHEMATICS

Journal of Didactic Mathematics
https://doi.org/10.34007/jdm.v6i1

EDITORIAL TEAM

REVIEWERS

Ying Zhou, (SCOPUS ID:57220032419), Guangxi Normal University, China

Xiaoying Chen, (SCOPUS ID:58837604400), Beijing Normal University, China

Tomy Tanu Wijaya, (SCOPUS ID: 57218281226), Beijing Normal University, China

Abdul Mujib, (SCOPUS ID: 58437457000), Universitas Muslim Nusantara Al-Washliyah, Indonesia

Budi Mulyono, (SCOPUS ID:57196247058), Universitas Sriwijaya, Indonesia

Edi Syahputra, (SCOPUS ID: 57205064285), Universitas Negeri Medan, Indonesia

Elizar Elizar, (SCOPUS ID: 57208560583), Universitas Syiah Kuala, Indonesia

Hari Sumardi, (SCOPUS ID: 57192100393), Universitas Bengkulu, Indonesia

Hasratuddin Siregar, (SCOPUS ID: 57214289368), Universitas Negeri Medan, Indonesia

Indah Widiati, (SCOPUS ID: 57202134060), Universitas Islam Riau, Indonesia

KMS Muhammad Amin Fauzi, (SCOPUS ID: 57188999444), Universitas Negeri Medan, Indonesia

Rosliana Siregar, (SCOPUS ID: 57201498650), Universitas Islam Sumatera Utara, Indonesia

Shahibul Ahyan, (SCOPUS ID: 57208696342), Universitas Hamzanwadi, Indonesia

Surya Amami Pramuditya, (SCOPUS ID: 55155495000), Universitas Swadaya Gunung Djati, Indonesia

PREFACE

We are pleased to present Volume 6, Issue 1 of the Journal of Didactic Mathematics, which brings together diverse and insightful research contributions addressing critical aspects of mathematics education across different educational contexts. The articles featured in this volume highlight innovative approaches, persistent challenges, and potential solutions in enhancing students' mathematical understanding, reasoning, and communication.

The issue begins with a study on proportional reasoning, which examines how students at different ability levels tackle multiplicative problems using Baxter and Junker's theoretical framework. This work sheds light on the developmental stages of students' reasoning strategies, ranging from early quantification attempts to recognition of multiplicative relationships.

Following this, research on mathematical communication in agricultural-based regions explores the proficiency levels of junior high school students and the contextual factors influencing their ability to model, explain, and formulate mathematical ideas. This study underscores the importance of culturally relevant instructional strategies in supporting students from rural communities.

A quasi-experimental study on the Numbered Heads Together (NHT) cooperative learning model further emphasizes the role of collaborative strategies in strengthening students' mathematical understanding, particularly in statistics. Complementing this, another contribution examines prospective teachers' misconceptions of basic operations, especially the interpretation of addition and subtraction symbols, revealing gaps in conceptual versus procedural knowledge that are crucial for teacher education programs.

The volume also includes a study on the Project-Based STAD cooperative learning model, which investigates its effect on students' mathematical literacy while considering learning independence. In parallel, research on self-efficacy and learning motivation explores their roles in shaping mathematics learning outcomes, demonstrating the central importance of psychological factors in student achievement.

Further enriching this issue, a development study evaluates the effectiveness of GeoGebra-based learning media in enhancing critical thinking skills within geometry transformation lessons. The findings affirm the validity, practicality, and effectiveness of technology-enhanced learning environments in fostering deeper mathematical thinking.

Collectively, the articles in this edition contribute to a deeper understanding of mathematics education by integrating perspectives on reasoning, communication, literacy, motivation, and the use of innovative pedagogical models. They provide valuable insights for educators, researchers, and policymakers seeking to enhance the quality of mathematics learning in diverse contexts.

We would like to express our sincere appreciation to the authors for their scholarly contributions, the reviewers for their constructive feedback, and the editorial team for their commitment to maintaining the academic rigor of this journal. We hope that the research presented in this issue will inspire further inquiry and practice in advancing mathematics education.

Muhammad Daut Siagian
Editor in Chief

TABLE OF CONTENTS