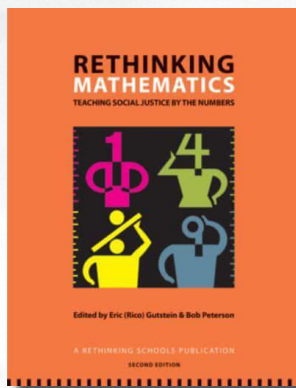


Rethinking Mathematics: Teaching Social Justice by the Numbers

Reviewed by Prof. Parvin Sinclair



The first edition of the book under review was published in 2005[2], as part of the series, ‘Rethinking Schools’. This was the same year that a new National Curriculum Framework (NCF) [3] was brought out in India. This NCF propagated the constructivist view of learning, which was a radical shift for most of the Indian schooling system and for Indian society. The NCF also stressed the fact that no learning is culture-free, including mathematics learning. This perspective has been spelt out by several other authors (e.g., see [1] and [4]). Rethinking Mathematics follows the same philosophy of learning. Of course, there have been many books and articles written across the world in the last few decades propagating the constructivist view of mathematics teaching. But this book goes a step further. The different points discussed in the chapters pertain specifically to examples built around various aspects of social and economic inequity. Through these articles, we see active embedding of social justice issues in the math teaching-learning process.

The articles in this compendium focus on helping teachers develop and transact a critical mathematics education curriculum intertwining mathematics with social justice. The contributors are mathematics student teachers, experienced teachers, teacher educators and education researchers. This makes for an interesting mix of theory and practical examples found in the book.

Keywords: social justice, stereotypes, school mathematics, mathematical thinking

Though the subtitle of the book says it is about teaching number, the examples pertain to developing algebraic, analytic, geometric and statistical thinking, along with learning to understand the society one lives in. In fact, the variety of examples cover mathematics learning at all levels, including in informal settings like out-of-school learning situations and adult education.

This book is placed in the US context of increasing inequity due to several reasons, particularly privatisation of school education, high-stakes evaluation and a greater digital divide, which we find in India too! It comprises 32 chapters, divided into three parts. In the first part, the authors look at what one of them, Marilyn Frankenstein, calls 'Reading the World with Math'. The discussion in this part is about the broad societal issues, and why they need to be linked with the math curriculum. Here you will also find a discussion on using math to uncover social biases, using it to understand the racial issues in the US, using it to go beyond newspaper headlines and to read between the lines.

In Part Two, the articles look at ways of engaging learners with issues of social justice while teaching them mathematics. For instance, in one of the chapters, an activity requires the learners to consider the current unemployment situation in different categories, and using this the teacher introduces them to rates, percentages, proportion, and different stages of data handling. In another article in this part, the author tells us about a unit on proportional reasoning in which the learners look at whether an equal amount of contribution to a kitty is fair to all those contributing to it.

The third part comprises articles that consider ways of going beyond teaching math using

social justice contexts to infuse this into other curricular areas. For instance, in Chapter 29, Peterson has written about a unit developed around action research undertaken by the learners on which presidents of the US were involved with slavery, and to what extent. He tells us how the students' understanding developed while studying math fed into their understanding of the social studies curriculum. In fact, the math classroom discussion helped students notice how the social science textbooks had deliberately omitted facts about the presidents being slave owners!

The book has a fourth part, which gives quite a collection of resources, including different websites. Of course, as this book is already about a decade old, the references need updating.

This book actively challenges the stereotype of mathematics—math is neutral, math is not really connected with our everyday lives, every problem has only one solution, etc. —through examples that force the learners to think and critique the social, economic and political environment. I see this book as being a good resource, not just for teacher development programmes, but also for supporting any adult who wants to teach mathematics. Any of the examples in this book taken up in a workshop discussion, could help teachers generate a variety of examples. For us in India, the huge social, economic, and digital divides throw up so much that needs to be questioned and discussed by learners, including those studying mathematics.

There are other books that have come out more recently in this area too (e. g., [5] and [6]). We need to see some books or website materials like these developed for the local contexts here.

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