

CERME 13: Thematic Working Group 17

Theoretical Perspectives and Approaches in Mathematics Education Research

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Scope and focus of the Working Group

Theories are an integral part of each scientific discipline. The CERME working group TWG 17 has been focused on the question of how to work with theories, including those specific to and extending beyond the field of mathematics education. A key issue is navigating and coordinating different theoretical approaches, to solve problems in the field and to better understand the complexity of teaching and learning mathematics. In CERME 13, we address questions raised over the last two decades, as well as new questions emerging from contemporary situations. First, we call attention to the ontological, epistemological, axiological, and ethical dimensions of theorizing. On the one hand, how do researchers make decisions about theoretical and/or methodological approaches? On the other hand, how do researchers interrogate the consequences of their approaches? Second, we consider how new theoretical and/or methodological questions can emerge from contemporary situations. For example, how does the impact of the global pandemic on students' schooling influence researchers' need to cross theoretical, methodological, and/or disciplinary boundaries? Third, we ask how horizontal theorizing (to illuminate aspects of empirical phenomena) and vertical theorizing (to address meta-issues of theorizing and theory use) can lead to theoretical progress in mathematics education research. For example, how can theorizing advance knowledge of technology use? How can the development of theoretical approaches, such as theory networking, help the field of mathematics education to recognize its strengths and potentialities?

Call for papers and poster proposals

We invite researchers to submit papers (8 pages maximum) and poster proposals (2 pages) on the subsequent issues addressing one or more aspects from the list below. To avoid resting on an abstract level we welcome papers presenting concrete research, for example (case) studies **offering data or concrete descriptions to be discussed**. Topics include but are not limited to:

- Epistemological, ontological, axiological, and ethical dimensions of theory and/or methodology; how do researchers make decisions and interrogate the consequences of their approaches?
- Adaptation of existing theoretical/methodological approaches with respect to contemporary situations, including a need to employ new theories and/or cross boundaries between disciplines.
- Advancing knowledge of phenomena in mathematics education via horizontal theorizing.
- Advancing theoretical knowledge in mathematics education via vertical theorizing.

We also welcome proposals that address other relevant aspects of the overall topic.

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