

CERME 13: Thematic Working Group 02

Arithmetic and Number Systems

Leader: Pernille Bødtker Sunde, (Denmark), pbos@via.dk

Co-leaders: Rathgeb-Schnierer, Elisabeth (Germany), Renata Carvalho (Portugal), Ioannis Papadopoulos (Greece)

Scope and focus of the Working Group

Working Group 2 is a forum for presenting and discussing research and development in the teaching and learning of arithmetic and number systems through activities. The various topics include whole numbers, integers and rational numbers, as well as representations and problem solving using numbers and operations related to each of these domains.

The scope of the TWG comprises kindergarten to 12th grade, and emphasizes

- research-based clarification of domain-specific concepts and goals,
- analysis of domain-specific learning processes and learning outcomes, and
- innovative approaches for designing meaningful and rich learning environments and assessments.

Call for papers and poster proposals

TWG 2 invites submissions of substantial research-based proposals (theoretical, methodological, empirical or practical) from a wide range of perspectives, including cognitive, socio-cultural and developmental ones. We especially welcome contributions (papers or posters) related (but not strictly bounded) to the following issues:

- Developing a deep understanding of arithmetic and number systems.
- Conceptual understanding and procedural skills for learning numbers and operations.
- Developing number and structure sense as a foundation for flexibility and mastery.
- Problem solving in learning and teaching arithmetic and number systems.
- Innovative approaches for teaching and learning arithmetic and number systems (particularly in heterogeneous classrooms and inclusive education).
- Using tools (e.g. technology, manipulatives) in learning and teaching arithmetic and number systems.
- Aspects of number theory (including specific reasoning) that should and can be taught in primary and secondary school.
- Supporting and analysing long-term learning processes from kindergarten to 12th grade.
- Cultural tools and practices for learning and teaching arithmetic and number systems.
- Approaches for teachers' domain-specific professional development.

Papers and poster proposals should use the CERME template, and conform to the guidelines at <https://cerme13.renyi.hu/>. CERME 13 uses an electronic submission system <https://www.conftool.pro/cerme13/>. The authors submit the initial version of their paper on the website (uploading it both as a .doc and a .pdf file, and providing the required information, in particular the TWG number).

Reviews and decisions

Each paper will be peer-reviewed by two persons from among those who submit papers to this TWG. Please expect to be asked to review up to two papers yourself. The group leaders will decide about the acceptance of posters.

Important dates

- **15 February 2023:** Deadline for submission of papers and posters.
- **5 April 2023:** Preliminary decisions on papers and posters.
- **10-14 July 2023:** CERME 13 takes place.
- See <https://cerme13.renyi.hu/deadlines> for other important dates