

**EQUITY IN MATHEMATICS EDUCATION:
WHAT DID TIMSS AND PISA TELL US IN THE LAST TWO DECADES?**

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Equity in education has been a concern of almost all countries, whether developed, transitional, or in the progress of developing. It is believed that unequal education implies that human potential is being wasted. Equity issue is both a social and an individual problem (Grubb, Jahr, Neumüller, & Field, 2005). Further, educational inequity and its many consequences are nearly never completely random. They usually affect some groups more than others. Consequently, group inequity would then be more serious than inequity that can be attributed to random elements or individual attributes which are thought to be randomly distributed within the population.

Studies of education equity are often linked with studies of excellence and equity (e.g., Bowen, Kurzweil, & Tobin, 2005). Conventionally, equity outcomes of mathematics learning are measured by linking student performance with factors such as gender, socioeconomic status (SES), indiginity, culture, religion, language, geographical location, and educational level of parents. Though different countries use different sub-sets from this set of measures to define diversity and assess how equitable their education systems are, gender, indiginity, and SES are among most commonly used measures. Moreover, it should be noted that educational inequalities and social injustices do not work in isolation, and a combination of two or more of these dimensions can increase disadvantages several times over (Morley, Leach, & Lugg, 2009; UNESCO, 2008). In many countries, these factors further have clear historical roots and trajectories.

The present study focused on students with different characters as aggregate groups in an examination of similarities and differences in both schooling experiences and outcomes. The similarities and differences were reviewed in relation to the subject of mathematics, covering attitudes, experiences, as well as outcomes. Except where noted, the information analyzed here was based on data from TIMSS and PISA databases. This investigation aims to paint an overall picture about gender equity and indiginity equity in mathematics education in selected education systems over the last twenty years. Secondly, it is hoped that the similarities and differences revealed in the study can provide useful insights to individual education systems and further help them to identify more promising practices to narrow or even eliminate the existing between-system gaps as well as within-system gaps.

References

- Bowen, W. G., Kurzweil, M. A., & Tobin, E. M. (2005). *Equity and excellence in American high education*. Charlottesville: University of Virginia Press.
- Grubb, N., Jahr, H. M., Neumüller, J., & Field, S. (2005). *Equity in education thematic review: Finland country note*. Paris: OECD. Retrieved December 8, 2006, from <http://www.oecd.org/finland/36376641.pdf>
- Morley, L., Leach, F., & Lugg, R. (2009). Democratizing higher education in Ghana and Tanzania: Opportunity structures and social inequalities. *International Journal of Educational Development*, 29, 56-64.
- UNESCO (2008). *Education for all global monitoring report 2009*. Oxford: Oxford University Press.