Part IV
Editor's Reaction

No Highway and No Destination?

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The chapters in this section deal with lessons learnt by academic researchers and/or school practitioners from attempts to manage equity and quality within various educational contexts (early childhood, primary, secondary, university and the mathematics education profession itself) and with a variety of marginalised populations (African American, Latino students, low socioeconomic backgrounds, Indigenous students and researchers from non-English speaking countries). They represent stories from different regions and countries (Australia, Europe, Israel, Mexico, South Africa, and United States). Arguably, they represent different criteria for evaluating quality and equity. Undoubtedly, such a variety makes generalisations from their learnings somehow problematic. There are, however, some overall themes that are worth identifying and some general challenges which require further action and reflection in our practice.

Many ways to promote equity and quality

Collectively the chapters in this section point to the fact that action towards the objectives to raise the levels of both equity and quality in mathematics education is not only essential (as the many other chapters in this book argue) but that it is also possible. Experiences in the mathematics education literature about attempts to achieve either equity or quality in mathematics education are rich and varied. What these particular stories reported here have in common is that they acknowledge the need for attempts to achieve both objects together in the different contexts in which we work. Perhaps there are a few observations that I can make about conditions for productive action in the area. Every program of work reported here has stemmed from individuals or groups who have identified a segment of the population who might be excluded from full participation and achievement in mathematics education. Facing this challenge, these authors here shared a (non-naïve) belief and hope that action towards improving participation and achievement in the school subject and the discipline itself is possible, and they shared a determination to be involved in the process of change.

Reading this collection one cannot but be inspired by the variety of possible types of action and creative solutions that are possible in dealing with the challenge to increase equity and quality in mathematics education. For example, the chapter by *Nelson* discusses the importance of linking with parents of excluded non-English learners in the primary school in looking at the problem of exclusion in mathematics education in the context of a more holistic social problem of exclusion in general society. As that chapter reminds us, parents are not the source of the problem of disadvantage, an opinion which is often is implied by reports that blame the family background as a reason for lack of performance, but rather they are an effective source of power to deal with educational problems. The chapter by *Hendrick and Edwards* reports on the collaboration between two teachers from distant schools who offer one advance mathematics subject through the Internet - thus allowing a school with limited resources, and low numbers of students who want to pursue such studies, the ability to offer their students such a choice. Unfortunately, this is creative use of technology is often neglected in the literature in mathematics education. The chapter by *Jacobson*

and Mistele develops mathematics activities designed for the increasing students' awareness of social issues thus allowing the discussion of social justice issues in mathematics teaching and at the same time making mathematics more meaningful for the students.

The chapter by *Buenrostro and Figueras* reports on a project that involved university psychology students who undertook a project with low socioeconomic school children at the lower grades to study and improve their development of arithmetical skills. This benefitted both the university students themselves and the school children with whom they worked. *Brantlinger* used critical mathematics activities with his secondary Latino and African American school students in order to make mathematics more meaningful and accessible. *Buytenhuys and Graven* report on how a subject on mathematics literacy can transform students from passive non-participants into active negotiators and sense makers of mathematics. The chapter by *Linchevski, Kutscher and Olivier* describes a program of teaching that oscillates between students working together on some common mathematical tasks at times during the lesson, and working separately on more advanced tasks at other times, thus attempting to avoid the problems noted in the literate about streaming of students too early. *Mesa and Megginson* tackle the problem of access to an elite university by students from disadvantaged backgrounds at a time when the State was undergoing a backlash against affirmative action programs. *Mills and Goos* reported on two schools with a large number of students from Indigenous and low socioeconomic backgrounds. They illustrate how disadvantaged schools are often studied for their difficulties and deficit. This chapter points out to the very positive ways in which the schools have attempted to promote equality and quality with their students.

The chapter by *Jaworski, Pone and Mariotti* deals with an important, yet very infrequently researched, problem of exclusion at one of the key international activities in mathematics education, namely, international conferences. For many mathematics educators participating in international conferences is an essential component of their own professional development as well being a venue for the establishment of collaborations and joint research projects. More importantly, exchanges at conferences are highly influential with regard to learning with and from each other. However, participation in international conferences raises important questions as to who is participating and whose views are given prominence. The chapter discuses how at least one conference attempted to be self critical about its own attempts to promote quality of research exchanges without neglecting its equity commitments.

No Highways

Action to promote equity and quality in mathematics education is not only necessary and possible, but it is not without its difficulties. Most authors in this section were very candid in documenting both the gains achieved and the problems encountered along the way in their endeavours. Questions of equity and quality education do not depend on what happens in the educational settings alone – social conditions and history play crucial roles. Basil Bernstein (1971) was correct in his observation that schools do not compensate for society. However, there is some good news. Research evidence points out that of all the school factors that effected students' achievement, the teacher was the most important. Hence good teaching "can make a difference, but not *all* the difference" (Hayes, Mills, Christie & Lingard, 2006, p. 178). Collectively, the chapters point out to serious challenges in schools' attempts to reach quality and equity in mathematics education.

Martin and Goos illustrate inspiring stories about principals and teachers who are dedicated to improving the status of their students. However, they point out that in some contexts, in particular, Indigenous education, the historical conditions of neglect and oppression cannot be overcome overnight. Such contexts require special concentrated attention and long term dedication that require significant resources. They conclude that the agenda of equity will always be an unfinished business of schools and education communities. A similar theme is discussed by *Hendrick and Edwards* who illustrate how successful equity and quality action based on initiatives from a handful of teachers may need significant resources to achieve its aim. Short term programs can not compensate for long term disadvantage.

Action to achieve equity and quality often takes the form of special programs that are at times isolated from the general day to day running of the teaching of mathematics. This creates some difficulties in achieving higher equity and quality. *Bratlinger* discusses how even the use of critical mathematics posed problems for the teacher – in this case not a very experienced one– in integrating such activities in the teaching of the whole subject. *Jacobson and Mistele* point to the need to maintain a balance between a discussion of social issues and the highlighting of teaching mathematics in classes that use such approaches. Further, *Bratlinger* mentioned some resistance by some students who have perceived these activities as a possible distraction from the main curriculum. His experience points to the urgent need for professional development of teachers as a crucial component of such program implementation. Although not articulated directly in their chapter, the model proposed by *Linchevski, Kutscher and Olivier* demands significant professional development of teachers to achieve its aims. Similar concern was expressed by *Buytenhuys and Graven* who expressed concern that programs that may have great design still leave their implementation open to possibilities of failure because of a lack of teacher expertise.

Nelson points to a great political challenge for equity and quality programs. The chapter remind us that the rhetoric of equity is not uniformly understood across the profession. More importantly it is often interpreted in ways that lead to contradictory decisions. Even though the program reported in the chapter was seen to be highly successful by the te acher and parents of targeted Latino students, it was stopped in the school in the name of discrimination towards other students from different backgrounds. Similarly, the chapter by *Jaworski, Pone and Mariotti* points to the ongoing debate in mathematics education international conferences about the role of the paper presentation review process to maintain and promote the quality agenda without losing sight of the equity implications. Both chapters point to the necessary dialogue on the meaning of both the aims of equity and quality and for looking for creative solutions towards their promotion.

No Destination

Finally, I note that in the above reflection on the chapters, I advisably avoided the use of the term 'achieving equity and quality'. From engaging with the stories reported in this section I became more aware that equity and quality are not states or types of mathematics education to be aspired to and attained. In other words, there is no nirvana where mathematics education is said to be equitable and of the highest quality. Perhaps it is more useful to think of them as challenges to aspire to rather than be accomplished once and for all. Of course, there is a danger that this might lead into stances that argue "no matter what we do, we will not achieve total equity hence there is no need to be too worried about it". This observation is not a call for defeatism and compliancy – but rather it is a challenge for continual vigilance and dedication to improve the status of the discipline in society and in promoting its power to improve society and the lives of all its members.

References

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