



TSG 22 Interdisciplinary mathematics education

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Aims

The aim of this Topic Study Group is to gather educational researchers, teachers, mathematicians, teacher educators, and other experts for an exchange of ideas related to interdisciplinary approaches to the learning and teaching of mathematics. We expect to develop a conversation between research and practice about the state of the art, and the future agenda. This is particularly relevant in the context of Science, Technology, Engineering and Mathematics (STEM), which has recently come to political prominence. Participants with interests ranging from early childhood to tertiary education are welcome, as are those with interests in policy, practice, and philosophical perspectives.

The focus of the group will be on the ways that mathematics relates to other disciplines, including science disciplines, often within technological and professional contexts, but also in relation to other increasing demands for mathematics – for example from the social sciences and arts.

Participants will have the opportunity to reflect on and discuss questions about theory and practice – based on theoretical or empirical research and development, as well as on reflective practice in the profession, and political and economic pressures.

Participating in this TSG

We invite the submission of proposals addressing (but not restricted to) one of the following questions, themes and issues:

Philosophy, policy, curriculum and assessment

- What are the relationships between Mathematics, broadly conceived, and: Mathematical Science; Physical and Natural Sciences; Social Sciences; Arts etc.?
- What are the implications for policy, curriculum, and assessment?

Political and economic concerns relating to STEM

- Participation rates in STEM in secondary and tertiary education.
- Fulfilling the need for mathematical skills in a "knowledge society".
- Supply of teachers and teaching "out of field".

Research and development of interdisciplinary mathematics

- Integration of mathematics with other disciplines across the curriculum in school and tertiary studies.
- Assessment of multiple dimensions of learning outcomes from interdisciplinary contexts.
- Knowledge bases and teacher development needs for interdisciplinary work.