



Topic Study Group 1.1: Teaching and learning of number and arithmetic

Strand A

Team details

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Overview

The purpose of this TSG is to gather congress participants who are interested in research and development in the teaching and the learning of number systems and arithmetic through activities in and out of school. The mathematical domains include whole numbers, integers, ratio and proportion, and rational numbers as well as representations and problem solving using numbers related to each of these domains:

- Research-based specifications of domain-specific goals;
- Analysis of learning processes and learning outcomes in domain-specific learning environments and classroom cultures;





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- New approaches to the design of meaningful and rich learning environments and assessments;
- How the teaching and learning of number and arithmetic intersect with issues of equity, diversity, and inclusion.

Areas of interest

We warmly invite submissions of research-based proposals for contributions to TSG 1.1 that could fall into (but are not bounded by) the following issues:

- Developing a deep understanding of arithmetic and number systems.
- Developing number sense in children as a foundation for learning arithmetic.
- Developing flexibility in mental calculation.
- Assessing conceptual or perceptual knowledge in learning arithmetic and number systems.
- Curriculum development and implementation (for instance, approaches to introducing numbers and comparative analysis of different curricula in one country or across countries).
- Instructional models and strategies for teaching arithmetic and number systems.
- Developing mathematics proficiency in teaching arithmetic and number systems.
- Using tools, such as technology, manipulatives, and children's literature, in teaching and learning number systems and arithmetic.
- Professional development and teacher education related to teaching arithmetic and number systems.
- The role of Indigenous mathematics (including knowledge systems, ways of being, tools and practices) in the learning and teaching of arithmetic and number systems.

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.

