

Book Reviews

Benn, Roseanne:

Adults count too **Mathematics for empowerment**

Leicester: National Institute of Adult Continuing Education, 1997. – 223 p.
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George Barr, London

The book is intended for anybody interested in adult education, and in particular for those who are interested in the teaching of mathematics to adults. I feel that by reading the book anybody interested in teaching mathematics would gain many useful insights into the way people learn mathematics. However, I would warn that the book is not necessarily written in a style that is easy to read.

The book is written to encourage the development of a curriculum which is relevant to the needs of individuals. There is also significant discussion about how such a curriculum could be delivered. There are clearly many influences to the discussion as is shown by the long bibliography with many national and international authors, but, the book is written with a British audience in mind.

The book has 16 chapters within four sections. There is a precursor to the main text of the book entitled: How to use this book. Here we are told that the book can be read sequentially but the reader may also read selectively. I suspect that by dipping in and out of the book the themes that underlie many of the chapters would be missed and so such an approach to reading the book should not be recommended.

The first section is an overview of adult education in the UK. It sets the underlying themes frequently returned to in the book. This section outlines issues relating to social, political and cultural contexts. The political discourse reflects the previous Conservative Government ideology and so will become dated as the new Labour government policies develop and are implemented. This section also presents the purpose and influences on the curriculum with reference to adult education and particularly focuses on adults learning mathematics in the UK. In this context adults learning mathematics could be adults at work, in training for a specific work role or in general education

for personal development. We are also reminded that frequently tutors of mathematics in an adult education role are not mathematicians and are rarely trained or qualified as tutors - although some may be trained and qualified for adult basic education.

The second section entitled: “The framework within which adults learn mathematics” looks at the issues around the learner, tutor and the curriculum in terms of the current cultural, social and political perspectives. There is a substantial discussion about the influences that individual perceptions have on the way people learn and teach mathematics, as well as on those who develop the curriculum. If the reader has not thought about the forces around the learner, the tutor and the curriculum developer, Benn has managed to present the mosaic very skilfully.

Chapter 5 is conceivably the most developed of the chapters in this section. One paragraph on page 61 in particular will have resonance with some readers. Benn suggests that people construct meaning within a personal framework. Consequently, they can appear to understand when they do not, which leads to ensuing problems of transfer. She goes on to explain:

“Teaching adults mathematics in the classroom as if it is objective and context-free without unravelling these complexities of meaning or exposing the social structure of each individual’s mathematics is unlikely to lead to anything but superficial success.”

Chapter 7, on locating the curriculum, points out that British society has structural inequality, and to help overcome this, each education and training organisation needs to develop policies and procedures on equal opportunities so that it is possible to combat sexism, racism and classism in all teaching, learning and assessment materials. Examples of good practice would be helpful here, but the author only gives the rationale as to why the policies and procedures are needed.

The third section entitled: “Understanding adults learning mathematics” looks more deeply at the factors affecting adults learning mathematics and is essentially the heart of the book. There is consideration of the effect of low levels of confidence and knowledge of mathematics on the individual and also the effect this might have on society. In addition, there is an examination of the mathematical skills that people are encouraged to develop.

There is also a discussion of the mathematical skills

and knowledge that people have and use and how this is frequently different from what a tutor would expect of a learner or want them to have. Issues are addressed that reflect the opinion that tutors have expectations which are frequently based on a traditional view of mathematics. However, adults wanting additional mathematical skills and knowledge, for whatever reason, may use methods and have conceptual frameworks that are so far away from the traditional academic approach that the tutors feel unable to use these as a foundation for further development. However, Benn argues, from research conducted from examples in Brazil, that tutors should consider ways of developing adults from where they are, rather than from where the tutor would like to start. Such an approach would recognise the value of the knowledge and skill that the adults have, so helping to build their confidence as they learn more mathematics.

Benn argues on page 81 that by using

“... examples based on current social concerns, the learner can become actively engaged in the process of critical citizenship. By learning how to investigate and present data round such issues, the learner acquires the power to change others perceptions as well as their own.”

“Mathematics for democracy and active citizenship” is the title of chapter 9. Benn presents a number of paradigms of democracy and citizenship in this chapter together with approaches to mathematics education. These, she argues, would lead to a more discriminating critical citizenry. Benn acknowledges there is a complex web of factors linking citizenship and adults learning mathematics and concludes on page 95:

“There are no easy answers but the questions are worth asking for the sake of a more just society. What is clear is that without a firm foundation of mathematics, adults will be barred from full participation, and hence mathematics contributes to democracy.”

Chapter 10 considers the varied discourses of those involved in the process of learning mathematics. The word “discourse” is used here to emphasise the social nature of reading and writing practices. One discourse is where adult learners go to adult education classes to learn the discourse of formal mathematics, with a view to operating in the world in new ways and so gaining social power and financial advantage through being able to speak as an insider to this discourse. Benn also discusses the idea of mathematics as a language, the influence of context, semantic structures and vocabulary. The idea of an autobiography is promoted as a useful tool which allows the learner a way to contextualise their learning and experience of mathematics within a social framework. By telling their own story, Benn explains, “learners can explore the construction of their mathematical knowledge and how experience has shaped this”.

The way people see and do mathematics, Benn suggests, is influenced by who they are, their social, economic and political location in society and their cultural background. Chapters 11, 12, 13, and 14 consider these cultural factors with a view to recognising and valuing diversity and difference. Chapter 11 examines cultural issues and how these can affect the way tutors and learners relate to one

another and the curriculum. It questions the assumption that mathematics is value-free, and explains that tutors and learners should be aware of the hidden values that we take for granted if learning is to be successful. The three chapters that follow explore issues relating to major social groupings: gender, class and race.

Chapter 15 explores how individuals acquire effective mathematical skills and concepts which work in their own lives and within their culture but are not readily transferable into more formal academic mathematics.

The fourth section: “Implications for practice”, has one chapter entitled: “Towards an empowering curriculum”. It draws together many of the ideas presented elsewhere in the book to reinforce that there are many issues that tutors, learning material authors and curriculum developers must take into account when considering the delivery of a mathematics curriculum to adults. These issues involve perceptions of democracy, citizenship and empowerment, as well as culture.

So how do you develop an empowering curriculum? Benn introduces general ideas and explains that the value and belief system discussed will provide a framework within which the curriculum will be shaped. She cites the examples of the Massachusetts Adult Basic Education Team, a course in Spain and a range of distance learning materials produced in Australia, but the reader is only given the briefest of information and would need to investigate the references to see exactly what these initiatives are. In this way the reader is given snapshots of activities completed outside the UK. Furthermore, there are many principles for curriculum development as well. For example, Benn says on page 176:

“... it is important to establish alternative schema developed on alternative value systems as this contributes to the development of critical thinking amongst adult educators and exposes alternative paradigms. Without these, the current curriculum remains normalised and reproductive. The silent murmurings ‘remain unheard and mathematics remains for so many for other people’.”

And in this way she is presenting a vision of the forces that influence all of us and how these forces can be employed to help develop adults to use and understand mathematics. However, I cannot help but feel that Benn is merely showing that there is light at the end of the tunnel.

In conclusion, although the book may be seen as condensing the issues too much, it is very interesting and thought provoking, definitely worth reading.

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