

Editorial

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The theme for this issue is the place of domain knowledge in early childhood education and the implications of this for teaching and learning. The use of content knowledge by effective teachers to support and extend children's learning in interactive and play-based situations is clearly evident in the research literature (Farquhar, 2003). Recent policy statements in both early childhood education (Ministry of Education, 2002) and the compulsory schooling sector (Ministry of Education, 2003) have emphasized the desirability of a closer relationship between the early childhood and primary sectors. There exists a possible tension between the holistic curriculum approach of early childhood education as reflected in *Te Whaariki*, and the subject -approach of the New Zealand Curriculum Framework. While the aims to promote coherence of education between birth and eight years and to ensure a smooth transition between early childhood education and primary school for new entrants are admirable, it is important that this process does not see a pushdown of the primary curriculum and pedagogy into the early childhood sector. The contributors to this issue address the issue of how to introduce foundational domain knowledge into early childhood education while maintaining the special nature of teaching in learning that underpins *Te Whaariki*.

Helen Hedges and Joy Cullen Early point out that curriculum documents worldwide, including *Te Whaariki*, commonly neglect or underemphasize subject content knowledge. They critique this view by reviewing recent research that demonstrates children are deeply interested in and capable learners of content knowledge, and suggest that a lack of emphasis on subject knowledge can no longer be justified in early childhood education in New Zealand. They then explore the implications of such a change for teaching practice and teachers' professional knowledge. An important strand of this discussion focuses on teachers' attitudes to, and need for, subject knowledge. They address the question as to whether a shift in emphasis to a subject-centred curriculum is compatible with the holistic nature of *Te Whaariki*, and conclude by highlighting the need for targeted professional development for teachers in the early childhood sector.

Jannie Visser examines the historical and theoretical perspectives that have impacted on early childhood visual arts education. She considers the different dichotomies under debate (process v product, free play v adult-direction, play v work, integration v segregation of the arts) and evaluates the validity and effectiveness of these different philosophies and approaches. Visser links influence of Froebellian ideas to the current view that literacy and numeracy is work and involvement in the arts is play, which has led to a subsequent devaluing of the arts in early childhood education. She questions whether an integrated approach to the arts is diminishing its importance in the early childhood curriculum.

Visser suggests the Reggio Emilia approach is a means of addressing all the dichotomies discussed in the paper, and offers an insight into the Reggio Emilia approach to art and art education. She sees the need for continued debate about the value of early childhood art and art education to address the sectors confusion about its basic aims and purposes.

Lynne Anderson analyses nine kindergarten teachers' personal and professional perceptions of the value of music, and the music content of their pre-service teacher education programmes. Lynne addresses the importance of a music programme in early years, both as a support for learning and for personal pleasure. She establishes the importance given to music in early childhood by practitioners. She describes the impact of the current emphasis on literacy and numeracy on the Arts curriculum, and how this is now reflected in pre-service Teacher Education programmes. Lynne suggests that this new emphasis has had a negative impact on student's confidence in, and ability to teach, music. She critiques use of outside experts to provide music experiences in early childhood centres, and ends by considering the implications of these changes for the future of music in early education.

Debora Lee believes social science is the most crucial area in the early childhood curriculum, and offers a justification for that view. She explores some of the challenges that teachers' face in addressing their responsibilities to early childhood social sciences. Lee begins by discussing the nature and scope of the understandings teachers need in order to support children's learning in social science. She links this knowledge to five strands in *Te Whaariki*, with emphasis on development of equitable opportunities and inclusive environments, the relationship with parents and whanau, bi-culturalism, celebration of diversity and social justice, and environmental consciousness.

Sue Booth begins by reviewing recent research on oral language, reading aloud and print awareness in relation to children's foundational knowledge. She then argues that content within teaching and subject knowledge of teachers requires more attention in order to extend children's learning in early childhood settings. The literature is reviewed through two curriculum frameworks and two curriculum approaches, and implications for early childhood practices are then drawn.

Shiree Babbington addresses the place of numeracy in early childhood education. She makes the point that the importance of numeracy clearly established in primary school. Babbington acknowledges that children are coming to school with quite high skills, but believes that early childhood teachers could be supporting children to reach further levels of skill and competence in numeracy if the resources of the Numeracy Development Project were made available to them and were accompanied by appropriate professional development.

Babbington recognizes the strong opposition to a downward push of the primary curriculum underpinning the development of *Te Whariki*, and that the holistic approach in which curriculum areas and subjects of learning are integrated is still the driving force in early childhood education. However she suggests that some educators are beginning to consider traditional 'school subjects' as a basis for a child-centred curriculum, and supports this with references to numeracy in *Te Whaariki* and

references to early childhood in recent Ministry publications on literacy and numeracy.

Babbington then discusses the implications for early childhood educators of the literacy and numeracy strategy in terms of pedagogy and subject content knowledge. She offers suggestions as to what mathematical knowledge is needed, how teachers' might access this knowledge, and how numeracy can be incorporated within a holistic curriculum.

Michelle Conele begins by discussing the rich literature that explores the nature of young children's knowledge in the area of mathematics. The literature offers valuable insights both into the nature of young children's foundational mathematical knowledge and teaching approaches that foster and extend that knowledge. Conele identifies a conflict of opinion between early childhood mathematics educators who strongly believe children can be taught meaningful mathematical concepts prior to school entry and other early childhood educators who believe this formal approach is unwise. She suggests that as children's foundational knowledge grows and matures through experience, supported by knowledgeable teachers, children may show a readiness for learning more specific mathematical concepts. Conele then describes a number of teaching approaches and learning activities that foster development of these mathematical concepts.

Brent Mawson's paper begins by briefly considering the place of teacher domain knowledge in early childhood education. He then examines current views on the nature of technological knowledge and goes on to explore the implications of this for early childhood educators. The technological knowledge and understanding needed by early childhood teachers if they are to effectively support learning in technology is discussed, and some foundational areas of knowledge are identified. Finally some possible teaching approaches are examined, using examples from New Zealand early childhood settings.

Jill de Kock begins by reviewing the science education literature relating to early childhood education and the early years of primary school. She then discusses children's foundational knowledge and understanding of science. The nature of teachers' professional knowledge of science and their understanding of children's learning and development in science is then examined. de Kock considers the nature of the teacher pedagogical content knowledge that is needed to provide quality and appropriate, enriching learning experiences in the realm of science, and places this within *Te Whaariki* and other curriculum frameworks.

The papers in this issue cover a wide range of curriculum areas (Visual Art and Music, Mathematics, Science, Language, Technology, Social Studies) and in their totality provide both a useful overview of the current literature in these subject areas and some clear direction for early educators who wish to develop their own domain knowledge and teaching practice.

References

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