

Editorial of Issue 3, Volume 11, Year 2024 of the Journal Teaching Mathematics in Debate

With Issue 3 of Volume 11, the year 2024 ends, celebrating yet another set of research studies published in EMD, which aims to transform and enrich the field of Brazilian Mathematics Education with relevant themes and innovative approaches in the educational context. We begin the issue by paying tribute to Guy Brousseau, who passed away on February 16, 2024. His work left an important and significant contribution to the Didactics of Mathematics, with emphasis on the Theory of Didactic Situations (TSD) that has supported current research and practices around the world. Brousseau's legacy has influenced and will continue to influence generations of Mathematics researchers and teachers, as it illuminates the investigation and understanding of phenomena related to the teaching and learning of Mathematics.

This volume brings together nine articles by Brazilian authors with rich and varied themes. The first article, *Mathematics Teachers' Specialized Knowledge (MTSK) in Continuing Education: A Systematic Literature Review*, by Paula Eugenia Santos and Luciano Denardin de Oliveira, offers a detailed view of the mobilization of MTSK in continuing education, through a Systematic Literature Review in Brazilian dissertations and theses. The article highlights how teaching beliefs are fundamental to the development of teachers' specific knowledge.

Danilo Rodrigues dos Santos, Josevandro Barros Nascimento and Joanderson de Oliveira Gomes, in *Supervised Internship and Teacher Training: an experience report within the scope of the Mathematics Degree course*, reflect on the practice of supervised internship in teacher training. Based on the experience of a student, the authors address the importance of the articulation between theory and practice, emphasizing the internship as a space for research and teacher development.

In the article *Multipaper: an insubordinate format from the perspective of postgraduate students in the area of Mathematics Education*, Paulo Vinícius Pereira de Lima, Karla Vanessa Gomes dos Santos, Ellen Michelle Barbosa de Moura and Geraldo Eustáquio Moreira analyze the advantages and disadvantages of the multipaper format for the dissemination of academic research. They reveal how multipaper is consolidating itself as an innovative approach that favors publication and increases the relevance of academic works.

Rejane Siqueira Julio and collaborators, in *Investigative movements from different classes on introduction to function*, share a collaborative experience in teaching the concept of function, integrating elements of Critical Mathematics Education. The study illustrates the creation of investigative scenarios and the challenges of maintaining dialogue in the classroom, showing how different approaches can enrich learning.

Fernando João and his team, in the article *Perceptions of Mozambican secondary school students about the volume of an object: a teaching experience based on the Hypothetical Learning Trajectory*, investigate students' perceptions about the concept of volume in Mozambique. The study, based on the Hypothetical

Learning Trajectory, reveals the difficulties students have in distinguishing between volume and capacity, pointing to the need for more concrete pedagogical approaches.

In *Argumentation in mathematics education: the state of knowledge of international scientific production from 2011 to 2020*, Fredy Coelho Rodrigues and Marco Aurélio Alvarenga Monteiro analyze the trends of argumentation in mathematics education based on international studies. The research offers an overview of the most explored themes and highlights paths for new investigations on the topic.

Luciano dos Reis Rodrigues and collaborators, in *Working with First-Degree Equations through Problem Solving under a Collaborative Perspective*, investigate the impact of collaborative approaches in teaching first-degree equations. The article compares traditional practices with collaborative and problem-solving methods, showing that the latter promote significant improvements in student engagement and learning.

The article *From exercise to problem: the potentialization of semiotic representation records by GeoGebra*, by Josias Neubert Savóis and collaborators, explores how the *GeoGebra software* facilitates the transition from exercises to problems, encouraging students to construct and interpret semiotic representations in a more dynamic and participatory way.

Finally, Eli Ferreira dos Santos, Ana Maria Amorim Passos and Suzete Souza Borelli, in *The concept of fractions and the meanings presented in the curricular materials of the São Paulo State Department of Education for the 6th year of Elementary School*, analyze sequences of activities for teaching fractions. The study suggests adaptations that can help formalize the concept of fraction, improving students' understanding.

May this issue be a source of research for future inspiration and reflection, fostering perspectives and methodologies that continue to renew the teaching of Mathematics, favoring its learning. We thank all authors, reviewers and readers for their dedication and support to this Journal, and we reiterate our admiration for Guy Brousseau and his legacy, which will continue to illuminate our research and influence our educational practice.

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