CERME 14: Thematic Working Group 22

Curricular Resources and Task Design in Mathematics Education

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Scope and focus of the Working Group

Mathematics curricular resources, encompassing both physical and digital forms, play a pivotal role within the curricular system by reflecting and influencing the mathematical practices of both teachers and students. These resources are integral to the teaching and learning process, and students and teachers interact with them before, during, and after teaching, inside and beyond the classroom setting, on an individual and group basis for designing, teaching and learning, and assessment purposes. Due to their fundamental importance in mathematics education, these resources frequently become the centre of professional development initiatives aimed at enhancing teachers' competences in/for teaching (including instructional design). Furthermore, curriculum resources offer a valuable perspective for investigating and comparing teaching and learning practices and curricula across educational contexts.

Mathematics tasks represent constituent parts of curricular resources. Teachers' use and adaptation of tasks derived from textbooks or other sources play a crucial role in shaping students' opportunities for learning, understanding, and developing mathematical concepts, skills, and habits of mind. The ways in which tasks may support effective teaching practices are documented within various research studies focused on aspects of task design, methods for task analysis and criteria for an effective use of tasks in both traditional and digital learning environments. Recent research studies have also highlighted that fostering students' active role in task design enhances their insights into their knowledge, understanding, and reflections on the activities they are involved in.

Call for papers and poster proposals

We invite research-based papers and poster proposals on the following themes:

• Teachers' and students' interactions with curricular resources/tasks, from early grades to university level, and effects of these interactions over time (e.g., longitudinal studies);
• The design of curricular resources/tasks to pursue specific learning goals, focusing on a particular topic or extending the unit of analysis across the curriculum;
• The role of material and non-material resources involved in the design and implementation of tasks in different settings (digital environments, games, authentic and/or realistic settings...);
• Collaborative processes that characterise the work developed by different communities (of teachers, researchers and students) to design curricular resources/tasks and to reflect on their implementation;
• The significance of context for curriculum implementation;
• The study of educational systems through the lens of curricular resources;
• Theoretical foundations and methods of task analysis to inform task design and high scale or implementation studies.

Papers and poster proposals *must use the CERME template*, and conform to the guidelines at https://www.cerme14.it/. CERME 14 uses an electronic submission system https://www.conftool.pro/cerme14/. 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 author papers to this TWG. *All co-authors* can be asked to review up to two papers. The group leaders will decide about the acceptance of posters.

Important dates

- **See https://www.cerme14.it/ for important dates**