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Editorial from Mónica Arnal-Palacián, Didactics Editor of MTRJ



The Spring issue of the Mathematics Teaching-Research Journal arrives with 11 new articles on teaching and research, alongside the usual The Problem Corner section. Within them, readers will find studies on mathematics education at different levels: university teaching, secondary education, and primary education. Furthermore, and considering various methodological approaches, works are presented in which students, teacher trainees, and active teachers have been sampled.

The Mathematics Teaching-Research Journal aims to continue giving voice to both educators and researchers from different parts of the world. This time, seven countries (Canada, Colombia, Ecuador, India, Indonesia, Morocco and Spain), from four different continents (America, Asia, Europe and Africa) are represented. We hope that each of the studies included in this issue will be of interest to experienced and novice teachers, as well as researchers in mathematics education.

Finally, from the editorial team, we want to express our gratitude for the trust placed in those authors who decided to submit their manuscripts to the journal, making Mathematics Teaching-Research Journal an international reference in mathematics education research.

Empirical Study of Mathematical Investigation Skill on Graph Theory

Karunia Eka Lestari, Mokhammad Ridwan Yudhanegara (Indonesia)

This article analyzes thinking behavior regarding Graph Theory by associating prior knowledge and research in mathematics with second-year Mathematics students in Indonesia.

Investigating Pre-Service Primary School Teachers' Difficulties in Solving Context-Based Mathematics Problems: An Error Analysis

Andi Harpeni Dewantara, Edi Istiyono, Heri Retnawati, Slamet Suyanto (Indonesia)

This manuscript presents students' difficulties in solving context-based problems, with a focus on

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pre-service Primary Education teachers. For this purpose, the NEA error classification framework (Newman's Error Analysis) is utilized.

From Informal to Formal Proof in Geometry: a Preliminary Study of Scaffolding-based Interventions for Improving Preservice Teachers' Level of Proof

Sugi Hartono, Tatag Yuli Eko Siswono, Rooselyna Ekawati (Indonesia)

Hartono and colleagues present a design research in which they analyze the level of proof understanding among pre-service mathematics teachers using scaffolding tasks for the proof of the Triangle Theorem.

Exploring Learning Difficulties in Convergence of Numerical Sequences in Morocco: An Error Analysis Study

El Mahdi Lamaizi, Larbi Zraoula, Bouazza El Wahbi (Morocco)

This article addresses the learning difficulties of sequence limits with second-year high school students in Morocco. This occurs after students have been taught about different types of numerical sequences across various educational levels.

Analysis of the Strategies Used by High School Students in Solving Area Problems: A Case Study

Deyner Bolaño, Darwin Peña-González, Roberto Torres (Colombia)

Bolaño and colleagues present in this article activities based on Problem-Based Learning (PBL) methodology with high school students to solve problems related to plane figures.

Direct and Indirect Effect of Self-Efficacy, Anxiety and Interest on Algebraic Problem-Solving Achievement

Imdad Ali, Samiran Das (India)

This article examines the effect of self-efficacy, math anxiety, and interest, all of which are affective constructs, on performance in solving algebraic problems among Secondary Education students.

A case study of proving by students with different levels of mathematical giftedness

María J. Beltrán-Meneu, Rafael Ramírez-Uclés, Juan M. Ribera-Puchades, Angel Gutiérrez, Adela Jaime (Spain)

This research was conducted in Spain with gifted students. Through a didactic proposal involving various types of activities requiring students to provide demonstrations, the relationship between consistency and the level of giftedness is analyzed.

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The use of technology and academic performance in the teaching of Mathematics in secondary education

José Fernando Mendoza-Rodríguez I, Víctor Manuel Caranqui-Sánchez (Ecuador)

The authors analyze the use of technology and academic performance in mathematics education, taking a sample of Secondary Education students in Ecuador.

Characterization of Primary School Students' Perceptions in Understanding Negative Integer

M. Qoyum Zuhriawan, Purwanto, Susiswo, Sukoriyanto, Siti Faizah (Indonesia)

In this study, the authors analyze the productions of Primary Education students, particularly focusing on the writing of negative numbers on the number line, resulting in three characteristics of thought.

Development of a Traditional Game-Based Computational Thinking Supplementary textbook for Elementary School Students

If Only Dia, Zetra Hainul Putra, Gustimal Witri, Dahnilsyah, Ayman Aljarrah (Indonesia and Canada)

In this manuscript, the authors develop a complementary textbook to the usual classroom one, aiming to address computational thinking linked to traditional games. The intended audience is Primary Education students in Indonesia.

Teachers' Efforts to Promote Students' Mathematical Thinking Using Ethnomathematics Approach

S. W. Danoebroto, Suyata, Jailani (Indonesia)

The final research study included in this editorial address mathematical thinking skills through local culture. All of this is based on case studies involving three active Secondary Education teachers in Indonesia.

The Problem Corner

Ivan Retamoso (USA)

As in previous issues of MTRJ, Professor Ivan Retamoso proposes two new problems and presents a selection of solutions received by the journal for the problems from previous issues.

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