

CERME 13: Thematic Working Group 3

Algebraic Thinking

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Scope and focus of the Working Group

Algebraic Thinking is a well-established Working Group at CERME. TWG3 provides a forum for international discussion on issues related to algebraic thinking and the teaching and learning of algebra. We welcome papers from a variety of different theoretical frameworks and methodological approaches, and expect papers will address issues at all levels from early algebra through to university algebra.

Call for papers and poster proposals

Working Group 3 welcomes philosophical, theoretical, methodological, empirical, or developmental papers and poster proposals on issues related to algebraic thinking. The scope of the Working Group is broad and any paper/poster of relevance to the overall focus of the group will be welcomed. A paper could, for example:

- Review the literature to examine how theories interrelate or influence what can be understood.
- Extend existing research on the nature of algebraic thinking (e.g., how students perceive and use algebraic concepts and procedures).
- Offer fresh insights on established research topics, such as fundamental algebraic objects and processes (e.g., symbolization, structure, generalization, proof, and justification).
- Provide insight into links or differences between arithmetic and algebraic thinking.
- Examine the use of algebra as a modelling tool.
- Consider mathematical tasks used as instruments to teach and develop algebraic thinking.
- Describe new approaches for developing algebraic thinking.
- Consider the role of technology or other teaching materials.
- Consider the role of teacher-student interactions whilst involved with algebraic activities.
- Discuss professional development programs that support teachers' development in algebra instruction.
- Report on translating research into classroom practices.
- Report large scale/longitudinal studies or replicate and extend existing research to new contexts.

The focus of any empirical or developmental research may vary from micro-level studies of individual students, classrooms or teachers to macro-level studies of educational systems. We particularly welcome papers that extend topics of previous TWG3 contributions.

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