



Topic Study Group 4.1: Preservice mathematics teacher education for the early childhood/primary level

Strand A

Team details

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Overview

The purpose of this Topic Study Group is to explore the complexities of the preservice education and preparation of early childhood and primary mathematics teachers from multiple perspectives. The 'early childhood/primary' range includes the mathematics education of children from birth through to approximately 12 years, a period in which critical conceptual development takes place and dispositions towards mathematics are formed. The three broad perspectives of policy, teacher educators and pre-service teachers (PSTs) provide a framework for our international explorations.





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Each of these perspectives typically involves different groups of people that operate in their own domains, yet also influence each other in a variety of ways. The policy perspective includes the political agendas and other societal factors that shape the contexts in which mathematics education operates. The teacher educator perspective captures their multiple roles as researchers, teachers, collaborators and curriculum designers, as they mediate the tensions between policy and the needs of their student-teachers. The PST perspective concerns the characteristics and 'voices' of the PSTs themselves and their experiences as they work towards enacting appropriate and effective mathematics education with children. Research studies often involve the interactions between these perspectives, either directly or through proposing implications of findings.

Areas of interest

TSG 4.1 welcomes research reports, scholarly papers and posters that provide insights into contexts, advances in knowledge and practices, and issues associated with the initial education of early childhood and primary mathematics teachers. The following themes and sub-themes provide guidance but are not intended to be restrictive. Some papers may span more than one theme or introduce a new sub-theme.

The policy perspective

- Political agendas, policies and priorities that influence the status and preparation of mathematics teachers.
- Education systems, structures and contexts that impact PST mathematics education.
- The relationship between official mathematics curriculum for schools and teacher education curriculum.

The teacher educator perspective

- Teacher educators' mathematical knowledge and professional development.
- Teacher educators' beliefs about mathematics or mathematics teaching and learning.
- The development of innovative practice and its evaluation.
- Changes in ways of working with PSTs in the pandemic era.
- Research frameworks and methodologies in PST education.
- Assessment and evaluation of PST competencies.





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The PST perspective

- Mathematical knowledge (Content Knowledge [CK] and Pedagogical Content Knowledge [PCK]) and reasoning for teaching.
- PST characteristics (beliefs, self-efficacy, identity, motivation and engagement) in relation to learning and/or teaching mathematics.
- Experiences of mathematics education coursework (content, tasks, assessment).
- Experiences of practice-teaching (practicum).

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.

