



15th International Congress on Mathematical Education

7-14 July 2024 • ICC Sydney, Australia
Come and be counted

Topic Study Group 5.6: Research and development on mathematics curriculum

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Team details

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Overview

Mathematics curriculum is an important driving force the world over towards changing priorities and teaching and learning practices. Its design and implementation are influenced by myriad factors including the socio-political-economic contexts, demands placed by global networks, large-scale international and high stakes national assessments, and the culture of shadow education in several countries. There has been a significant rise in interest in curriculum research in mathematics in the last several decades, with research pertaining to social, historical and political influences on curriculum design and development; analysis of the alignment of curricular materials to the intended curriculum and their influence on the enacted curriculum; and in a broad sense, analysis of the impact of the curriculum, including national testing and assessment regimes, upon teaching-learning





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practices of teachers and students in classrooms, schools districts and beyond. The recent global advent of COVID-19 gave rise to new research, analysis and reflections on online and digital mathematics education of students across all levels of education.

Areas of interest

TSG 5.6 invites policy makers, test designers and assessment authorities, academic administrators, researchers, curriculum developers, teachers and teacher educators with interest in research and development of mathematics curriculum, to submit papers and posters and to participate in the deliberations of the TSG 5.6 at ICME-15. We will be happy to receive theoretical and empirical contributions that may address one or more of the following themes.

Theme 1: Socio-historical-political analysis of curriculum

This theme explores the changing nature of curriculum and influences upon its re-design in different education systems; the political nature of curriculum reform and change; changes of curriculum from an historical perspective; the purposes and goals of curriculum for society; the cultural influences on curriculum development; embedding cultural knowledge and respect into the curriculum; fundamental aims of curriculum and access and equity of education for all citizens.

Theme 2: Mathematics curriculum development processes and influences on it

This theme explores the structure and content of the curriculum in different education systems; its organizational processes and theoretical underpinnings; new inclusions and changes of emphases in curriculum content; research and guiding principles of curriculum development; the impact of technology in society and how it is addressed in the curriculum; expectations of achievement standards for students at important school junctures; the assessment of children and students' knowledge and understanding of mathematics; the impact of national testing regimes and formal assessment directives within the curriculum structure.

Theme 3: Teachers, teaching and curriculum development and reforms

This theme addresses enactment of the curriculum across different education systems; the professional development of teachers and their role in implementing the intended curriculum; the voice of teachers in curriculum design and delivery at the school and classroom level; learnings from





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large professional development programs and implications for curriculum reform; curriculum interpretation at the classroom level; positioning of teacher knowledge of curriculum and the professional status of teachers in teacher education systems; teacher freedom to design and enact the curriculum.

Theme 4: Impact of curriculum on students

This theme explores student learning of mathematics and learning outcomes aligned to mathematics curriculum design; the impact of new emphases in the curriculum and student learning outcomes; student voice as the end-receivers of curriculum; parent expectations of teachers and students in relation to curriculum standards and expectations; the hidden influences of curriculum reform on students.

Theme 5: Impact of COVID-19 on curriculum

This theme explores the impact of a global disruption to schooling in the face of COVID-19; teacher learning of mathematics curriculum design and delivery during COVID-19; shifts in student and parent expectations about mathematics lesson delivery; online teaching and learning of mathematics curriculum; implications of COVID-19 for curriculum access; innovations in teaching and learning of specific curriculum topics; affordances and disadvantages of online teaching of mathematics.

How to make a submission to this Topic Study Group

Submissions for Topic Study Group Papers and proposals for Posters open 28 April 2023 via the official ICME-15 website, icme15.org. The website also contains a timeline of dates for the activity of the Topic Study Groups in the lead up to the Congress.

For questions about this TSG, please contact the Co-Chairs using the email addresses provided.

