



15th International Congress on Mathematical Education

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

Topic Study Group 4.5: Knowledge in/for teaching mathematics at primary level

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Team details

Co-Chairs

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Overview

Following Shulman's (1986) suggestion that teaching requires knowledge that is distinctive to the teaching profession, teachers' knowledge in/for teaching mathematics has attracted strong research interest worldwide. Different approaches have emerged on how this knowledge can be studied, developed, and strengthened. TSG4.5 will offer a forum to explore and extend the current conversation on primary teachers' mathematical knowledge in/for teaching. Focused discussion following presentations from participants and invited speakers will be a key element of this TSG.





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Areas of interest

We invite submissions of theoretical or empirical research reports on significant new trends and developments in research, theory, and practice about all different aspects that relate to the knowledge in/for teaching mathematics at primary level (learners' ages 5-13) in the following focus areas:

The relationship between teacher knowledge and children's knowledge

- How attending to children's mathematical thinking influences teachers' knowledge.
- How primary/elementary teachers use the leverage of core mathematical knowledge to nurture children's mathematical minds.
- The influence of teachers' knowledge on the development of children's knowledge.

Contexts for developing teacher knowledge

- Learning in collaborative communities, such as communities of inquiry, professional learning communities, and lesson study.
- Teacher knowledge acquisition through the practice of teaching.

The acquisition of mathematical knowledge in pre-service teacher training

- Aspects and uses of knowledge in/for teaching mathematics.
- Cultural aspects of mathematical knowledge for teaching primary mathematics, such as cultural responsiveness, equitable teaching, and teaching of mathematics in social and political contexts.
- Knowledge required for specific aspects of mathematics teaching practice, such as problem solving, high-leverage practices, and attention to diverse learners.
- Use of mathematical knowledge in the different phases of teaching, including lesson planning, observation of students, task design, class discussion and situations of contingency.

Methods for studying mathematical knowledge in/for teaching

- New and innovative methods for studying primary teachers' knowledge in/for teaching mathematics.





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The conceptualisation of knowledge in/for teaching

- Defining and/or categorizing critical features of knowledge in/for teaching primary mathematics.
- The mathematical knowledge of generalist primary teachers.

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.

