

Children's Mathematics

Making Marks, Making Meaning

Authored by:

**Maulfry
Worthington**

Former National Numeracy Consultant and Lecturer in E.Y and Primary Mathematics and Early Years Pedagogy

**Elizabeth
Carruthers**

Formerly Early Years Advisor; National Numeracy Strategy Consultant and Lecturer in Early Childhood.

Description

Visit the author's own website here! [Children's Mathematics Network](#)

`This fascinating and well research book gripped me from beginning to end. It is authoritative while at the same time easy to read and would appeal to teachers who want to move their mathematics teaching forward but don't quite know how to go about it. Read this book and throw away your worksheets! **Foundation Stage File**

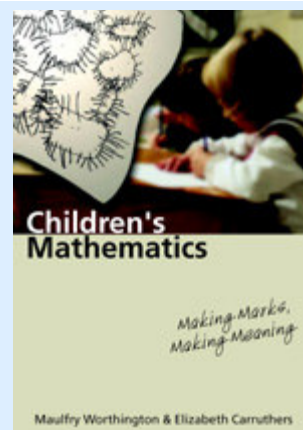
`The authors advocate a spirit of freedom for both early years practitioners and more importantly, the freedom for children to express themselves in relevant contexts. All early years practitioners will be inspired by this book' - **Juliet Doswell, University of the West of England**

`Drawing on quotes from The Little Prince by Saint-Exupery (1958), the authors discuss the mathematical development of young children. Examples from young children's work help illustrate the various strategies children use to display their thinking. Each chapter includes suggestions and methods to encourage children's mathematical thinking. They stress the need for teachers to recognize the mathematical knowledge that children own when coming to school and offer ways to bridge the gap. For those working in an early childhood environment, this book can be an excellent resource in understanding and planning for children's mathematical experiences' - **Deborah Ann Jensen, Faculty of Education - Hunter College, City University of New York**

`After my first book, **The Emergence of Literacy**, came out in 1987, I waited for someone to write "the emergence of numeracy" and could not understand why nobody did. Now they have. I have only seen it this afternoon, but just skimming through it looks absolutely fascinating. It really ought to appeal to more than maths teachers; in a way it is as much about literacy as mathematics, for numbers are written language' - **Nigel Hall, Manchester Metropolitan University**

`This book demonstrates the provocativeness of maths and its potential to inspire motivate and challenge the youngest minds. Children's Mathematics will stimulate professional development in early years' mathematics and is recommended reading for all early years' educators' - **European Early Childhood Education Research (EECERA) Journal**

`This is a rather remarkable book. Written by practitioners, it combines information from other sources with a text that is strengthened by many examples from their own professional experience. Their central tenet is that children more easily move from their informal home mathematics to the abstract symbolism of school mathematics if they are encouraged to make their own marks with their own meaning, and that these marks can greatly inform teachers of the child's mathematical understanding and development. Based on the observations of 700 children aged from 3 to 8, they suggest different schema that children use in their construction of knowledge. I found it fascinating. Being helped to decode young children's marks will help me to look at very young children's learning, and with more respect! - **Lynne McClure, Editor, Primary Mathematics**



Cloth : 0-7619-4069-3

List Price £65.00

Paper : 0-7619-4070-7

List Price £19.99

Publisher:

Paul Chapman Educational Publishing

Pub Date: 04/2003

Pages: 256

Subject Areas:

-[Primary/Elementary Mathematics](#)

'Your book is brilliant. Most exciting work I've read in years. I'm re-looking at all of my work. Amazing' - **John Matthews, Nanyang Technological University, Singapore**

'The writers make a very convincing case for the usefulness of exploring children's marks in order to understand their mathematical cognition. The examples of children's written representations provide fascinating insights into how different children think about mathematics' - **Katherine Canobi, Department of Psychology, University of Melbourne, International Journal of Early Years Education**

'**Children's Mathematics: Making Marks, Making Meaning**' is essential reading for students of Education and Early Childhood Studies, as well as for those practitioners working in the Foundation and Primary stages of education **Anne Cooper, Mathematics in Schools (Mathematics Association)**

'This publication will stimulate the thinking of early years practitioners with an enthusiasm for mathematics and will strike a familiar chord with those whose particular interest lies in literacy and mark making. This is a book rich with detail yet easy to read. A short review cannot do justice to the range of insights it offers to a wide audience. Practitioners wishing to extend their work in mathematics would enjoy and benefit from delving into this book, students and researchers with mathematical concerns will find summaries of previous work linked to established theory, and teachers of children over five years old will find useful insights into working with parents to help children become effective mathematicians. It is well constructed and provides a range of interesting examples of effective pedagogy in early years mathematics. It is an excellent stimulus for those who want to develop their practice as well as their knowledge' **Anna Cox. Journal of Early Childhood Research.**

'A very useful addition for students in early years. We will put it on the reading list for all our courses in future' - **Val Warren, University of Hertfordshire**

'I shall recommend purchase for our library and on reference for our curriculum centre. It covers very important material for our prospective primary school teachers' - **Carole Plater, University of Brighton**

'A very timely book, supporting the NNS and Ofsted's efforts to encourage children's jottings' - **Dr A Wing, University of Brighton**

'This book is a thought-provoking and informative study of a really interesting area and has a good mix of theory, practice, reflection and advice. I believe that it is such an accessible book because it is rooted in children's development in real-life situations. It is so insightful due to the richness of the children's experiences.' - **Brian Lee. Foundation Stage Advisory Teacher. Devon.**

'This is a very important book not least because of its range. The authors have gathered evidence from children over a twelve-year period. They analysed almost 700 samples of children's graphics showing how powerful patterns of cognition (schemas) in the early years of development gradually evolve into recognisable forms of writing and mathematics. Their aim, and unique achievement, has been to chart the progress of children's thinking through their mark making from three to eight. They have bridged the gap between the early years and primary education. The book is interestingly written and will strengthen professional knowledge on the development of meaning in children from three to eight' - **Chris Athey, from the Foreword**

Drawing on their many years experience of teaching children three to eight years, the authors explain the development and range of young children's mathematical marks and representations. They show how to assess and support these early mathematical graphics. The authors believe that this is the key to success in school mathematics and to higher levels of achievement.

Awards:

The authors are winners of the TACTYC's 2003 Jenefer Joseph Award for the *Creative Arts in the Early Years (3-8)*, presented 'for recognizing the intrinsic value of the creative arts in children's lives and presenting them in more innovative ways

Elizabeth Carruthers and Maulfry Worthington are winners of the **Basia Korczak** award for outstanding

innovative achievement in ICT (2003) for their work on the GTC scholarship e-learning project with teachers; as well as Francis Howlett who built the innovative web environment for the online discussions on children's mathematical graphics. The research scholarships were jointly funded by the DfES and the GTC and supported by Mirandanet and The Institute of Education.

Shortlisted for **Becta's ICT IN Practice Awards** in the '*Innovation and Change*' category (2004) and for their innovative use of e-graphics in e-learning.

Offering a wealth of practical guidance to support teachers of young children, the book is linked to current educational theory. It sets out ways of helping children make sense of mathematics and suggests an alternative approach to the use of worksheets. It is supported by numerous examples of children's own representations and intuitive methods. Children are then more able to translate between their informal knowledge and more abstract forms of mathematical symbolism, which they meet as they progress through school.

This book is essential reading for students of education, Early Childhood Studies and those taking Masters' level courses. It underpins the recommendations for the National Numeracy Strategy in England and the Curriculum Guidance for the Foundation Stage. It is also highly recommended to practitioners and teachers working in the 3-8 years age range. **Paul Chapman, Publishers**