

Teaching mathematics to address fundamental human rights

What does it mean to teach mathematics? What are the characteristics of a “good” teacher of mathematics? How does/can “good teaching” develop?

These questions are fundamental to a discussion of how we can teach mathematics for the effective learning of our students. By “effective” I mean teaching that fosters students’ enjoyment, understanding and proficiency in mathematics. The discipline of mathematics education is central to these considerations: although we draw on didactics more generally, the *nature* of mathematics places important demands on teachers.

Public perceptions of mathematics are often negative, with people unafraid to admit that they never liked nor understood mathematics. Often, they blame this on the teaching they experienced. One criticism is that mathematics is elitist: only accessible by the special few who are privileged to be able to make sense of it. Yet, many would also acknowledge that mathematics is an essential curriculum subject since it is so important in everyday life and in fields such as business, science and engineering. It follows that those who find mathematics inaccessible are being denied fundamental human rights in furthering their academic, professional and social development.

We therefore need to address what forms of teaching mathematics will make a difference for people generally, and how teachers can learn how to teach for a wide range of learning perspectives and needs.

I will approach my initial questions from three perspectives

- a) relationships between mathematics teachers and mathematics
- b) relationships between mathematics teachers and their students (at all levels)
- c) ways in which such relationships develop and enhance knowledge and practice in mathematics teaching.

In doing so, I will draw on research in mathematics education widely including my own research and long experience as a teacher of mathematics and teacher educator. I will address the roles of a teacher educator in relation to the development of mathematics teaching and suggest that new pedagogies in mathematics demand the knowledge of *both* teachers and teacher educators to promote effective development of the practice of teaching.