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Monograph section

Teaching and learning Mathematics: Different approaches and educational levels

Thematic Editors:

- Dra. Adriana Breda, Universitat de Barcelona (Spain)
- Dr. Luis R. Pino-Fan, Universidad de Los Lagos (Chile)
- Dra. Belén Giacomone, Universidad de la República de San Marino (San Marino)

Focus

The study of the teaching and learning processes of Mathematics conducted from different theoretical approaches is part of didactics, which focuses on understanding the teaching-learning processes of Mathematics and on guiding its improvement. On the one hand, understanding the teaching and learning processes of Mathematics leads to describing, interpreting and/or explaining them. In this sense, it requires tools for a descriptive and explanatory didactic to answer what has happened, how and why? On the other hand, improving the teaching and learning processes of Mathematics requires tools for an evaluative or normative didactic to answer the question: what could be improved? Undoubtely, without a deep understanding of the teaching-learning processes of Mathematics it is very difficult to achieve its improvement.

In recent decades, literature can be found with different theoretical approaches that help to understand, interpret, explain, value and improve the teaching and learning processes of Mathematics in different contexts and educational levels.

The objective of this monograph of the Journal “Alteridad” is to contribute to the analysis and discussion of theoretical-practical aspects and research results related to the teaching and learning processes of Mathematics, from elementary educational levels to Higher and Postgraduate Education, as well as sharing the possibilities and limitations of experiences developed in the teaching and learning of Mathematics in different contexts.

Descriptors

- Teaching and learning algebra
- Teaching and learning geometry
- Teaching and learning calculus
- Teaching and learning probability
- Teaching and learning statistics
- Teaching and learning Mathematics and ICT
- Training of math teachers

Questions

Some questions and reflections raised in this monograph in relation to the topics are:

- How are the teaching and learning processes of the different areas of Mathematics carried out at different educational levels?
- What are the possibilities and limitations offered by different theoretical approaches when addressing didactic-mathematical problems?
- How are ICT addressed and what are their impact on the teaching and learning Mathematics?
- How is the training of math teachers developed in different contexts?

About Thematic Editors

Dra. Adriana Breda, has a degree in Mathematics and Actuarial Science at Universidade Federal do Rio Grande do Sul (Brazil); has a Master degree and PhD in Science and Mathematics Education at Pontificia Universidade Católica do Rio Grande do Sul (Brazil). She is a professor at the Department of Linguistic and Literary Education and Teaching in Experimental Sciences and Mathematics at the Faculty of Education of Universidad de Barcelona (Spain). She is a professor and research collaborator at Universidad de Panamá (Panama). She is member of the Latin American Committee on Educational Mathematics (CLAME). Her research focuses on the training of Mathematics teachers and the teaching and learning Mathematics. The various research carried out have allowed her to publish her outcomes in high-impact journals and editorials at both national and international levels. For further information, visit https://adrianabreda.wixsite.com/abreda
https://orcid.org/0000-0002-7764-0511
https://scholar.google.es/citations?user=oNBwqAgAAAAJ&hl=es
adriana.breda@ub.edu

Dr. Luis Roberto Pino-Fan, holds a PhD in Mathematics Teaching obtained at Universidad de Granada (Spain). He is currently a professor at the Department of Exact Sciences at Universidad de Los Lagos (Chile) and Director of the Master's and Doctorate program in Mathematical Education at the same university. From 2019 to December 2022, he is the director of the Chilean Society of Mathematical Education. In addition, he is a member of various scientific societies such as CLAME, ASOCOLME, SEIEM. He has published more than 50 scientific papers in high-impact journals. He has directed master's and doctoral theses on Mathematics didactics, which can be consulted on http://www.edumat.ulagos.cl/. His research lines are the training of Mathematics teachers, from which he has proposed the model of the teacher's didactic-mathematical knowledge

(CDM) and its developments, history and epistemology of Mathematics, didactics of various mathematical frameworks, and the Ontosemiotic approach. For further information, visit http://www.lrpino-fan.com/

https://orcid.org/0000-0003-4060-7408
https://scholar.google.es/citations?user=by9GKEUAAAAJ&hl=es
luis.pino@ulagos.cl

Dra. Belén Giacomone, has a Master degree on Mathematics didactics obtained at Universidad de Granada (Spain) and a PhD in Education Sciences, in the Teaching of Mathematics at the same university. She is currently an associate professor at Universidad de la República de San Marino (San Marino) and is a member of various research international projects. She directs master's and doctoral theses and has published numerous scientific papers in the area of mathematical education and experimental sciences. Her line of research focuses on development and application of the theoretical system known as Ontosemiotic approach to mathematical knowledge and instruction, mainly focused on the training of Mathematics teachers.

https://orcid.org/0000-0001-6752-2362
https://scholar.google.es/citations?hl=es&user=Fwvwfg8AAAAJ
belen.giacomone@unirsm.sm

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Papers should be sent exclusively through the website of "Alteridad". The submission requires all authors to register, although only one will be the corresponding author. Two files must be submitted simultaneously:

1. The paper must follow "Alteridad" publishing rules.
2. The cover page and cover letter according to the attached model.

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Important dates

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