

Developing Mathematical Concepts in Australian Pre-school Settings

Janette Bobis
University of Sydney
<j.bobis@usyd.edu.au>

Judith Mousley
Deakin University
<judym@deakin.edu.au>

Marina Papic
Macquarie University
<marina.papic@mq.edu.au>

Catherine Pearn
The University of Melbourne
<cpearne@unimelb.edu.au>

Bob Perry
Charles Sturt University
<bperry@csu.edu.au>

Robert Hunting
LaTrobe University
<r.hunting@latrobe.edu.au>

Joanne Mulligan
Macquarie University
<joanne.mulligan@mq.edu.au>

This collection of papers outlines the processes used and some results from the SIMERR project *Mathematical thinking of preschool children in rural and regional Australia: Research and practice*. The project's focus is on what childcare assistants and teachers think and do in kindergartens and childcare settings (mainly catering for birth to 4 years) in relation to the development of children's mathematical understandings, language and skills. It was found that many childcare professionals have a good sense of a range of early mathematical concepts but do not think regularly about these when programming and supervising play-based activities. However, many of the children's play activities were shown to be inherently mathematical. The project report concludes with implications for early childhood professionals and policy makers.

The project *Mathematical Thinking of Preschool Children in Rural and Regional Australia: Research and Practice* was funded by the National Centre of Science, ICT, and Mathematics Education in Rural and Regional Australia (SiMERR). The project team, known as the *Early Years Mathematics Forum*¹ aimed to review recent research literature dealing with the mathematical learning and thinking of young children, to investigate conceptions and views of preschool practitioners about this topic, and to make this information accessible to practitioners and their educators. Products of the research include a 241-page report and a video that illustrates aspects of the results.

The first paper in this symposium (Mousley & Perry) outlines the methods used by the project team, including surveys, interviews and videoing. It also presents the results of the literature review. This paper provides a background for the remaining 3 papers. The second paper (Papic, Mulligan, and Bobis) focuses on the development of children's thinking and knowledge as evidenced by the video data. These data substantiate children's use of mathematical concepts during their play-based activities in long day care centres and kindergartens. In the next paper (Hunting and Pearn), teachers' and carers' expectations for young children's mathematical concepts are described. The interviewees were found to have a good sense of mathematical concepts relevant to babies and toddlers. The final paper (Perry) discusses implications for early years professionals and for the relevant *Early Years Learning Framework* that the Australian government is developing.

¹ Robert Hunting, Janette Bobis, Brian Doig, Lyn English, Judy Mousley, Joanne Mulligan, Marina Papic, Catherine Pearn, Bob Perry, Jill Robbins, Bob Wright, and Jenny Young-Loveridge.