

# Preface

Teaching and learning mathematics is a political act in which children, teachers, parents, and policy makers are made visible as subjects. As they learn about mathematics, children are also learning about themselves – who they are, who they might become. We can choose to listen or not to what children have to say about learning mathematics. Such choices constitute us in relations of power.

Mathematical know-how is widely regarded as essential not only to the life chances of individuals, but also to the health of communities and the economic well-being of nations. With the globalisation of education in an increasingly market-oriented world, mathematics has received intensified attention in the first decade of the twenty-first century with a shifting emphasis on utilitarian aspects of mathematics. This is reflected in the reconceptualisation of mathematical competence as *mathematical literacy*, loosely conceived as those ways of thinking, reasoning and working “mathematically” that allow us to engage effectively in everyday situations, in many occupations, and the cut and thrust of world economies as active, empowered and participatory citizens.

It is no surprise then that mathematics has become one of the most politically charged subjects in primary school curricula worldwide. We are experiencing an unprecedented proliferation of regional and national strategies to establish benchmarks, raise standards, enhance achievement, close gaps, and leave no child behind in mathematics education. Industries have sprung up around the design, administration and monitoring of standardised assessment to measure and compare children’s mathematical achievement against identified benchmarks and each other. Whether regional, national or international, such tests wield substantial political power. They are used by educational policy makers to report to parents and to education ministers, or to gauge teacher and school effectiveness, and because they are widely believed to provide robust evidence of the mathematical strengths and weaknesses of individual children across demographic groups, schools, and geographical regions, standardised test results are used to justify particular pedagogical approaches over others and to support further research. Despite these efforts, significant disparities continue to be observed.

Somewhere in the nexus of mathematics, government, education, commerce and industry, our children are socially constituted. Children are generally oblivious to the wider forces that shape their everyday worlds and take it for granted that school

is the place where every child must go to learn. School is also the place where, from a very young age, children first meet formal learning of the subject we call “mathematics.” From the outset most children have little say in how their learning of mathematics will be presented, structured and sequenced or in the mathematical content they will encounter. Children’s unique and individual qualities, including their mathematical ways of seeing and interpreting the world, are seemingly of little account as they are processed through the apparatuses of testing, grading, grouping and mathematical instruction that reify and position them as the objects of mathematical education.

Since the 1980s there has been an increasing global focus on human rights in the design and implementation of social policy, of which education forms a significant part. In documents such as the widely ratified United Nations Convention on the Rights of the Child,<sup>1</sup> the *child* is figured as an active agent with the right to participate in decisions that affect the child’s life. Children are produced in the discourse of human rights as valued members of their communities with legitimate if diverse (childish?) ways of seeing, their thoughts and feelings about the world valued as necessary and worthwhile contributions to our societies, yet studies show that children themselves believe that adults show little concern or respect for their views and opinions (e.g. Tucci et al. 2007).

Recognition of children’s right to inclusion in decisions about their schooling can be seen as part of a movement towards a critical education that seeks to enhance learners’ participation and thus reconfigure learning spaces to reflect the child not merely as a cognising and increasingly autonomous unitary “self” but also as a socially connected, corporeal, emotional, ethical, and aesthetic self constantly in the process of becoming in dynamic engagement with her or his environments (Lloyd-Smith and Tarr 2000). As such, this book is radical for its assertion that it is in our recognition of the different and equal being of children as mathematically active *subjects* whose experiences, worldviews, proclivities, passions, and aversions are a continuously engaged and constitutive part, that the right of children to be heard, not simply to be seen as a demographic to be researched, operated upon, manipulated and inscribed within our educational policies and institutions, might be enacted in a critical mathematics education that serves, rather than being served upon, our children. In such a spirit this book acts as a mouthpiece through which children speak about their mathematics lives.

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<sup>1</sup> *Children* in this convention are defined as those between the ages of 0 and 18 years. I have used the same definition throughout this book.



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Walls, F.

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