



15th International Congress on Mathematical Education

7-14 July 2024 • ICC Sydney, Australia
Come and be counted

Topic Study Group 3.9: Research on mathematics classroom practice at primary level

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Team details

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Overview

The purpose of this Topic Study Group (TSG 3.9) is to create a shared space for discussion on research in primary mathematics classrooms from diverse countries. The research on classroom focuses on a variety of theoretical frameworks and methodological approaches. Evidence-based practices, didactical engineering or other innovative and challenging pedagogical approaches can be considered as inputs in primary mathematics classrooms. More generally, the TSG is open towards diverse ways of investigating and supporting students, teachers, and teacher educators' learning in and through mathematics education.

Classroom teaching is a complex and dynamic practice. Situating this complexity in a rapidly changing social environment makes classroom research an important field of enquiry. A variety of





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approaches and foci can be used to unpack this complexity. Along with other challenges, the COVID-19 pandemic raised important questions about students' learning and teaching practices. This TSG can be considered as a space to reflect on the important questions raised by the pandemic about teaching and learning, and the affordances of frameworks and approaches that have been used to study classroom practice. Teaching during the pandemic has been viewed from the lens of both learning gains and learning losses. While existing inequalities were exacerbated during the pandemic, a discursive engagement with primary mathematics has been noticed through the use of innovative technologies, integration of STEAM disciplines, collaborative research and creative ways of working in schools. In this sense, the pandemic may have contributed to creating diverse learning opportunities for students and teachers.

We encourage practitioners, researchers, and teacher educators to share their work on diverse classroom practices, focusing both on the challenges and the approaches that worked. We invite papers on five sub-themes focusing on the theoretical and methodological approaches guided by the psychological, didactical, social, and political perspectives on classroom research in mathematics education at the primary level.

The scope of the TSG includes but is not limited to, research papers that focus on approaches that have been tried in the classroom, affordances of the approaches tried during the pandemic, experiences or efforts to integrate digital technology or STEM disciplines, and so on. The TSG will welcome each research area which may contribute to learning opportunities for students, teachers and teacher educators focusing on specific (sub-)topics or experimenting with various ideas (engaging with socio-mathematical norms, collaborative and dialogic work, school leadership, scaling up research and so on) at the primary school level.

We propose that the selected papers from the TSG be considered for publication in the form of a book or a special issue of an international journal.

Areas of interest

We welcome the research papers on the following sub-themes:

1. Theoretical and methodological approaches guided by epistemological, cognitive, social, and didactical frameworks in the teaching and learning of primary mathematics.
2. Research on evidence-based practices or didactical engineering to support students' learning of foundational topics and mathematical thinking process, such as number sense, arithmetic, structure and properties, proportional reasoning, measurement, fractions, patterns, geometric ideas, etc.





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3. Challenges arising from the use of diverse, networked and/or conflicting perspectives, approaches, and research tools for investigating classroom practice at elementary level.
4. Challenges in reforming teaching and learning of mathematics in primary education and the large-scale implementation of innovative approaches.
5. Initiatives in teacher education, professional development and teacher preparation for research and teaching at the primary school.

Please feel free to write to the Co-Chairs if you have any questions about the relevance of your work for this TSG.

How to make a submission to this Topic Study Group

Submissions for Topic Study Group Papers and proposals for Posters open 28 April 2023 via the official ICME-15 website, icme15.org. The website also contains a timeline of dates for the activity of the Topic Study Groups in the lead up to the Congress.

For questions about this TSG, please contact the Co-Chairs using the email addresses provided.

