GLOBAL PERSPECTIVES OF EQUITY IN MATHEMATICS EDUCATION: DEFINITIONS, CHALLENGES, PATHS FORWARD

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The pursuit of equitable mathematics education is a fundamental challenge as well as a moral and global imperative. For example, the United Nations (U.N.) sustainable development goals include the creation of quality education systems that encompass equitable lifelong learning opportunities and inclusivity for all (U.N., n.d.). Disparities in mathematical achievement have long persisted, often along lines of differing cultural perspectives and knowledge systems, race, ethnicity, language, socioeconomic status, disabilities, sensory- or neurodiversity, and other social identities. These disparities are not just a reflection of inherent ability, but rather a consequence of systemic inequities that impact students' access to rich, meaningful mathematical learning experiences.

We invite scholars to engage in a conversation about equity—to share theoretical groundings, definitions, and operationalizations, as well as the literature that they read and contribute to. The goal of this working group is to establish a long-term collaborative conversation about equity and equitable teaching practices in classrooms in the context of mathematics education research. Equity has been defined and operationalized in various ways in mathematics education. Esmonde (2009) defined equity as "a fair distribution of opportunities to learn" (p. 249); Hunter and Hunter (2023) have operationalized equity as "explicitly connect[ing] and build[ing] on the cultural, social, and linguistic contexts of non-dominant students, their family and community" (p. 1768); whereas Ernest et al. (2019) posited that "participatory equity" occurs when "students from marginalized groups in mathematics […] participate at rates proportional to their demographic representation in a classroom" (p. 155). However, studies on equity often do not explicitly define or operationalize the term. For example, in a literature review that sought to identify definitions and operationalizations of equity in mathematics instruction, only 21 out of 171 articles in mathematics education provided either a definition or operationalization of equity; these included notions of fairness, access, participation, demanding mathematics, and references to bridging, identity, agency, and power. Often, we found that the terms equity, equality, diversity, and inclusivity were used interchangeably.

At the same time, in some countries we have seen a recent shift in policy direction that posits a simplistic view of addressing equity issues, and proposes that all students learn the same. Voices advocating for such a shift are claiming that if we therefore teach all students mathematics in the same way using direct instruction, all students will learn. We contend instead that a critical component of addressing inequities lies in fostering

2025. In C. Cornejo et al. (Eds.). *Proceedings of the 48th Conference of the International Group for the Psychology of Mathematics Education*, Vol. X, pp. XX-YY. PME.

the ability to grasp the underlying nature of mathematical concepts based on what one knows, rather than relying solely on rote memorization.

We are cognizant that concepts of equity and equitable teaching vary across different nations and cultures, reflecting diverse historical experiences, social structures, and systemic challenges related to varied histories of colonialism, slavery, indigenous oppression, caste systems, and economic disparities. Our group seeks to develop an understanding of equity specifically in the contexts of mathematics education research and classroom instruction. The working group will focus on: (a) Comparing definitions and operationalizations of equity in research and in mathematics classrooms, (b) Developing sensitivity around definitions of understanding equity and equitable classrooms within international contexts, and (c) Synthesizing issues and research approaches to understanding equity and equitable classrooms.

Day 1: Introductions/discussion of goals (30 min). Main discussion points and defining equity in different settings (60 min): (1) Discuss the contexts in which this work is conducted (nations, cultures, diverse historical experiences, social structures, and systemic challenges); (2) Share literature, frameworks, and operationalizations of equity and equitable teaching practices, research approaches; (3) Create a shared database of sources, definitions, and operationalizations. **Day 2:** Summarize discussion points from the first session (15 min). Discuss the similarities, differences, constraints, and affordances across countries, cultures, and educational contexts for defining equity and equitable teaching (30 min). Small group activity to plan and develop a mini research initiative. Groups will define future work related to equity in mathematics education, formulate a research question, outline a research plan and potential impact of the research on mathematics classrooms striving for equity, and wrap-up (45 min).

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