

Preface

With pride and appreciation I welcome the first book of the Springer series, *Early Mathematics Learning and Development*. The editors, Bob Perry, Amy MacDonald, and Ann Gervasoni, and all the contributing authors have done a sterling job of producing the significant and timely book, *Mathematics and Transition to School: International Perspectives*.

Early childhood development and mathematics learning are active, substantive fields of research. Insufficient attention, however, has been devoted to early childhood mathematics learning with increased calls internationally for reform in this area. The *Early Mathematics Learning and Development* series provides a platform for international educators and researchers to bring together various perspectives on what needs reforming and how such reforms might best be implemented.

As the editors indicate, this first book presents an inaugural, international collection of studies drawing on two important components of young children's lives—mathematics learning and transitioning to primary or elementary school education. Numerous debates exist on how we might define such transitioning and what it entails. In their introductory chapter, the editors provide a theoretical framework that conceptualises transition as “opportunities, aspirations, expectations, and entitlements” for all who are involved including children and their families, communities, educators, and educational bodies. Across the three main sections (The Mathematics Young Children Bring to the First Year of School, Continuity of Mathematics Curriculum and/or Pedagogy as Children Begin School, and Informal and Formal Mathematics and the Transition to School), the authors explore the various roles of mathematics in these transitional components.

Ways in which we can capitalise on the mathematics children know and can apply on starting school are illustrated in chapters addressing opportunities in the home that help lay the foundations for subsequent school learning (e.g., Skwarchuk and LeFevre, Chap. 7). Other examples are presented in chapters that report on mathematics intervention programs for early childhood educators (e.g., MacDonald, Chapter 6; Gervasoni and Perry, Chap. 4), as well as in chapters that examine ways in which educators might identify the nature of young children's mathematical strengths (e.g., Clarke, Chap. 3; Wager, Graue, and Harrigan, Chap. 2; Carruthers, Chap. 19; Cheeseman, Chap. 17).

Exploring the aspirations component of transition are chapters that consider ways in which partnerships between educators and families might be fostered (e.g., Goff and Dockett, Chap. 11), together with chapters examining the expectations of education systems designed to improve achievement through system-wide initiatives (e.g., Lee and Lomas, Chap. 13). Adult aspirations for improved early childhood education include those by Papic and her colleagues (Chap. 14), whose professional learning program for educators of young Australian Indigenous children has made substantial inroads into enhancing their early mathematics learning. Equally important are the inspirational factors of young children themselves, such as what they hope for and expect to learn on entering school. Examples of such aspirations appear throughout the book but especially in Chap. 14 (Papic et al.) and Chap. 18 (Dunphy).

Various chapters consider the impact of expectations on behaviour and achievement, including those that consider cultural expectations of learning (e.g., Ng and Sun, Chap. 15), as well as chapters that look at the expectations imposed by new curriculum on both children and educators (e.g., Lee and Lomas, Chap. 13). As the editors note in their introductory chapter, a significant observation identified in several chapters is that young children already “know” the mathematics that they are being “taught” on entering school. Sarama and Clements (Chap. 10) highlight this apparent mismatch, supported by Gervasoni and Perry (Chap. 4), who stress that educators must expect and recognise the mathematical strengths young learners bring to school.

Another important aspect of expectations relates to the nature of student assessment administered on beginning school. Several chapters demonstrate the benefits of assessment that extends beyond paper-and-pencil testing to include, for example, one-on-one interactions with young children as they relate their mathematical understandings (e.g., Peter-Koop and Kollhoff, Chap. 5). Families have further expectations of their children’s learning as they transition to school, including the recognition and nurturing of their children’s strengths and the expectation that their family will play a role in their children’s learning. At the same time, families sometimes anticipate being labelled as inadequate in their children’s education because of various background factors. Targeting such issues through establishing partnerships between families and educators is an increasingly important endeavour, requiring further research. Geoff and Dockett (Chap. 11) explore some of these issues.

Lastly, but equally important in young learners transition to school are entitlements. Every young child deserves a quality program in early mathematics education, one which encourages them to thrive in a rich, non-threatening environment. Expert educators with future-oriented curricula recognise and build on the mathematical capabilities of young children, strengthen less developed talents, and capitalise on children’s natural propensity for exploring problems in their world. Many chapters address the importance of quality programs and teacher expertise as well as other entitlements needed for advancing the mathematics learning of all children. For example, Carruthers (Chap. 19) and Cheeseman (Chap. 17) stress the importance of time to listen to and talk with children, with other authors also emphasising time needed to assess young children’s learning meaningfully to identify

appropriate starting points for teaching (e.g., Peter-Koop and Kollhoff, Chap. 5; Wager et al., Chap. 2).

Collectively, this rich set of chapters presents a broad range of international perspectives and themes that draw together the two core fields of transition to school and early mathematics learning. Addressing timely and significant issues, *Mathematics and Transition to School: International Perspectives* provides powerful foundations for future research, curriculum development, professional learning, and policy decisions. It is indeed a fine book to initiate the new series.

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<http://www.springer.com/978-981-287-214-2>

Mathematics and Transition to School

International Perspectives

Perry, R.; MacDonald, A.; Gervasoni, A. (Eds.)

2015, XIV, 330 p. 22 illus., 7 illus. in color., Hardcover

ISBN: 978-981-287-214-2