TSG 53
EQUITY IN MATHEMATICS EDUCATION

The Organizing Team

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Framing and laying out the scope of the TSG

ICME conferences have a longstanding engagement with the question of inclusion and exclusion in mathematics education. Themes such as gender, disability, indigenous mathematical knowledge, socioeconomic class, culture and language figure consistently and over the years in the activities of ICME. ICME-13 for the first time introduced a Topic Study Group (TSG 33) specifically to address Equity (including gender) in Mathematics Education. The Topic Study Group envisioned itself as an all-encompassing group in which to 'discuss issues that traditionally have been included under labels such as inclusive education or diversity as well as equity and social justice' acknowledging that 'variations exist among countries in the terms used and the categories pertinent to local educational setting' and making a specific reference to gender beyond the binary understanding of gender. It also drew attention to the fact that new theoretical models have changed our understanding of the complexity involved in addressing equity issues.

The Topic Study Group on Equity in Mathematics Education in ICME-14 seeks to build on what ICME-13 achieved and go beyond it. The factors that lie at the heart of equity in mathematics education are

a)   the acknowledgement that students from socioeconomic, caste , racial, cultural, regional, religious, ethnic, linguistic and gender margins as well as physically and mentally disabled   students experience forms of exclusion which impact their mathematical experiences, compromising their wellbeing. These forms of exclusion are historical, structural, as well as interpersonal and individual and they have lasting consequences for the students in accessing higher education and in pursuing mathematics

b)   the understanding that every student should have the opportunity to learn mathematics to the extent they feel it is desirable or appropriate for them, both from the perspective of fairness in mathematics education and from the fact that mathematics plays a central role in the geopolitical and globalized technocentric world in which we are living

c)   the realization that the equity question is integrally linked to a critical understanding of mathematics education that is prevalent in schools across the world and a movement towards a more just and humanizing mathematics education for the learner.

Gender based exclusion in mathematics education has a long history of academic engagement and there is substantial scholarship that seeks to explain the multiple ways in which gender figures in shaping opportunities for learning mathematics. However, most of these studies have not addressed the issue of intersectionality and the complexity it brings in to the discourse on gender and mathematics education. To be more specific, the scholarship on gender and mathematics education has not adequately focused on how race, class, ethnicity and other socio-cultural factors affect girls' opportunity to learn mathematics. Moreover, emerging scholarship in transfeminism and queer theory, have challenged our understanding of gender as a binary.

There is an urgent need therefore to go beyond gender (as an unequivocal or unambiguous binary) and address the equity question in mathematics education from a broader and intersectional perspective. In particular, there is an urgent need to understand the strengths (benefits) and challenges involved in realizing 'mathematics education for all' for the students (of all genders) from diverse and marginalised socioeconomic, caste, racial, cultural, regional, religious, ethnic, linguistic background, for disabled students and for migrant and/or first and second-generation immigrant children.

Concerns and questions that the TSG seeks to foreground:

1)   What are the experiences of religious, racial and ethnic minorities and those from marginalised castes in learning mathematics?   How do class, caste, race, culture and ethnicity operate to shape opportunities for the learners in the classroom?

2)   How do factors such as migration for labour, continued conflict, repeated natural calamities and so on impact teaching and learning of mathematics? What systemic measures (if any) have been evolved to address these issues?

3)   How do we address language diversity in mathematics classrooms? Given that English is emerging as the language of power and possibilities and it is the medium instruction in large number of schools in urban locations, what are the challenges involved in teaching and learning mathematics in a language that is not the home language for the teacher as well as the students?

4)   How does family and community membership affect mathematics learning and teaching? In

what ways can we leverage children's lived experiences and funds of knowledge as resources for learning and teaching mathematics?

5) What do we know about the experiences of students who are placed in the intersection of several categories? More specifically what does mean to be an African American girl, a rural poor boy, an emerging bilingual immigrant child seeking asylum in a different county, a migrant labourer's child living in a multilingual urban slum, a tribal, Dalit or a transgender student from a low/ middle-income family and so on in the context of teaching and learning mathematics?

6) How do teacher education programs acknowledge the existing research on equity issues and introduce measures to address the issues in the preservice and in service training programmes?

7) What are some of the new theoretical frameworks evolved to understand the complex contexts in which mathematics education takes place and how we can transform mathematics education to be more humanizing and just spaces to learn and teach mathematics?

Call for papers, posters and short oral presentations
Submissions for the Topic Study group can focus on any one or more of the questions raised here or on a new category that is not listed here, laying out clearly how the category configures in the local context and how it fits with the concerns of the Topic Study Group on equity in Mathematics Education.

Reference
1. See http://www.icme13.org/files/tsg/TSG_33.pdf
2. Caste is a form of social stratification that operates in India and some of its neighbouring countries. The term Dalit in India refers to those who were placed outside the caste hierarchy and treated as untouchables.
3. We use the term 'disabled' rather than 'differently abled' or 'persons with disability' to draw attention to the fact that the physical space and the institutions are organised and function in ways that disable those whose bodies and mind do not conform to the normative notions about bodies and minds.
4. African American, Latin@, people of colour in the USA, black and people of colour in Europe, students from northeast regions in India and so on