In this issue:

Teacher beliefs and practices of kindergarten teachers in Hong Kong

Hands-on parent support in positive guidance: Early childhood professionals as mentors

The advocacy of educators: Perspectives from early childhood

Social learning, language, and literacy

and more …
The Australasian Journal of Early Childhood (AJEC) is published quarterly and is sponsored by Early Childhood Australia. It features up-to-date articles designed to impart new information and encourage the critical exchange of ideas among practitioners in the early childhood field. The AJEC Committee invites contributions on all aspects of the education and care of young children. The journal is controlled by an editorial board and all submissions undergo a blind, peer-review process.

Early Childhood Australia is listed as a commercial publisher with DEST.

Interested authors and reviewers should obtain a copy of the guidelines for contributors from Early Childhood Australia’s website: www.earlychildhoodaustralia.org.au

T: +61 2 6242 1800
F: +61 2 6242 1818
E: publishing@earlychildhood.org.au
marketing@earlychildhood.org.au
PO Box 86 Deakin West ACT 2600

Early Childhood Australia

Early Childhood Australia is the peak early childhood advocacy organisation, acting in the interests of young children, their families and those in the early childhood field. As a leading early childhood publisher, Early Childhood Australia aims to promote and support best practice in early childhood. Our advocacy work is supported by our members, who participate in state branch activities and form part of a growing community willing to stand up for children. Members also enjoy significant benefits such as savings on Early Childhood Australia publications and conferences.

Early Childhood Australia acknowledges the traditional owners of country throughout Australia and their continuing connection to land and community. We pay our respect to them and their cultures, and to the Elders both past and present.

The AJEC Committee and Early Childhood Australia do not necessarily endorse the views expressed by contributors or the goods and services advertised within AJEC.
Journal

2 Editorial
Chris Kilham

4 Teacher design of technology for emergent literacy:
An explorative feasibility study
Susan McKenney and Joke Voogt

13 Levelling the playing field for kindergarten entry:
Research implications for preschool early literacy instruction
Georgia Callaghan and Alison Madelaine

24 Social learning, language and literacy
Ian Hay and Ruth Fielding-Barnsley

30 Toddlers as mathematicians?*
Shiree Lee

38 Teacher beliefs and practices of kindergarten teachers in Hong Kong
Chi-hung Leung

55 Behind before they begin:
The challenge of Early childhood education in rural China
Renfu Luo, Linxiu Zhang, Chengfang Liu, Qiran Zhao, Yaojiang Shi, Scott Rozelle and Brian Sharbono

65 Hands-on parent support in positive guidance:
Early childhood professionals as mentors
Laura McFarland-Piazza and Rachel Saunders

74 The advocacy of educators:
Perspectives from early childhood* Zinnia Mevawalla and Fay Hadley

81 Early childhood professionals and inter-professional work in integrated early childhood services in Australia*
Sandie Wong, Jennifer Sumson and Frances Press

90 The intersection of physical activity opportunities and the role of early childhood educators during outdoor play:
Perceptions and reality
Janet Dyment and Bianca Coleman

99 Experiences of Congolese refugee families in NZ:
Challenges and possibilities for early childhood provision
Linda Mitchell and Amondi Ouko

108 Young school-aged children’s behaviour and their care arrangements after school*
Kym Simoncini, Nering Caltabiano and Michelle Lasen

119 Diversity in preschool:
Defusing and maintaining differences
Annica Lofdahl and Solveig Hägglund

127 Professionals don’t play:
Challenges for early childhood educators working in a transdisciplinary early intervention team*
Tamara Cumming and Sandie Wong

136 Creative technologies as a conduit for learning in the early years*
Susan McDonald and Jennifer Howell

142 How do immigrant parents support preschool bilingual heritage language development in a role play context?
Liang Li

152 Interrogating the spiritual as constructed in Belonging, Being and Becoming:
The Early Years Learning Framework for Australia
Jan Grajczonek

161 These children aren’t creative:
Insights from beginning teachers’ on early childhood arts education
Susanne Garvis

* Denotes primary research articles

Online Annex

AJEC Vol. 37 No. 1 includes an Online Annex component. Access and further information can be found at: www.earlychildhoodaustralia.org.au/ajec

90 The intersection of physical activity opportunities and the role of early childhood educators during outdoor play:
Perceptions and reality
Janet Dyment and Bianca Coleman
WELCOME TO THE FIRST EDITION of the Australasian Journal of Early Childhood for 2012. You will find nine thought-provoking articles in hard copy, and an additional nine in the online version of AJEC. The articles attest to the growing internationalisation of the Journal, with articles from China, the United States, the Netherlands, Sweden, New Zealand and Australia. Although unthemed, the articles in hard copy articulate common concerns. These include the role of the early childhood educator and the importance of early intervention. Another theme consists of redressing educational attainment gaps, whether these stem from an urban – rural divide or socioeconomic circumstances. All agree that when instituting purposeful teaching in the curriculum subjects, a play-based and integrated philosophy should be retained, ensuring children engage in activities and experiences that have meaning for them. McKenney and Voogt consider the use of technology with young children in a literacy context. Their small-scale study demonstrates that four- and five-year-olds who used PictoWriting materials showed a substantial increase in children learning. What is especially interesting is that McKenney and Voogt document closely the learning process of one teacher as she familiarised herself with the new technology. The authors show it takes time for the content, pedagogy and technology to be seamlessly integrated. It cannot be automatically assumed that old habits (such as child-centred pedagogy) generalise to the new technology context, so the support needs of teachers should not be underestimated.

In another article about preschool literacy, Callaghan and Madelaine take the view that the effects of socioeconomic status can be mitigated through thoughtful programs. Preschool phonological awareness activities differ in difficulty and complexity, and are most useful when children are helped to progress from larger units of sound to smaller units of sound. Blending and segmenting training, with explicit grapheme-phoneme links is particularly effective as children progress towards decoding print. As a counterpart to these decoding activities, the authors suggest the interactive style of dialogic book reading helps improve expressive language and thence reading comprehension.

In a complementary article, Hay and Fielding-Barnsley link language and cognitive development to provide a helpful list of activities to close the expressive and receptive language gap between young children of differing socioeconomic status. The authors advocate the use of appropriate questioning techniques, guided by Blank’s four levels of language complexity. They also emphasise the importance of motivation, urging educators to view linguistic errors as learning opportunities for children to progress to activities that draw on higher cognitive processes.

Turning to a different curriculum area, Lee provides a thoughtful analysis of video material to provide empirical evidence of the mathematical knowledge and skills of toddlers. The most commonly observed were spatial understanding and exploration of space; number knowledge (forward and backward counting); and measurement (particularly evident in sand and water play). An appreciation of shapes and patterns was observed at a rudimentary level. Lee recommends activities—including classification of everyday objects and problem-solving tasks such as taking things apart then fitting them together again—to stimulate toddlers’ interest in this area.

Leung’s article is written against the backdrop of competing concerns in China about providing quality early childhood education versus academic programs which presumably facilitate admission to university later in life. In this study, the Teacher Beliefs and Practices Survey (a measure of developmentally appropriate practice) is modified to ensure its cultural appropriateness. Leung concludes that teachers’ responses to the selected appropriate teaching beliefs and practices in the modified Survey reflect enhanced EC education in Hong Kong in recent years.

In contrast, a compelling paper by Luo, Zhang, Liu, Zhao, Shi, Rozelle, and Sharbono draws our attention to the wide and troubling performance gap between urban and rural students in China, thought to be linked to early childhood education. This study found the early childhood education rural participation rate was 43 per cent, in contrast to urban rates of over 90 per cent. On measured educational readiness, only six per cent of rural children scored more than the mean, whereas about half of the urban children did so. These findings were attributed to poor access to early childhood education services, high tuition fees, and less favourable teacher training, school facilities and student:teacher ratios. Improving accessibility to quality of early childhood education services may be a first step in reducing inequities in China.

The last three articles consider the role of early childhood educators in relation to parents and other professionals. McFarland-Piazza and Saunders considers how early childhood educators can be better prepared to support parents to adopt a non-punitive, positive guidance
approach to their children’s behaviour. The social validity of the program, or its congruence with parental values, affected the ease with which different parents learnt and adopted the techniques. Modelling, feedback, and a positive and considerate relationship were associated with good outcomes.

**Mevawalla and Hadley** focus upon educators’ perceptions of advocacy in raising the status of the EC profession. This study found educators perceived that they influenced internal stakeholders (including the families of the children in their care) but were reluctant to access and utilise power in external contexts. Level of education was related to confidence in advocating for the profession, so the authors suggest that in-service and pre-service training include information about the process of advocacy with a view to increasing the collective advocacy of directors and others within the profession to enhance the standing of early childhood educators.

**Wong, Sumision and Press** investigated the perspectives of the early childhood practitioners and leader/manager participants concerning their experiences of inter-professional work in integrated services and factors that support inter-professional teams. They found that in successful teams, early childhood educators experienced collective ownership and professional growth when working with an integrated group of professionals. Although there was potential for marginalisation of early childhood professionals within these teams, this was not to the extent articulated in the literature. Moreover, mutual respect could be encouraged through the use of inclusive language that maintained rigour but dispensed with jargon where feasible, leading to a more coherent philosophy and culture.

Overall these articles span a range of contemporary issues to provoke and interest you.

**Chris Kilham BA (Hons), GCHED, DipEd, PhD**
Edition Editor

---

**Early Childhood Australia**

*Addendum*

Early Childhood Australia would like to apologise for the misprint in AJEC 1104 with the corrected list of author details below.

**AJEC 1104 Addendum**

Page 38 Multicultural education: The understandings of preschool teachers in Singapore
Nirmala Karuppiah and Donna Berthelsen
Introduction

Teachers in general, and of young children in particular, struggle to find and employ pedagogically appropriate technology applications in their classrooms. Building on Schulman’s notion of pedagogical content knowledge (PCK), Mishra and Koeler (2006) argue that thoughtful pedagogical uses of technology require the development of complex situated knowledge, which they refer to as TPCK: technological pedagogical content knowledge. They and others recommend that such knowledge be learned, in part, through technology design and implementation (Doering, Veletsianos, Scharber & Miller, 2009; Koehler & Mishra, 2007); as well as reflection on that action (cf. Schön, 1983; 1987; 1996). This paper describes an exploratory study conducted on the benefits and risks of engaging teachers in the design of a technology-rich learning environment that aims to foster the development of early literacy in Dutch kindergarten classrooms. The underlying assumption is that active teacher involvement in learning environment design positively influences the quality of the learning environment as well as its implementation and use.

Early literacy: content and pedagogies

A pioneer in the field, Clay (1966), emphasised that literacy begins long before school entry. Underpinning Clay’s notion of emergent literacy, which involves synergistic development of listening, speaking, reading, writing and viewing from birth, are several assertions which have also been stressed by other experts. First, eminent theorists have long claimed that children play active roles in their own development (Bruner, 1983; Piaget, 1952; Piaget & Inhelder, 1969; Vygotsky, 1962). Clay’s position that children are active learners about print long before they can read or write is consistent with this view. Second, Macnamara (1972) argued that language learning is driven by and dependent on the capacity to understand and participate in social situations. This is well-aligned with Clay’s view that social interaction is the basis of emergent literacy.
Third, Makin & Whiteman (2006) demonstrate the value of engaging children in discussion around literacy activities. This connects to Clay’s suggestion that being read to and talking around reading are particularly important. Finally, increasing attention is being given to the development of literacy as a social practice. This extends the perspective to include not only active, child-centric experiences (central to the notion of emergent literacy) which are socially constructed as discussed above and by others (e.g. Purcell-Gates, 2001) but also (influenced by critical theory) to be more attuned to social justice issues as children interact with text (Makin, Hayden & Jones Diaz, 2000; Makin, Jones Diaz & McLaughlan, 2007).

Consistent with the ideas above, the intervention described in this paper embraces the characterisation of children’s involvement in their own literacy development as active, social and often connected to text-related discourse. In addition, Clay’s focus on meaning (in the early stages, considered more important than accuracy and conventions) is at the heart of the pedagogical and content areas addressed in the intervention which provided the setting for this study. Central to the intervention is that children create printed texts and use them for authentic purposes and/or for play. Play is widely considered the dominant medium for learning by young children. However, opinions vary substantially when it comes to defining play, its status and its pedagogies. The past decade in particular has seen an increase in attention to the social and cultural aspects of play; to children as social and active agents in their own play; and to conceptualisations of different forms of play and their educational significance. While several books provide outstanding overviews of these developments (e.g. Moyles, 2005; Wood & Attfield, 2005), the next section discusses important notions related to this intervention. Thereafter, salient views are given on the specific area of early literacy related to the intervention for which teachers designed and implemented technology: the functions of written language.

Roskos & Christie (2001) undertook a critical analysis of studies examining children’s literacy development through play. They agreed with the major claims of 12 out of 20 studies, which together 'supplied strong evidence that play can serve literacy by: (a) providing settings that promote literacy activity, skills and strategies; (b) serving as a language experience that can build connections between oral and written modes of expression; and (c) providing opportunities to teach and learn literacy’ (p. 59). Much research literature pertains specifically to the value of what Piaget and Inhelder (1969) refer to as symbolic play (largely pretend play), in which children try out language uses as they act on their environments. Pretend play makes a valuable contribution to early literacy and provides important opportunities to practise and experiment with language and thus skills (Van Scoter, 2008). In addition, research has demonstrated that play settings enriched with literacy props yield increases in emergent reading and writing activity during play (Burns, Griffin, & Snow, 1999; Justice & Pullen, 2003; Morrow, 1990). This may be attributed to the way children explore, manipulate and use objects in (dramatic) play (Neuman & Roskos, 2005a). According to Vygotsky (2004), a child’s play is not simply a reproduction of what he has experienced, but a creative reworking of the impressions he has acquired. Underpinning the intervention described in this article is the conviction that children create and express linguistic knowledge and ideas through play, driven by their personal interests and the desire for sharing common understanding with others. Their learning about the functions of language takes place through activities that have personal meaning and value for them.

Van Oers (2007) shares this view, that reading and writing operations should be connected to activities that make sense for the pupils, and in which the resulting actions have personal meaning for the children. In accordance with a Vygotskian perspective, which defines literate activity as a generalised ability of using sign systems for personal and interpersonal use, he emphasises that language is learned through using it in functional and acceptable ways in socio-cultural practices. Translating this into pedagogical content for teachers, de Haan (2005, p. 53) states, ‘When teachers give room to children to use language according to their communicative needs in play and in other narrative activities, they may create powerful contexts in which children learn of its literate uses’. It is important to note that, just as children learn oral language by using it for authentic purposes, they learn about written language in an environment rich with meaningful messages and functional print, surrounding children with words (Warash, Strong & Donoho, 1999).

While these notions may ring true with many early childhood educators today, the past two decades have seen a clear and, in our opinion, disquieting, trend toward a narrowed view of early literacy which focuses predominantly on pre-reading skills. This is often accompanied by instructional practices which on the surface may seem appropriate for younger children (e.g. cutting, pasting, drawing, singing), but actually amount to little more than drill and practice, with limited connection to personal meaning-making. In view of this trend, some experts suggest that intentional instruction in preschool and kindergarten can and should foster the prerequisites for academic skills, but that this should take place by promoting foundational competencies which are ‘uniquely preschool’ and occur through play (Bodrova, 2008). At the same time, others express concern about a narrowing perception of literacy, and how this is being enacted in the classrooms of young children. In their (2005b) article, ‘Whatever happened to
developmentally appropriate practice in early literacy?’, Neuman and Roskos express unease with classroom trends in which, for example, three- and four-year-olds spend long spans of time learning the alphabet, spelling their names and sounding out first letters in words. They contend that such practices may ‘consign children to a narrow, limited view of reading that is antithetical to their long-term success not only in school but throughout their lifetime. In other words, we believe that such instruction might actually undermine, rather than promote, the very goals of improving literacy learning’. Not only are the teaching practices subject to criticism, but so is the related assessment. As van Oers (2007, p. 301) puts it, ‘… in the assessment of children’s ability to participate in literacy practices, early years teachers, researchers and policy makers often cling to the old tests of technical reading, spelling, and for the youngest child especially, vocabulary acquisition. It looks as if the practice of literacy is reduced to a limited range of decontextualised performances and tests for the sake of measurability’.

Against the backdrop of these trends and concerns, we look at the setting for the study reported here. In the Netherlands, we are grateful to see that the functions of language constitute an important portion of the Dutch national goals for early literacy (Verhoeven & Arnoutse, 1999), which we perceive can be clustered into three strands. The technical strand includes linguistic consciousness, alphabetic principles, and technical aspects of reading and writing. The understanding strand relates to book orientation, story understanding, and reading and writing comprehension. Finally, the functional strand pertains to functions of written language, relationship between spoken and written language and functional reading and writing. Based on our experience, and recent Dutch school-based curriculum innovations (many of which reflect the trend mentioned above), we feel that the functional strand is under-represented in many Dutch classrooms, and call to reinstate this area of literacy practice. The teacher-made technological resources created during the study described here speak to this call.

Technology and early literacy

The functional strand of early literacy seems under-represented in both classroom practices and in research. Review of the literature on technology for early literacy shows much valuable work related to the aforementioned technical strands and the understanding strands. For example, research has examined the potential for software to offer added-value in learning alphabetic principles and the technical aspects of reading and writing (Segers & Verhoeven, 2002, 2005) as well as book orientation and story understanding (de Jong & Bus, 2003, 2004). However, in their comprehensive review of technologies for early literacy, Lankshear and Knoebel (2003) found few studies related to the functions of language, and none specifically addressing the functions of written language, despite the potential the computer holds in this area.

The potential for the computer to promulgate discourse and thereby knowledge creation has been examined across various ages (McLoughlin & Oliver, 1998; Scardamalia, Bereiter & Lamon, 1994). In terms of early childhood literacy, studies have shown that properly shaped collaborative use of the computer can contribute to pro-social behaviours, including: lively interactions, shared vocabularies, mutual enjoyment and spontaneous, active off-computer play (Brooker & Siraj-Blatchford, 2002; Van Scoter, 2008). In such ways, technology can serve as a catalyst for social interaction and contribute positively to fostering early literacy (Van Scoter, 2008). Yet teachers struggle to integrate technology with their classroom cultures (Labbo et al., 2003; Olson, 2000). This situation is exacerbated by a lack of high-quality emergent literacy materials (de Jong & Bus, 2003; Segers & Verhoeven, 2002). Appropriate software for fostering literacy skills in young children should be created in such a way that the learner’s previous knowledge is taken into account, involve learners actively, and encourage the use of language and the explorative nature and curiosity of young children (Brooker & Siraj-Blatchford, 2002; Plowman & Stephen, 2005). In addition, computer activities of young learners should be integrated with related classroom activities (Van Scoter, 2008) and embedded in appropriate pedagogical models for technology applications for young children (Plowman & Stephen, 2005). The design of pedagogically appropriate technology-rich learning environments that align computer activities with classroom activities can be considered as powerful learning environments (De Jong & Pieters, 2006) for young children.

Teachers as designers

According to Reunamo and Nurmiilaakso (2007, p. 326), ‘the teacher’s task is to understand the link between different types of learning and different pedagogy and to choose one which is appropriate for the situation’. This can be a daunting task on its own, and provides even more challenge when technology is involved. Fisher (2003) examined the experiences of teachers involved in the field trials of on-line curriculum materials for three subject areas. While curriculum development, not teacher development, was the main aim of the project, Fisher’s article is dedicated to describing the substantial side-effects in terms of teacher professional development. He demonstrates how, through participation in the project, teachers used new technologies, gained confidence in working with them, and developed pedagogical confidence and competence through classroom-based learning and
reflection. In a similar vein, the assumption underlying the study presented in this paper is that the added value of teachers’ active participation in the design of technology-rich learning environments for early literacy development contributes to their competency to implement such learning environments, as well as increased ownership resulting in more practical, relevant and accepted innovations.

About the intervention: PictoWriting

PictoWriting has been developed to support activities in the functional strand of the Dutch national goals for early literacy. PictoWriting is a technology-rich learning environment that uses Clicker® software together with off-computer classroom applications to help emergent readers learn the functions of written language. Shown in Figure 1, the Clicker interface has a ‘document’ area (top) and a ‘composition’ area (bottom). Using this visual word processor, children compose texts by clicking on word-image buttons in the composition area, which changes as children progress through an activity. The clicked-upon word-image combinations are sent to the ‘document’ area, which remains stable throughout an activity.

Figure 1. Clicker® screen containing a typical PictoWriting writing activity

An essential characteristic of the software is that teachers can easily adapt or develop the ‘composition’ area, scaffolding children’s composition through single or multiple clickable grids of word–image combinations. A benefit of teachers structuring the content of the writing is that they can tailor the content to integrate well with ongoing classroom activities and themes, through authentic uses or dramatic play. For example, letters are composed, printed and mailed; grocery lists are compiled and ‘used’ to shop in a grocery store corner in the classroom; children’s stories are printed and put in a book for the reading corner. This exploratory study examined teacher design of the clickable grids in the composition area of Clicker.

Research approach

Questions

This exploratory study centred on the feasibility of teacher-designers for technology-rich learning environments. Three main areas were addressed, as illustrated through the research questions:

- What are teacher attitudes toward developing PictoWriting materials?
- What supports are needed for teachers to create PictoWriting materials?
- What learning gains result from using teacher-made materials?

Methods

This study featured a case study of one teacher designing materials as well as a pre-post test experiment to assess learning gains when the teacher-made materials were implemented. Case study data was collected through observations of teacher-designer sessions; interviews before, during and after the project; and analysis of the PictoWriting materials that were created. The small-scale pre-post test study involved an experimental (n = 7) and a control (n = 7) group.

Participants

The teacher, referred to here as Annette, and pupils involved in this study had not previously been engaged in PictoWriting work. The participating school has approximately 200 pupils and is located in a medium-sized city in the Netherlands. About 20 per cent of the pupil population is Dutch, about 60 per cent are Turkish immigrants, and the remaining 20 per cent are immigrants of varied origin. Located in a working-class neighbourhood, this school maintains a shared bank of computers in the hallway as well as two computers per classroom. All computers have access to the local area network (LAN) and internet. A technology coordinator is present three days a week; while she mostly works directly with children from each grade level she does occasionally provide support to teachers in their use of technology.

Instruments

The observation data was collected through a semi-open instrument designed specifically for this case study, to capture teacher attitudes and their needs for support. The following aspects of teacher attitudes were studied: involvement, enthusiasm, curiosity, explorativeness, help-neediness, insecurity, nervousness. Supports were divided into three areas: technical, pedagogical and organisational. Technical aspects were clustered according to the resource being used—Clicker®,
internet, and the school's LAN. Pedagogical aspects were defined in terms of: structuring the Clicker® grids, length and structure of sentences and use of images. Organisational aspects examined related to planning the design work and planning for implementation of the designed materials. The initial interview was intended to gain the teacher's self-perception of her attitudes toward technology use, as well as her technical, pedagogical and organisational skills. The interviews during and after the intervention were used to check and clarify observational data. Additionally, the teacher-made grids were analysed for indirect indicators of needs for technological and pedagogical support.

Finally, alongside the implementation of teacher-made materials, a pre- and post-test were given to experimental and control groups to measure early literacy skills development. In accordance with the PictoWriting goals, the test items were based on the interim standards for early literacy that focused on the nature and function of written language. Nine test items relate to using written language for communicative purposes; four items relate to the functions of printed language; two items pertain to the relationship between written and spoken language; and two items address language consciousness. The reliability of the test was acceptable (Chronbach's alpha = 0.87).

**Procedures**

The PictoWriting intervention enjoyed the full support of the school's administration, and was eagerly received by most of the kindergarten teachers. A hands-on workshop was held for the kindergarten teachers \((n = 6)\) to illustrate how to use Clicker® (from a child's perspective), and to teach how Clicker® materials can be created and adapted (from a teacher's perspective). Teachers were given guidebooks and a coach to assist in creating PictoWriting materials. Within two weeks, the team decided that the PictoWriting work required more time than their planning periods would allow. Because they did not perceive it feasible to grant release time to the whole team, they chose to enable one teacher to focus on the PictoWriting work. This teacher was granted a half-day of release time each week, for five weeks. She worked intensely with the aforementioned coach, and kept her colleagues up-to-date on her progress through informal communications. The observations took place during the five half-day sessions while she worked on the PictoWriting materials. Once the materials were completed, they were loaded onto the hallway computers. Children were divided into experimental and control groups; and the groups were matched for age, gender, language skills (based on a national language test for kindergarteners) and remediation offered. The experimental group worked once a week with PictoWriting, completing both on- and off-computer activities, for eight weeks in total.

**Results**

The preliminary interview revealed that the case study teacher had a very positive attitude toward the use of technology. She was excited about the PictoWriting project and eager to get started. She considered her technical, pedagogical and organisational skills to be average.

**Attitude**

Seven aspects related to teacher attitude were examined during each of the five materials design sessions: involvement, enthusiasm, curiosity, explorativeness, help-neediness, insecurity, nervousness. The findings are summarised below. Throughout the PictoWriting design sessions, Annette's involvement remained extremely high. In earlier weeks, her ability to concentrate was quite compromised as she had to work in the noisy computer hallway where children and colleagues often caused interruptions. Once she was given a quiet office to work in, her concentration improved. Annette was very enthusiastic during the one-on-one sessions. In her free time, she continued to work on the materials and, through the internet, got in touch with another person working developing materials for use with Clicker®. The realisation that she was not a lone pioneer in this work, and that others struggle with it, positively influenced her attitude. Communications with others making Clicker® materials kept Annette's curiosity high, to the point of distraction. She became so curious about the work of others that she spent precious development time exploring Clicker® materials on the internet instead of working on her own materials. Despite her curiosity about others' work, Annette did not explore the Clicker® program much in the first half of her work. When she ran into difficulties, she would not try to solve problems herself, but preferred to ask for help. In the last few weeks, she demonstrated cautious experimentation with the program, in attempts to rediscover functions that she had used previously. At no point did she click around the interface to see what would happen. Annette did not make use of the guidebook developed specifically for this school's kindergarten team. Rather, she preferred to ask the coach questions. Sometimes she would note the answers to the questions in a separate notebook, and occasionally those notes would be revisited. Despite the fact that the computer work was challenging for Annette and problems occurred, she did not seem insecure at all. Her perseverance was remarkable. Further, her self-confidence and acceptance of problems appear to have contributed to her motivation. While she was not insecure, Annette did grow nervous at times. She appreciated the one-on-one help of the coach, but felt watched by him at the same time. When he worked next to her and only responded to her concerns, she seemed more
at ease. On the other hand, Annette did report feeling stimulated by having someone watch her design activities so closely. On the whole, her attitude toward the work and its facilitation was quite positive, and the interest and support she received appeared to motivate her in a positive way.

**Technical support**

Aspects of technical support were clustered according to the resource being used—Clicker®, internet and the school’s LAN. Annette did not have an intuitive sense of how the Clicker® program worked. She did not seem to grasp the underlying logic of the software, and as a result could not extrapolate functions or manipulations. For example, the same control panel is used for deleting and adding word cells. It took Annette a very long time to grasp the control panel function. Until then, even if she remembered how to add a word cell, she could not deduce that she should go back to the same control panel to delete it. Instead, she mainly memorised a limited number of manipulations. A great deal of support was required to help her memorise steps and eventually gain insight into the program structure. Annette had received the suggestion to design paper-based prototypes in the initial stages, and no support was necessary for this. A paper-based prototype was made for each Clicker® grid, and Annette experienced this as an important part of the design process. With much practice, translation of the paper-based prototype into digital materials became easier over time. As is the case for many Dutch kindergarten teachers, Annette is moderately fluent in English. The program has an English interface, and this was problematic at the start of the Clicker® sessions, since labels were not always self-explanatory. Within a few sessions, the functions of most buttons had been learned. Annette had little difficulties using internet in association with the materials development—for example, to locate clip art that could be incorporated. She enjoyed it so much that, in the eyes of her coach, she spent too much of the valuable development time looking for images. The school’s LAN hosts different disk drives for teachers and students. For Annette, this meant that her digital files needed to be kept in the teacher area while she was working on them, and would have to be moved to the learner area once they were completed. Along with the core Clicker® files, all images and media files must also be kept in certain locations, for them to be accessed during use of the materials. Proper file management thus requires a basic understanding of network directory structures. Her many detailed notes to herself about how to execute these kinds of manipulations implied that Annette did not have a sense of this at all. She required sustained assistance with saving, copying and deleting files, which only marginally reduced throughout the course of the design work.

**Pedagogical support**

Pedagogical aspects were defined in terms of: structuring the Clicker® grids, length and structure of sentences and use of images. Annette proved extremely creative in thinking up activities around the housing theme that had been selected. No support was necessary in this regard. During Clicker® grid design, Annette required support for making the interface self-explanatory to children. Guidelines were given such as: be sure to structure the work from left to right; and if children must choose one of several words, give all those word-cells the same colour so that they learn to build sentences by selecting one of each colour. Annette seemed so focused on her technical work that she forgot to apply some of her pedagogical knowledge to grid design. For example, before the project started, she had indicated that sentences should be kept short and clear. Yet she designed long, complex sentences, occasionally containing errors. When these were pointed out, she adjusted them accordingly. Ideally, most of the word-cells in the Clicker® materials would have contained images. Since some terms and concepts are difficult to link with an image, facilitating this word–image link requires some forethought. Annette did not seem to consider the use of images as she designed sentences.

**Organisational support**

Organisational aspects examined related to planning the design work and planning for implementation of the designed materials. On her own, Annette gave very little attention to planning the design work. Following initial brainstorming, her own approach was to jump into elaborating one idea; the following week, she seemed to jump into another. At no point did she plan out a total set of materials, budget time, or match activities to different literacy goals. However, she did give attention to planning for the implementation of the designed materials. After concluding that she would not be able to offer sufficient guidance to children during the on-computer sessions in her classroom, she and a research assistant established a network of parent volunteers to work with small groups of children during the eight weeks of Clicker® activities.

**Early literacy skills**

The children in Annette's class were divided into experimental and control groups. The experimental group worked with PictoWriting once a week for two months, the control group did not. In contrast to the control group, a large learning gain was found for the experimental group, as shown in Table 1. Using the Mann-Whitney U test, a significant difference in learning gains was determined for the experimental versus the control group (Z = –2.256, p < 0.024). The effect size for the experimental group

---

**Table 1**

<table>
<thead>
<tr>
<th>Group</th>
<th>Learning Gains</th>
<th>Mann-Whitney U Test</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>Large</td>
<td>–2.256</td>
<td>&lt;0.024</td>
</tr>
<tr>
<td>Control</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
was considerably higher compared to the control group. This implies that the on- and off-computer activities designed by Annette improve emergent reading and writing skills. However, the extremely small scale of the experiment must be noted.

**Conclusions**

**What are teacher attitudes toward developing PictoWriting materials?**

Annette had a positive attitude toward developing PictoWriting materials. While she exhibited a high degree of involvement throughout the project, this improved when she was given a quiet office to work in. Her enthusiasm remained high and she continued to work on PictoWriting materials in her free time. While she was curious about other Clicker® materials available, she did not demonstrate curiosity about learning how Clicker worked. Although program help and a specially made guidebook were available, she clearly preferred to ask her coach for assistance. Annette’s awareness of her own challenges in using the program did not dampen her self-confidence. She found the one-on-one coaching to be motivating but at times it made her feel self-conscious.

**What supports are needed for teachers to create PictoWriting materials?**

While she seemed adept at using the internet, Annette lacked an intuitive sense of how the Clicker® and network directory structures worked. As a result, she required a large degree of coaching on the use of these. The way she took notes and referred to them suggests that she memorised how to complete certain tasks, but that she probably did not grasp the underlying logic. While Annette was bursting with creativity in terms of on- and off-computer activities, she seemed to lose touch with her own pedagogical content knowledge. When, for example, it was pointed out that she had designed overly complex sentences for the children, she adjusted them accordingly. However, at no time did her behaviour indicate that she was thinking ahead in terms of image–word links, learning goals to be met, or distribution of different text types across the set of materials. During the development of materials, this point was not discussed with her, because support was given on a reactive basis and we wanted to explore what she did of her own accord. After the study, she indicated that merely getting the task completed was a major achievement, and that better linkages (e.g. with learning goals) would have been too big a step to take all at once.

**What learning gains result from using teacher-made materials?**

A substantial increase in pupil learning was found for the experimental group, the group of children who used the PictoWriting materials designed by Annette. This suggests that the PictoWriting on-computer activities designed by Annette, and the classroom applications that followed, contributed to children’s understanding of the functions of written language.

**Discussion**

Although contextual traditions vary, teachers designing curriculum resources is considered a relatively new phenomenon (Carlgren, 1999). The potential of this work for contributing to teacher learning and also increasing the practicality of a design has been acknowledged (Ben-Peretz, 1990; Fisher, 2003). However, it has been noted that teachers generally require support to do so (McKenney, 2005). The results from this study support the notions from the literature that teachers require, and in fact are entitled to, support for designing interventions. Annette reports that she learned from the curriculum design process. The products were usable and her strong ownership may have contributed to the smooth implementation of the teacher-made materials. However, the linguistic content of the products was not optimal and the supportive effort required to realise the materials development was great. Aside from its limited practicality, the one-on-one coaching model worked well. This approach has been deemed useful in previous literature (Bitner & Bitner, 2002) and shares some commonalities with the notion of ‘cognitive apprenticeship’ (Collins, Brown & Newman, 1989), which emphasises that active knowledge construction in context contributes to advanced thinking and learning. As has been observed in other intense programs, the teacher did gain ‘digital confidence’ (cf. Campbell & Scotellaro, 2009).

The children’s learning gains from use of the teacher-designed PictoWriting materials were significant. Because the quality of the on-computer materials remained questionable, we hypothesise that the learning gains were additionally influenced by the classroom implementation and integration with off-

---

Table 1. Mean scores (M), standard deviation (SD) of pre- and post-test scores, learning gain and effect size on the Early Literacy Skills Test of the experimental and control group

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>Pre test M(SD)</th>
<th>Post test M(SD)</th>
<th>Learning gain M(SD)</th>
<th>Effect size Cohen’s d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental condition</td>
<td>7</td>
<td>0.68 (0.20)</td>
<td>0.96 (0.21)</td>
<td>0.27 (0.64)</td>
<td>1.36</td>
</tr>
<tr>
<td>Control condition</td>
<td>7</td>
<td>0.55 (0.31)</td>
<td>0.60 (0.24)</td>
<td>0.05 (0.20)</td>
<td>0.18</td>
</tr>
</tbody>
</table>
computer activities. However, because this study focused primarily on teacher design of the on-computer materials, no data was collected during the off-computer use of the children’s texts. Therefore, attention to the classroom uses of children’s printed products warrants additional study. Additionally, further research is needed to assess if Annette’s experiences are representative; and to better understand how to scaffold PictoWriting materials development in light of pending trade-off decisions regarding practical yet effective support.

Using technology with young children in meaningful ways requires technological pedagogical content knowledge, in this case related to four- and five-year-olds’ perceptions of functions of language. This study explored the benefits and risks of one approach to engaging teachers in the design of a technology-rich learning environment for early literacy. While the learning gains of pupils using the teacher-made materials suggest promise, the case-study data clearly shows that substantial targeted support is necessary to help develop this kind of complex and situated knowledge. This study has demonstrated how, even for the most technologically savvy of the group, technological skill limitations can interfere with pedagogical choices. Moreover, it demonstrates how one teacher, who could see pedagogical and content shortcomings in other materials, remained (even after eight weeks of intense coaching) blind to the same in her own work. So, despite the pupil learning gains, we view this as a sign that the technological pedagogical content knowledge necessary to develop the PictoWriting materials was insufficiently developed throughout the course of this study.

Future efforts to develop such technological, pedagogical content knowledge should include a more nuanced assessment of the gap between what teachers have already mastered and what they can achieve when provided with support. It should also take into consideration the nature and level of support that can be made available, both initially and in the long run. In terms of designing and implementing technology-rich classroom innovation, this means that innovation design should not only be shaped by what the learners need, or what the teachers perceive as useful, but also by what teachers are able to accomplish with support. From this perspective, we recommend that technology-rich classroom innovations be designed to include the support teachers need and deserve so that they may work and learn within their own “technological zone of proximal development”.

Acknowledgements

The authors are grateful to Tjeerd van Berlo and Andrea Althing for their contributions to the research reported here.

References


Levelling the playing field for kindergarten entry: Research implications for preschool early literacy instruction

Georgia Callaghan
Alison Madelaine
Macquarie University

THE PURPOSE OF THIS paper is to consider the importance of intervening with early literacy instruction at the preschool level. Research has found phonological awareness skills in preschool to be one of the most robust predictors of early reading success in a child’s first few years of formal schooling. The efficacy of phonological awareness instruction at the preschool level is discussed, as well as the research implications for best practice in teaching it. Shared book reading plays an important role in facilitating oral language development in young children. Two types of shared book-reading techniques (dialogic and non-dialogic) are reviewed, and their effect on oral language outcomes is examined. A plethora of research has examined phonological awareness intervention in preschool and kindergarten, but much less research is available on shared book-reading interventions in these settings. It is concluded that both phonological awareness and shared book reading are necessary components of a preschool early literacy intervention, as they are important prerequisite skills for decoding, spelling and reading comprehension.

Introduction

Many preschoolers begin their first year of formal schooling (usually kindergarten) with varying levels of emergent literacy skills, and this variability is largely affected by prior home environments (Adams, 1990; Lonigan, Burgess, Anthony & Barker, 1998), level of oral language (Walker, Greenwood, Hart & Carta, 1994), and provision of good early intervention programs (Adams, 1990; Byrne & Fielding-Barnsley, 1993; McIntosh, Crosbie, Holm, Dodd & Thomas, 2007). For the purpose of this paper, preschool refers to early learning educational programs where children between the ages of three and five years attend in a regular setting or daycare setting before they commence formal schooling. In 2009, 92.7 per cent of all Australian children attended non-parental care or educational programs the year before formal schooling began (CCCH & Telethon Institute for Child Health Research, 2009). Kindergarten in this paper refers to the first year of formal schooling, typically following preschool, for children aged five to six years. It has been well-documented in the United States that children from lower socioeconomic groups and minority groups tend to be further behind their peers in early literacy skills on kindergarten entry and that this gap increases over time (Chatterji, 2006). More recently, this achievement gap has been found with four-year-old children in preschool, prior to the commencement of kindergarten (Wang, 2008).

A longitudinal study by Chatterji (2006) with a large sample of children \( n = 2,296 \) demonstrated that the gap in reading between students from lower socioeconomic backgrounds and their more affluent peers increased from the beginning of kindergarten to the end of kindergarten by about half a standard deviation (SD) and increased again by the end of first grade (to \(-0.608\) SD units). There was also overwhelming evidence that kindergarten-entry literacy skills significantly predicted first-grade reading scores, when all other variables, including poverty, were controlled for. Regardless of race or socioeconomic status, poor literacy skills at kindergarten entry are more likely to lead to poor reading skills in first grade. This highlights the need for targeted and explicit literacy intervention at the preschool level. In 2009, 22.9 per cent of the estimated five-year-old population in Australia were considered either ‘developmentally vulnerable’ or ‘developmentally at-risk’ in the language and cognitive domain, which partially comprised a basic literacy measure including letter identification, phonological awareness, and being
Phonological Awareness

What skills do preschoolers possess that are highly correlated with later literacy success?

The National Early Literacy Panel (NELP, 2008) was convened in 2002 in the US under the direction of the National Centre for Family Literacy. The NELP was set up to exemplify the scientific research-based report on reading and writing instruction composed by the National Reading Panel (NRP), in April 2000 (National Institute of Child Health and Human Development, 2000). While the NRP was influential in informing best practice in literacy instruction and educational policy for school-age children, the NELP was set up to review instructional practices, emergent skills, characteristics and environments of younger children (birth to five years) that influence literacy development. The NELP’s (2008) meta-analysis of more than 299 studies on children between the ages of birth and five years recognised phonological awareness as one of the most important determinants of early reading success. Phonological awareness also influences whether a child is considered ‘school-ready’. A recent Australian study investigated the predictors of School Readiness (oral language, pre-literacy skills, social and behavioural attributes, parental literacy and maternal wellbeing) in 1005 five- to six-year-old children who had been assessed longitudinally between the ages of 12 and 60 months (Prior, Bavin & Ong, 2011). They found pre-literacy skills, comprising phonemic awareness and letter knowledge, to be one of the strongest predictors of school readiness, and oral language was also an influential factor (Prior et al., 2011). Also, phonological awareness skills assessed at the beginning of kindergarten compared to the end of kindergarten were found to be equally as effective in predicting end of first-grade reading outcomes (Schatschneider, Francis, Carlson, Fletcher & Foorman, 2004). This highlights the need to assess students’ phonological awareness when they start kindergarten, to identify those at risk of reading failure.

Phonological awareness (PA) is traditionally defined as a broad level of metalinguistic awareness and refers to the sensitivity to any size unit of sound within the speech stream (Yopp & Yopp, 2000). It includes the oral manipulation of larger units of sound involved in rhyming tasks, counting syllables, segmenting and blending onset and rime (e.g. /cl/ and /ock/ together make the word ‘clock’) right down to the level of the individual phoneme, which is the smallest discrete unit of sound within the speech stream (e.g. the sounds /cl/ /al /t/ make the word ‘cat’) (Yopp & Yopp, 2000). Skills that include oral manipulation of phonemes within the spoken word (e.g. phoneme identity tasks, deleting sounds and substituting sounds within words) are referred to as phonemic awareness activities. Phonemic awareness is a subset of phonological awareness (Yopp & Yopp, 2000). Skills involving larger units of sound are considered easier to master than skills involving smaller units of sound, and a hierarchical skills sequence in order of difficulty is believed to help children progress from larger units to smaller units of sound (Adams, 1990). For example, preschoolers find rhyme easier to master than identifying initial phonemes in words (Bailet, Repper, Piasta & Murphy, 2009).

Research into early literacy skills has benefited from longitudinal studies that have tracked students’ skills and attributes in preschool, and subsequent performance in reading, writing and spelling in kindergarten and later grades. The NELP (2008) investigated the predictive validity of a range of children’s attributes and skills in kindergarten, and on later conventional literacy skills. PA measured in kindergarten or earlier was found to be one of the most robust predictors of later decoding, reading comprehension and spelling skills. Regardless of when...
the conventional literacy outcomes were measured (kindergarten through to second grade), the size of the predictive power of PA on later literacy outcomes was not affected. This showed the relationship between PA and later conventional literacy skills to be just as strong in kindergarten as it was in second grade.

What seems to be clear from the research is that PA may be necessary to prevent reading failure but is not sufficient on its own. Stuart and Materson (1992) found that preschoolers’ poor PA test scores reliably predicted subsequent reading and spelling failure six years later, but being above average on measures of phonological tasks in preschool did not necessarily protect students against reading or spelling failure. Similarly, Byrne, Fielding-Barnsley and Ashley (2000) demonstrated that preschool children who were secure in their knowledge of a particular phonological skill (phoneme identity tasks) after training were not necessarily immune from reading failure six years later. Byrne et al. (2000) argue that the identity task was not powerful enough, nor taught for long enough, to prevent reading failure, and training in other phonemic awareness skills may have more ‘vaccination potential’ against long-term reading failure.

Converging research shows that various types of PA tasks not only differ in the level of metalinguistic complexity and cognitive operation (task) required but also in their potential to predict early reading improvement. The accumulated research indicates that measures of phonemes or smaller phonological units are more predictive of early reading skills than are larger phonological units such as syllables (Badian, 1998), onset-rime (Hulme et al., 2002) and in particular rhyme (Lundberg, Frost & Peterson, 1988; Mann & Foy, 2003; Muter, Hulme, Snowling & Taylor, 1998; NELP, 2008). The NELP (2008) meta-analysis found rhyme (considered the easiest skill within the hierarchical sequence of phonological skills) to be a poor predictor of subsequent decoding skills (0.29). Likewise, Mann and Foy (2003) found rhyme awareness in 99 preschoolers did not impact on the development of early reading skills, whereas phonemic awareness was a contributing factor.

One of the most influential earlier studies, by Lundberg et al. (1988), indicated that formal instruction in rhyme and other phonological skills may not even be necessary to improve rhyme and syllable awareness. It is therefore possible that rhyming and syllable awareness may develop on their own and reflect a normal developmental pattern of phonological sensitivity. This study showed that, after eight months of training with 235 kindergarten children with a broad range of metalinguistic skills, the experimental group only marginally outperformed the control group (who had no metalinguistic training) on rhyming and syllable awareness but the gains were dramatic at the phonemic level. The effect of good phoneme segmentation skill was long-lasting, with students in the experimental group performing better on measures of reading and spelling one and two years later. There seems to be evidence that rhyming ability is independent of phonemic awareness, and therefore does little to foster reading development. Although rhyme is widely recognised in preschools as a playful language activity that appeals to a young child’s sense of fun and helps build sensitivity to the sound structure of words (Yopp & Yopp, 2000), it would be wise for preschool teachers to also include intentional phonemic awareness instruction. This makes good pedagogical sense, particularly if the outcome is to improve early reading skills.

In terms of cognitive operation required, Adams (1990) suggests that identity tasks (e.g. What sound does snake begin with?) or oddity tasks (Which picture does not start with /m/?) are a good starting point for pre-readers because of their simplicity, but the NELP’s (2008) meta-analysis found identity tasks to be a weaker predictor of later decoding skills than were analysis tasks. Phonological analysis tasks (sometimes referred to as phoneme segmentation tasks) involve breaking up a word or syllable into its separate phonemes. An analysis task may require a student to break the spoken word ‘cat’ into its separate sounds, /c/ /a/ /t/. More difficult tasks at this level are referred to as phonemic manipulation tasks. Phonemic manipulation involves substituting phonemes (e.g. taking away the /c/ from ‘cat’ and replacing it with /m/ to make the word ‘mat’), or deleting phonemes from words (e.g. taking away the /c/ from ‘cat’ to make the word ‘at’). To undertake analysis tasks one needs to first be aware that words are made up of phonemes, and in order to manipulate sounds in words one has to be proficient with the phonemic structure of words (Adams, 1990). A longitudinal study by Muter et al. (1998) involving 37 preschoolers found that analysis skills as measured by phoneme identification and phoneme deletion were highly correlated with segmentation skills in their first year of school, which in turn was highly predictive of both reading and spelling performance during that same year.

Students should be placed at an appropriate level in a PA program, where they are able to move up through the hierarchical skills in a systematic way, and progress from the sub-phoneme level to the phoneme level. Lonigan, Anthony, Bloomfield, Dyer and Sasmwell (1998) examined phonological sensitivity in 356 preschool children between the ages of two and five years, and their results suggested that children’s skills at the sub-phoneme level (i.e. words, syllables) were precursors to being able to acquire skills at the phonemic level. Theoretically, this means a child would be unlikely to be able to perform blending skills at the phoneme level if they had not mastered this skill at the syllable level. When instructing students in PA,
three distinct developmental tasks should be taken into consideration: task difficulty (e.g. identifying versus manipulation or blending versus segmenting), linguistic complexity (e.g. onset-rime versus phoneme) and phoneme position in words (Cassady, Smith & Putman, 2008). A developmental continuum of PA should always end at the phoneme because individual phonemes are not detected in the speech stream and need to be explicitly taught (Adams, 1990). The risk of teaching skills only at the word and syllable level means students’ levels of phonological awareness may remain shallow (Hempenstall, 2004), and subsequently they may be less likely to master the alphabetic code when formal reading instruction begins.

How effective is phonological awareness instruction in preschool?

The efficacy of PA interventions with preschool-age (three–five years) children has been well-documented (Bailet et al., 2009; Bryne & Fielding-Barnsley, 1991; Hindson et al., 2005; Korkman & Peltoma, 1993; Koutsoftas, Harmon & Gray, 2009; Maslanka & Joseph, 2002; NELP, 2008; Yeh, 2003; Yeh & Connell, 2008; Ziolkowski & Goldstein, 2008). Intensive, systematic PA training to groups and individual students over short periods (from as little as six weeks), was found to improve the phonological awareness skills of preschool-age children. Moreover, Bailet et al. (2009) found dosage effects (based on the number of sessions taught) impacted significantly on at-risk preschool students’ performance in a range of phonological and literacy outcomes (rhyming, alliteration, print, and letter knowledge skills). On average, children from preschools and daycare centres benefited from more teaching sessions over a short period, which was reflected in increased gains on rhyming, alliteration, print, and letter knowledge tests. Carmichael and Hempenstall (2006) conducted an experimental study with 69 kindergarteners, and found that children made greater gains in PA skills when they received a PA program distributed more frequently over a shorter period (30 minute sessions daily over 12 consecutive days), compared to gains made by children who received the same PA program distributed over a longer period (two x 30 minutes per week over six weeks).

These studies provide evidence for an effective model of delivery of PA instruction in preschool (an early learning program for three- to five-year-olds before formal schooling instruction begins) and kindergarten (first year of formal schooling for five- to six-year-olds). In kindergarten, the delivery should comprise distributed practice, where lessons are delivered intensively to small groups of children over a short period (rather than spaced practice over a longer period). In preschool there would be benefits from embedding short periods of daily PA teaching (three–four times per week) for small groups within the play-based curriculum. Daily instruction would allow for a high frequency of thoughtful intentional teaching sessions, which should increase children’s learning of PA skills. Frequent (daily) instruction in preschool would also provide more opportunity for at-risk preschoolers, who typically require more teaching sessions than those not at risk, to acquire PA skills (Byrne et al., 2000; Hindson et al., 2005).

Should we provide phonological awareness instruction in preschool?

There are many reasons for phonological awareness instruction beginning in preschool. First, phonological sensitivity originates in the preschool period and predicts it in kindergarten and first grade (Lonigan, Burgess & Anthony, 2000).

Second, research into the phonological sensitivity of this age group shows they are developmentally ready to be taught PA skills. It suggests there is a substantial increase in phonological sensitivity around ages three to four with children from middle-income backgrounds, and as children approach four they show more stability in their performance across a broad range of phonological tasks of different linguistic complexity (Lonigan et al., 1998). This steady increase continues until at least age five (Lonigan et al., 1998). The typical age range in Australian preschools is from three to five years, the critical period of growth in phonological sensitivity.

Third, socioeconomic status (SES) has been shown to influence phonological sensitivity in preschool. Both Australian and American preschool students from disadvantaged backgrounds performed significantly more poorly on phonological tasks than did students who were not disadvantaged (Bowey, 1995; Lonigan et al., 1998). And it is more than likely that reduced phonological sensitivity will impede later reading development.

Lonigan et al. (1998) also demonstrated that the ability to complete tasks at different levels of metalinguistic complexity (sub-phoneme and phoneme) was affected by social class. Furthermore, the gap between the middle-income and lower-income students increased with age. For example, the difference between the middle-income and lower-income groups in the percentage of children who scored one or higher on the blending task at the syllable level increased from 18.3 at age three to 52.7 at age four, and 75.9 at age five. These studies suggest the particular importance of phonological programs in preschools where students are from lower SES backgrounds. One should not assume, however, that children from high SES backgrounds would naturally acquire PA skills (Bowey, 1995). This pattern of
increasing disparity between the performance of the low and high SES groups on phonological tasks from the age of three indicates that it may be wise to intervene with a PA skills program from as early as age three.

McIntosh et al. (2007) demonstrated how powerful an effect early intervention in PA skills can be with children from low SES backgrounds over the short term. Preschool children from low SES backgrounds made a dramatic improvement in PA skills compared with the performance of the control group after 10 weeks of PA intervention and 10 weeks of language intervention. Progress was maintained three months later. This improvement, however, was short-lived, with children in the experimental group showing no difference in PA skills than the control group two years later (Henning, McIntosh, Arnott & Dodd, 2010). Both groups of socially disadvantaged students performed below the average for students of the same age. Although these children may have started school with an advantage as a result of the intervention, we cannot assume that they received more explicit support and teaching to further their PA skills beyond syllable segmentation, rhyme and first sound identity tasks during their school years. As mentioned above, the pattern of increasing disparity between students who are socially disadvantaged and those who are not increases with age, so it is imperative that good teaching and advancement in PA skills takes place during the school years. Intervention at the preschool level will at least provide socially disadvantaged children with a head start in literacy skills on school entry.

The NELP’s (2008) meta-analysis results showed a trend of increased benefit in preschool from learning letter sounds/names, reading and spelling after code-based interventions that included a phonological awareness component.

Effect sizes were larger for preschool children than for kindergarten-age children. Similarly, Ehri et al. (2001) reported larger effects of PA intervention at the preschool level on PA and reading outcomes than at the kindergarten level. Preschoolers appear to gain more from PA intervention compared to students already attending kindergarten or school.

Some educators are concerned that only children who have limited literacy skills would benefit from PA instruction. Yet the NELP (2008) showed quite the contrary. Regardless of whether you are a reader or a non-reader with little letter knowledge, the benefits of code-based interventions that include some form of PA training are the same across a range of outcomes (PA, oral language, reading, spelling). Effect sizes were particularly large for PA (0.99 for a little letter knowledge, 0.87 for letter knowledge but non-reader, and 1.36 for readers). According to Cohen (1988), an effect size of 0.80 is considered high. Thus there is evidence to support early literacy instruction that includes a PA/code-based intervention in preschool rather than waiting until kindergarten.

**What is the role of print in phonological awareness instruction at the preschool level?**

While there is evidence to support the positive effects of systematic, intensive PA instruction on the PA skills of preschool students, the NELP’s (2008) meta-analysis found PA instruction on its own to have minimal effect in improving the reading and alphabet knowledge of preschool and kindergarten-age children. Performance on these outcomes was increased when PA instruction was combined with a print component. Furthermore, Castles and Coltheart (2004), after their extensive literature review on PA and its relationship to early reading skills, found no clear evidence that establishes a causal link between pure PA and early reading acquisition. Many studies reviewed did not completely disentangle PA from phonics. To further scrutinise, they hypothesise that in-depth PA at the phoneme level may not exist without knowledge of graphemes (a written letter or a group of letters that represent a phoneme). Alcock, Ngoro sho, Deus and Jukes (2010) provide support for this theory in their study of older children in rural Africa. They found that, while a basic level of PA is present before children learn to read (such as word, syllable awareness and more implicit phoneme awareness), a certain level of literacy skills (letter-naming) had to be acquired for students to have a more explicit awareness of PA at the phoneme level. In fact, letter naming was much more closely related with PA than age, word reading, or schooling. This suggests that, for young children, teaching some letter sounds and/or names and their corresponding graphemes would be an essential component of a preschool program to increase phonemic awareness. To engage children in learning written letters and their sounds/names, as well as retaining this knowledge, one could provide visual cues (e.g. picture of a snake and the letter ‘s’) or chants or actions that go with a particular letter. For example, when children see the grapheme ‘w’, they may have been taught to say ‘wiggly worm /w/’ and/or wriggle their finger like a worm and say /wl/.

Teaching some letter–sound correspondences or letter names would enable students to more readily transfer PA skills to decoding text when formal reading instruction begins, given that there is a strong interaction effect between PA skills and letter–sound knowledge in predicting later decoding skills.

Students identified as at-risk of reading failure show that transferring phonological skills to print is not an easy skill to master. Hindson et al. (2005) demonstrated that, while at-risk preschool students were able to transfer phonemic awareness skills to untaught phonemes as
Research shows that interventions inclusive of both blending and segmenting training, and of letter knowledge, are more readily transferred to reading skills than is blending training on its own (Fox & Routh, 1984; Moore, Evans & Dowson, 2005; Torgesen, Morgan & Davis, 1992). The NELP (2008) meta-analysis yielded larger effect sizes for reading and spelling outcomes when both synthesis (blending) and analysis (segmenting) tasks were taught together rather than treated separately, although this difference was not statistically significant.

O’Connor, Jenkins and Slocum (1995) showed blending and segmenting skills, first sound identity task, and letter knowledge were the most important phonological variables contributing to reading analog test scores. The researchers suggest that in terms of the phonological instruction required, blending and segmenting skills may be sufficient on their own to help the transfer to reading tasks. It was also noted that making the connection between blending and segmenting explicit by using the same core of words may have helped transfer this knowledge to print.

In fact, there is support for only teaching blending and segmenting skills as opposed to a broad range of PA skills. O’Connor et al. (1995) demonstrated that kindergarten children with low PA skills who were taught a broad array of phonological tasks did not perform any better on a broad measure of PA skills than did students who were taught blending and segmenting skills only, and both transferred phonological skills to untaught phonemic manipulation tasks equally as well. Similarly, Yeh and Connell (2008) showed that disadvantaged preschool students who were taught blending and segmenting skills performed just as well on vocabulary and rhyming tasks as did students who were taught either a vocabulary or a rhyming approach. O’Connor et al. (1995) speculates that ‘learning to blend and segment provides a sufficient knowledge base (crossing sources of individual differences) to permit transfer to broader phonological awareness’ (p. 214).

An important finding from the research into preschool literacy is that a combination of blending and segmenting training, where grapheme-phoneme links were made explicit, was more effective than vocabulary training or rhyming and alliteration training in improving overall combined phonemic awareness skills and letter–sound knowledge in disadvantaged four- to five-year-olds attending the Head Start Program (Yeh, 2003; Yeh & Connell, 2008).

Phoneme segmenting skills in particular are difficult to teach to preschool children (Yeh, 2003). Studies that were successful in teaching phoneme segmentation skills to young children over a relatively short period (maximum of 14 weeks), included methods that made the link between graphemes and phonemes explicit during blending and segmentation training (Oudeans, 2003; Torgesen et al., 1992; Yeh & Connell, 2008). They used pictures to aid blending and segmenting of words into onset-rime and consonant clusters, as well as letter sound training and consonant-vowel-consonant word learning tasks (Fox & Routh, 1984). They also used letter–sound training, stretched blending and sound boxes to segment words into onset-rime and phonemes (O’Connor et al., 1995).

Sound boxes are a technique to teach blending and segmenting skills. Students or teachers point to boxes that represent the phonemes in a word. Malanska and Joseph (2002) compared preschoolers’ performance on phonological awareness measures after training in sound sort boxes or sound sorting with picture cards. Students who were trained in sound box techniques significantly outperformed students trained in sound sorting with picture cards. The study was limited, however, by the small sample size and students representing middle- to high-income SES groups only. Bearing in mind that segmentation skills are critical for learning to read, further studies are needed with a larger and more representative sample of the population.

**Shared book reading**

While the simple view of reading anticipates that students who are deficient in decoding need to be taught strategies such as PA and phonics that support decoding, it also assumes that students deficient in linguistic (or listening) comprehension skills need to learn skills that improve listening comprehension, such as oral language skills (Tan, Wheldall, Madelaine & Lee, 2007). The NELP (2008) found teaching PA skills to
young children through code-based interventions had only a small impact on oral language skills, but had a moderate to large impact on measures of conventional literacy skills (reading and spelling). It is evident that phonological awareness instruction is insufficient in improving oral language skills in young children, and that other teaching methods are required.

A rich language environment helps young children acquire vocabulary in the preschool years. During the school years, reading text becomes progressively more complex as students encounter more difficult words. A good oral vocabulary is necessary for students to make the transition to understanding written vocabulary (National Institute of Child Health and Human Development, 2000). If students have a limited vocabulary on school entry but develop good decoding skills, they may be able to read easier decodable text or vocabulary-controlled text in the early years but a limited vocabulary will eventually impede reading comprehension as text becomes more sophisticated. This was demonstrated by Walker et al. (1994). They found children with poor language and vocabulary skills during the early years were the lowest achievers in reading and related literacy skills, and in language and vocabulary skills seven years later.

Picture-book reading or shared book reading is the cornerstone of most preschool literacy programs. It simply involves reading a book through from beginning to end, briefly stopping to comment on pictures and to answer any questions (Lonigan, Anthony, Bloomfield, Dyer & Samwell, 1999).

Dialogic reading is a type of shared book-reading that encourages children to be active participants as opposed to passive listeners (NELP, 2008). Through direct questions and feedback the child is encouraged to expand on their answers instead of giving simple yes/no responses. The NELP’s (2008) meta-analysis across 16 studies showed shared book reading to have a moderate impact on young children’s oral language. The average effect size across 15 studies was 0.57. The effects of shared reading in pre-kindergarten and kindergarten were equally as powerful on oral language outcomes, and equally effective for children at risk/not at risk of academic failure.

The NELP (2008) found that effect sizes for oral language skills were higher for dialogic reading than for non-dialogic reading, although not statistically reliable owing to the limited number of studies available. Most studies in the meta-analysis were biased in that they used parents from middle- to high-income families to deliver the dialogic reading to their child. A good example of this was a study by Arnold, Lonigan, Whitehurst & Epstein (1994). They showed children of higher SES groups, who were read to by mothers using the dialogic reading technique and had been trained through videotapes, performed significantly better on measures of expressive language (not receptive language) compared to children of mothers who were read to in a typical shared book-reading style.

There appears to be few studies that have looked at comparing the effects of dialogic reading and typical shared book-reading techniques on groups of preschool students (NELP, 2008). This is surprising considering that shared book reading is common practice in most preschool settings. Studies that have examined the effects on small groups of young preschool-age children of dialogic reading techniques compared to typical shared book reading found larger gains for children in the dialogic group on measures of expressive vocabulary (Hargrave & Senechal, 2000) and descriptive/definitional vocabulary (Lonigan et al., 1999; Opel, Amer & Aboud, 2009). It seems that dialogic reading may be an effective technique in developing expressive language skills. Expressive language vocabulary, particularly definitional vocabulary, was found to be a stronger predictor of later reading comprehension skills than was receptive vocabulary. The NELP (2008) found receptive vocabulary to have a weak relationship with later reading comprehension skills ($r = 0.25$), but at the same time found expressive vocabulary to have a low moderate relationship ($r = 0.34$), and definitional vocabulary to have a stronger moderate relationship ($r = 0.45$) with later reading comprehension skills.

Listening comprehension was also found to be a moderate to strong predictor ($r = 0.43$) of later reading comprehension skills (NELP, 2008). The Lonigan and colleagues (1999) study demonstrated that young children’s listening comprehension skills were significantly higher after shared reading in a small group as opposed to dialogic reading in a small group.

These studies suggest the importance of both types of shared reading interventions—dialogic and non-dialogic—on improving language outcomes (listening comprehension and expressive descriptive vocabulary) that provide a foundation for later reading comprehension. Therefore it would make pedagogical sense for teachers involved in shared reading with small groups of young children to initially read a book straight through from beginning to end, and briefly comment on pictures and answer any questions. Once a book has been read through in this fashion, at the next shared-reading session teachers should engage in dialogic reading techniques with children. While dialogic reading is an effective intervention, teachers and parents are not used to fostering language development in this way (Scher, 1998). This underlies the importance of training teachers and parents in dialogic techniques.

Syntactic ability, which refers to the ability to model and understand the correct order and usage of words
in a sentence, is also an important prerequisite skill that young children need to learn in order to comprehend text when formal reading instruction begins. The NELP found grammar to be a strong predictor of later reading comprehension skills \( (r = 0.64) \). Shared book reading provides a good opportunity to teach grammatical skills. First, a book provides a good model of the syntactical structure of the language. Second, a book provides an insight to the more complex grammatical structure of the language that constructs written sentences and paragraphs. Most children would not necessarily encounter this type of syntactic structure in everyday oral language, especially those children from disadvantaged backgrounds. Third, if teachers are engaged in dialogic techniques with young children, there are many opportunities to give feedback and elicit correct syntax from children’s open dialogue about the book. This highlights the importance of shared book reading to communicate the grammatical and syntactical structure of oral language to young children.

More complex components of young children’s oral language skills, such as listening comprehension, definitional vocabulary and grammar, were found to be more highly correlated with later reading comprehension skills than were simple vocabulary measures (NELP, 2008). The NELP (2008) surmised that vocabulary instruction on its own would be unlikely to lead to improvements in reading comprehension; in order for children to attain complex oral language skills (e.g. listening comprehension, definitional vocabulary and grammar) they would need to have already acquired basic vocabulary skills. For many children with poor vocabularies, however, teaching simple vocabulary would provide the foundation for learning more complex oral language skills. Perhaps one of the most startling findings here is that there seems to be no deliberate attempt to build children’s vocabularies in the preschool curriculum in a structured or systematic way (Neuman & Dwyer, 2009). Neuman and Dwyer (2009) reviewed 10 preschool curriculum programs that targeted literacy instruction. The programs were funded by the federal government for use in preschools as part of the Early Reading First initiative, and the researchers estimate that these programs would have reached more than 41,000 children. The analysis revealed that, while new vocabulary was introduced in all the curricula, most programs provided little opportunity for vocabulary to be practised, reviewed, or monitored in a systematic way.

> We know that without frequent practice, multiple exposures to words, and systematic opportunities to use words, children are not likely to acquire the vocabulary and the conceptual linkages to knowledge at the pace that will be needed to narrow the achievement gap.  
> (Neuman & Dwyer (2009), p. 391)

A study by Wasik and Bond (2001) assessed an interactive book-reading technique and its effects on vocabulary development with 127 four-year-olds from low-income families. Children were randomly assigned either to a treatment group or a control group. Children in the treatment group were given explicit instruction in building vocabulary knowledge. There was an emphasis on previewing vocabulary, using props linked to target vocabulary, interactive discussions about vocabulary in the stories, and reviewing vocabulary words in centre activities. Control group children had the same amount of reading time but received typical shared book-reading instruction. Children in the first group learned significantly more vocabulary than did those in the second group. They also performed significantly better on a standardised measure of vocabulary skills (PPVT-III). The researchers attribute the superior performance of the first group in vocabulary skills to the multiple opportunities that allowed children to have repeated exposure to vocabulary words and the opportunity to use them in various contexts. A recent meta-analysis reviewed 31 studies on interactive storybook reading with preschool, kindergarten and first-grade children. The results showed that, when teachers used extra activities before or after interactive storybook-reading sessions, children had superior oral language and print knowledge than those who were not provided with extra activities (Mol, Bus & Jong, 2009).

A necessary component of a preschool literacy program would include dialogic or interactive shared book reading with opportunities to practise vocabulary learned from books. Without repeated exposure to words in other contexts, it is unlikely that young children’s oral language would improve or vocabulary words be retained.

**Conclusion**

Unless effective early literacy intervention takes place at the preschool level, children will be likely to enter their formal years of schooling with highly variable levels of early literacy skills. Furthermore, it is evident that a higher level of variability exists between children from lower SES backgrounds compared to those from middle- to high-SES backgrounds (Chatterji, 2006). We also know that the pattern of reading failure may be well entrenched before formal reading instruction takes place (Wang, 2008).

In actuality, children who have good phonological awareness skills in preschool are more than likely to become good readers in the early grades. Poor phonological awareness skills in preschool are linked to early reading failure.

An effective preschool PA program would help children progress from larger units of sound to smaller units of
sound, and students should be placed in a PA program according to their developmental level, as it is unlikely that children would be able to complete more complex metalinguistic skills at the phoneme level, without first mastering easier skills at the sub-phoneme level. The goal of such a program should be to move children quickly to the phoneme level, where they are better placed to learn to read in the early years than those students who can only perform skills with larger linguistic units.

Rhyme has been found to have little benefit in facilitating early reading and therefore is not a necessary part of a PA program. Features of a successful PA program would include making the link between letters and their sounds explicit and an emphasis on blending (analysis) and segmenting (synthesis) tasks.

Scaffolding instruction in a structured and systematic way is a very useful technique to employ with preschoolers and kindergarteners considered socially disadvantaged (McGee & Ukrainetz, 2009). It enables teachers to provide the necessary amount of feedback and prompts to guide children.

It can be argued that PA intervention is a necessity in preschools with children of lower SES, who typically have reduced phonological sensitivity than do children of higher SES, although ultimately PA instruction in preschool benefits all children.

With regard to the recommendations being made after a review of the literature, an important distinction needs to be made. Formal reading instruction in preschool is not being advocated here. It is not the intention that preschools begin ‘hothousing’ children to read. Instead, PA instruction at the preschool level should include activities that are engaging, fun, and appropriate for young children (Yopp & Yopp, 2000). Further consideration needs to be given to teacher training for early childhood educators, as ‘considerable confusion remains about what phonemic awareness is, the role it plays in reading development, and how it should be addressed in the classroom’ (Yopp & Yopp, 2000, p. 130).

While good PA skills are a precursor to decoding skills, good oral language skills are a precursor to understanding what one reads. Shared book reading provides a good framework for teaching oral language skills to young children. However, dialogic reading, a more interactive reading style, was found to be more effective in improving expressive language skills. It also provides a good opportunity to communicate the grammatical and syntactical structure of oral language to young children.

A good preschool literacy program would include traditional shared book reading as well as dialogic reading. Teachers would need to be trained in dialogic reading techniques because they are not used to fostering language development in this way (Scher, 1998 p. 292). While acknowledging that there is still much research to be done in the area of early childhood literacy, there is currently good information about what preschool settings can do to facilitate literacy development in the school years. To minimise academic failure early on, and better prepare young children for early success in reading, is a worthy educational goal.

References
Alcock, K. J., Ngorosho, D., Deus, C., & Jukes, M. C. H. (2010). We don’t have the language at our house: Disentangling the relationship between phonological awareness, schooling, and literacy. British Journal of Educational Psychology, 80, 55–76. doi:10.1348/000709909x424411


A CONSISTENT THEME IN the research literature associated with children’s learning and cognitive development is the importance of appropriate instruction in the early school years, with the National Institute of Child Health and Human Development report (Hall & Moats, 1999) claiming that appropriate instruction in the Prep Year was four times more effective in improving a child's reading skills, compared to the situation of appropriate instruction being delayed until Year 4. Children's school achievement is, however, multi-dimensional and dependent upon a range of interactive skills. For example, in terms of reading achievement the evidence is that both vocabulary knowledge and phonemic awareness influence children’s level of alphabetic knowledge which is highly correlated with their sight word knowledge (Byrne, Fielding-Barnsley & Ashley, 2000) which directly and indirectly influences children’s level of reading fluency and then reading comprehension (Neuman & Dickson, 2001; Scarborough, 2005; Share & Stanovich, 1995).

Underlying these academic achievements in literacy are two learning processes. One is the children’s developing cognitive memory which needs to quickly process the orthographical features of the word (its letters and unit sounds) and link this to the semantic meaning of that word (Cunningham & Stanovich, 1997). The second process is motivational, with the child needing to interact with enough text to become an independent reader, able to use a range of semantic and orthographical strategies to comprehend and decode words quickly and so achieve meaning from a variety of texts (Bishop & Leonard, 2000). There is recurring evidence that these two processes are sensitive to the quality of the language and literacy environment, both in the home (Catts, Fey, Zhang & Tomblin, 1999; Farkas & Beron, 2004) and in out-of-home settings (Barnett, 2001; Paul, 2007). For example, in respect of communicative exchanges, Hart and Risley (1995) reported that children of middle-class, well-educated parents have two to three times as many opportunities to converse with their parents than do low-income children. There is also evidence that these language and emergent literacy skills can be influenced by interventions designed to improve the overall richness of the child’s language and literacy environment (Sénéchal, 2006; Wasik, Bond & Hindman, 2006) and in programs that increase the adult and child language interactions (Bierman et al., 2008; Hay & Fielding-Barnsley, 2006, 2007; Whitehurst et al., 1994).

Closing the language processing gap

Home factors play a significant role in language and dialogue patterns that influence children’s learning in the early childhood setting (Morgan & Goldstein, 2004; Nation, 2005) but there is significant variability in terms of children’s readiness for formal classroom reading instruction. In particular, Australian research on young children’s language levels and their socioeconomic status identified that, in terms of receptive language (listening), approximately 15 per cent of the children starting Year 1 did not have the receptive language skills
to cope fully in that environment. A similar pattern was identified for children’s expressive language (speaking) abilities, with one in three children below the five years-six months expressive language benchmark (Hay & Fielding-Barnsley, 2009). In addition, children from lower socioeconomic status (SES) homes had greater delays in their language readiness for school, compared to children from higher SES homes. These gaps in children’s vocabulary and language competencies need to be addressed and appropriate programming provided (Hall & Moats, 1999; Morrow & Tracey, 2007; Paul, 2007), otherwise motivation for reading drops away and children are delayed in developing their alphabetical knowledge and word fluency skills.

To facilitate closing this expressive and receptive language gap for children the authors suggest the following.

Closing the expressive language gap—activities:

■ Help children increase their speaking vocabularies.
■ Encourage children to speak in complete sentences.
■ Give the child time to consider their response.
■ Discourage others from answering for the child.
■ Reinforce use of effort as well as outcome.
■ Avoid over-corrections of incorrect pronunciations but say the word again in a sentence and seek a response using that word.
■ Give children opportunities to expand their use of various syntactic structures, such as adjectives and adverbs.
■ Give the children opportunities to talk about a topic they know about.
■ Provide more wait time between teacher’s question and children’s answers.
■ Use peers to talk about the topic within a conversational setting.
■ Encourage children to communicate with others so that they can be understood.
■ Give children the opportunity to use language socially, interpreting feelings, points of view and motivation, and by solving problems through generating ideas, summarising events, and predicting outcomes.
■ Have children talk about pictures and objects.
■ Encourage children to pronounce words correctly.
■ Give children opportunities to develop language that involves numbers, such as describing size and amount, and making comparisons.
■ Provide children with the opportunity to talk and listen in different settings.

Closing the receptive language gap—activities:

■ Provide children with opportunities for following directions.
■ Provide children with good models of standard English.
■ Provide instructional periods that are shorter in duration, but more frequent.
■ Provide children with settings and activities where they talk and listen to others about common activities, e.g. what I like to eat, how I made the train out of blocks.
■ Give children the opportunity to discriminate and classify sounds they hear and to regularly engage with rhyme and singing activities.
■ Expose children to new vocabulary on a regular basis.
■ Keep your language at a suitable level of complexity and clarification for the young child to engage in a conversation with you.
■ Expand on the child’s utterances and have the child respond again.
■ Do show-and-tell activities in the peer group.
■ Use puppets, so children have to listen to each other playing a character.
■ Have children retell a favourite story with the others listening.
■ Provide more time talking about the meanings of words.
■ Talk about the relationship and organisational words (‘What is another word for big?’).
■ Have children say the new words they have heard and use those words in a related sentence.
■ Offer children the opportunity to listen to others and demonstrate that they understand what is said.

Social learning theory and Blank’s language levels

The above set of activities encourages children’s language development within a social learning context, based on the notion that children’s vocabulary development occurs along with their cognitive and semantic (meaning) framework. This concept of seeing language and literacy development as part of the child’s cognitive development framework has been explored by a number of researchers, including Winne and Nesbit (2009) and in particular Vygotsky’s social learning theory (Vygotsky, 1978). From this social learning perspective, Marion Blank (2002) has focused on young children’s early language and children’s ability to use reasoning. For her, these two skills are interactive.
and self-enhancing; as children’s understandings of words and use of words improves, so does their ability to reason, which further enhances their ability to use the words in more complex settings. For Blank, it is the social dialogue that helps to transmit the meaning of the words to the child and it also provides the child with the opportunity to apply the words in situations that require more reasoning. She claims that early childhood teachers and others can improve young children’s language and reasoning development by enhancing their own dialogue, questioning and talking with children. From this perspective, Blank and her colleagues (Blank, 2002; Blank & Franklin, 1980; Blank, Rose & Berlin, 2003) propose four levels of dialogue complexity, where the children are active participants in the learning interchanges. In such a communicative context, the teacher initiates and shapes the dialogue so that the children respond at a more appropriate and advancing level of linguistic complexity.

Table 1 below outlines the four basic levels of questions and interactions in terms of their complexity. Children who have limited mastery of the lower levels of complexity will generally have difficulty with the more advanced levels (Blank, 2002; Elias et al., 2006; Hay & Fielding-Barnsley, 2010). Teachers can use these four levels to introduce and review topics for discussion and learning, and to go backwards or forwards along the levels, depending on the responses from the children.

To help explore this in more detail, it is worth considering some examples of children’s language and putting the children’s responses within a language framework. A young child points to a knife and says ‘cut’. The child demonstrates a knowledge of the function of the knife but is still unsure what it is called and when you have to name it. In this situation the adult, based on a Blank’s framework, may say, ‘Yes, the knife cuts the bread. When do you use a knife?’ This conversation should encourage the child to rehearse the naming of the object a few times (Level 1 dialogue). In terms of Blank’s Level 2 dialogue, the adult could talk about a knife and fork as a set, and that the two objects are used together when eating food. The conversation could also go on to the classification of knives in terms of the types of knives (Level 2 dialogue) and even on to the dangers of using sharp knives (Level 3 dialogue).

Adults, or even older children, on hearing children say the incorrect name for an object, may close off the conversation by just giving the answer or, worse, being overly critical of the child’s answer. The important point here is to see the child’s responses as learning opportunities where the child develops the confidence to talk and interact with others. Closing off the conversation is closing off the child’s learning and thinking (Bierman, Nix, Greenberg, Blair & Domitrovich, 2008). The advantage to early childhood teachers in understanding, knowing, and using Blank’s levels of questions is that they can adapt and respond more appropriately to the children’s answers and utterances. It becomes an informal method of quickly assessing and making sense of the child’s talk and subsequently engaging with the child in a way that makes sense to the child. Importantly, just ignoring the children’s utterances because they are ‘silly’ devalues these utterances within the learning context. If children perceive that their talk is not valued, they are more likely to remain silent and even regress in their language development (Snow, Griffin & Burns, 2006; Snow & Powell, 2008).

To elaborate on how Blank’s level of dialogue interactions can be incorporated into a regular early childhood program, the following are examples drawn from our own research and work within early childhood learning settings. The three language and literacy experiences outlined below are orientated towards moving young children from a Level 1 (vocabulary-focused) to a Level 2, where basic reasoning, organisation and comparison are more of the focus.

<table>
<thead>
<tr>
<th>Level of complexity and proficiency</th>
<th>Language complexity to the experience</th>
<th>Example of teacher discourse</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Directly supplied information (Matching experiences)</td>
<td>What do you see?</td>
<td></td>
</tr>
<tr>
<td>2 Classification (Selective analysis of experience)</td>
<td>Group the shapes by colour. How is this different from this?</td>
<td></td>
</tr>
<tr>
<td>3 Reorganisation (Reordering the experience)</td>
<td>Re-tell me the story. What is your experience with this topic?</td>
<td></td>
</tr>
<tr>
<td>4 Abstraction and inference (Reasoning about the experience)</td>
<td>What made it happen? Why do they do this?</td>
<td></td>
</tr>
</tbody>
</table>
Examples of early childhood language-focused experiences using Blank’s level of dialogue. The topic is farm animals.

Experience 1: Farm animals—basic features

- Present children with a basket containing farm animal toys (start with about three).
- Tell the children you cannot see and you don’t know what the basket contains. Children have to guess what the contents of the basket could be (Marion Blank’s Level 2).
- Show the children the animals, one at a time. Allow the children to hold them.
- Use Marion Blank’s Level 1 questions to describe the animals:
  - What colour is this?
  - Red, green, brown or speckled?
  - What size is this animal normally?
  - In real life is this animal smaller or larger than you?
  - What are its features?
  - How many legs?
  - Does it have a tail?

Experience 2: Farm animals—compare

- Revise vocabulary from the previous lesson relating to the colour, size and features (Level 1), using the basket of farm animal toys.
- Compare and contrast the animals (e.g., cow and horse). (Level 2).
- What do they eat that is the same?
  - How are they different?
- What do we do with a horse?
- What do we do with cows?

Experience 3: Other farm animals—extension

- Introduce a wider selection of farm animals, such as pigs.
- Let the children talk about these animals from their own experience.
- Look for common and different names associated with body parts.
- What do we call the feet of a horse?
- How are the horses’ hooves different to our feet?
- Discuss the differences of the animals involved (Level 2).
- Discuss the similarities (Level 2).
  - How are these animals the same?
- For some children with more advanced language ability the following are higher level dialogue questions.
  - Who has seen a horse, tell us about that experience? (Level 3)
  - Why is your foot different to a horse’s hoof? (Level 4)
  - Finish lesson using a song, such as Old McDonald had a farm.

Research findings by Hay and his colleagues conducted in early childhood settings (Elias et al., 2006; Hay, Elias, Fielding-Barnsley, Homel & Frieberg, 2007; Hay, Fielding-Barnsley & Taylor, 2010) have reported that Blank’s level of language analysis provides early childhood teachers with a basic mechanism to enhance children’s learning and provides the teacher with a logical mechanism to modify their level of instruction to better match the children’s language and cognitive thinking. These strategies have been shown to enhance young children’s literacy achievement as well as their ability to settle into a positive learning environment.

Other applications of Blank’s levels

While the focus of this article is on younger children, Blank’s research also has application with older children. The following example is based on work the authors have conducted in a Year 5 classroom. It is part of a social studies program looking at maps, in this case a map of Australia, and illustrates the full range of questioning strategies.

Table 2. Dialogue questions used between teacher and children

<table>
<thead>
<tr>
<th>Level</th>
<th>Dialogue questions of the teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>• Where is the blue around the end?</td>
</tr>
<tr>
<td></td>
<td>• What is the green used for?</td>
</tr>
<tr>
<td></td>
<td>• Point out a river.</td>
</tr>
<tr>
<td></td>
<td>• Point out a mountain range.</td>
</tr>
<tr>
<td>Classifying (focus on comparison and organisation)</td>
<td>• What do the different colours mean?</td>
</tr>
<tr>
<td></td>
<td>• How does the scale work?</td>
</tr>
<tr>
<td></td>
<td>• Where are most of the cities located?</td>
</tr>
<tr>
<td>Retelling/Reordering</td>
<td>• Based on the scale what is the distance between Sydney and Melbourne?</td>
</tr>
<tr>
<td></td>
<td>• Looking at the symbols on this map, do they make sense to you? What would you do differently?</td>
</tr>
<tr>
<td></td>
<td>• If you had to make a map of our town how would you do it?</td>
</tr>
<tr>
<td>Abstract/Inference</td>
<td>• Based on the rainfall information shown on this map, why might farming be a challenge in some parts of Australia?</td>
</tr>
</tbody>
</table>
A mechanism for modifying instruction

The advantage of using these sets of questions is that children can build up their knowledge of a concept such as, in Year 1, people who help us, and, if a child has a difficulty with a particular question, the teacher can go to a lower level such as ‘What does a fireman do?’, and then return to the higher level question, such as ‘Why does the fire engine make a loud noise?’ Similarly, if the early childhood teacher has ascertained that the children already have the Level 1 competencies, the teacher can then advance the children’s level of reasoning by asking Level 2 or Level 3 type questions.

Teachers unnecessarily disadvantage children’s learning in two ways when they use poor questioning techniques. First, if they maintain their questions at too low a level they do not provide children with the necessary opportunities for higher level reasoning and greater elaboration of the concept being explored. Second, if they operate at the abstract level and fail to build a foundation vocabulary and classification of the information, the children are confused and unable to link the teacher’s question to the information available or to comprehend the requirement of the task they have been asked to perform (Barrett & Hammond, 2008; Goswami & Bryant, 2007). In these situations children’s anxiety levels increase and they use ‘procedural display’, claiming that they understand the question, but in reality they are ‘baffled’ by what is required of them (Nuthall, 2005). In these situations, rather than restating the same question, the teacher needs to ask the child an organisation and classification question (Level 2) or a descriptive question (Level 1), such as, ‘Remember how we counted to 20 using blocks? Now we are counting using dots, see the black dots? How many dots are on this line?’

Furthermore, curricula are designed so that concepts are built over time. For example, in the case of interpreting maps, in Years 1 and 2 the expected level of children’s understanding is how colour is used on the map. However, by Year 4 children need to understand the importance of scale, and by Year 6 they need to understand how all the information can be integrated to answer more complex questions. Unfortunately, while curriculum designers may talk about a sequence of questions changing as the cognitive tasks increase, many teachers who are unfamiliar with the work of researchers, such as Blank (2002), are unsure how to alter their level of questioning to facilitate their children’s learning, and are unsure about how to improve the quality of their teacher feedback and questioning depending on the students’ responses (Hattie, 2009; Woolley & Hay, 2007).

Conclusion

The authors of this article support the notion that children’s learning is interactive and multi-dimensional. A core theme is the need for teachers to understand the strong link between children’s language development and their cognitive reasoning. This link is best facilitated within a social learning framework where children’s language and talk is encouraged, accepted and respected. This talk is the most authentic place to begin the adult dialogue with children that is purposeful and designed to build the vocabulary, concepts and understandings of the topic being taught. Blank’s level of language analysis provides teachers across the school system with a mechanism to enhance children’s learning and to modify their level of instruction and feedback to better match the children’s language and cognitive thinking. These strategies have been shown to enhance young children’s literacy achievement as well as their ability to settle into a positive learning environment.

Acknowledgement

This article is based on research funded by the Australian Research Council Discovery grant DP0666577 to Professor Ian Hay, Associate Professor Ruth Fielding-Barnsley and Professor Adrian Ashman.

References


Introduction

According to the Collins Concise English dictionary (2007), mathematicians are people considered experts or specialists in the area of mathematics, employed in the area of mathematics, or studying mathematics. In this article I argue that toddlers are developing mathematical expertise (albeit naive) as they play and can therefore be regarded as mathematicians. Insights into toddlers’ mathematical development, situated in their regular early childhood centre, are described based upon observations (collected as empirical videographic data) of their outdoor play, without teacher or adult interaction. Evidence of developing foundational conceptual mathematical knowledge and skill, the beginning of abstract thinking, is presented and provides a contrast to the traditional Piagetian view that mathematical abstraction cannot occur until much later in childhood (Piaget, 1952).

Background

New Zealand early childhood services cater for children from birth to five years and are underpinned by the curriculum framework Te Whāriki (MoE, 1996). This framework forms the basis of curriculum, pedagogy, policy and practice in early childhood settings. Te Whāriki outlines specific characteristics, required learning outcomes, and suggestions for the education of infants, toddlers and young children. Within this framework the importance of integrated, holistic programs and environments is described. For this study the toddler age range specified within Te Whāriki (12 months to three years) was the focus.

Statistics showing the attendance in New Zealand early childhood settings (Rockel & Nyland, 2007) indicate that larger numbers of infants and toddlers are in all-day care and education settings than noted previously. A New Zealand Government monograph (Education Review Office, 2009) describing the staffing of infant and toddler settings highlights specific issues of quality for infants and toddlers, including, but not limited to, curriculum and program practices and policies. It is widely recognised in the early childhood sector that infants and toddlers require specifically tailored programs in order to accommodate and provide for their special and unique characteristics. Children in this age range are described clearly within Te Whāriki, which highlights the rapid acquisition of skills, cognition and behaviours unique to this stage of development (MoE, 1996). Key curriculum requirements for toddlers include:

A secure environment and a programme that provide both challenges and predictable happenings; opportunities for independent exploration and movement; a flexible approach which can accommodate their spontaneity and whims at a pace that allows them to try to do things for themselves; adults who encourage the toddlers’ cognitive skills and language development; responsive and predictable adults who both understand and accept the toddler’s developmental swings (p. 24).

Alongside Te Whāriki, The New Zealand Curriculum (NZC) (MoE, 2007) outlines the aspirations and key competencies for children in the formal (school) sector. In this framework each subject domain has specific objectives stated for each level. Level one of the mathematics subject domain, encompassing the first six years of learning (from birth to the end of the first year of primary school) includes three strands: Number and Algebra, Geometry and Measurement, and Statistics. The achievement objectives stated within these three strands are clearly aligned to Te Whāriki. This alignment can be noted in the following achievement objective from NZC: ‘Use a range of counting, grouping, and equal sharing strategies ... ’(MoE, 2007, p. 46). In
Te Whāriki children are expected to develop ‘Skill in using the counting system and mathematical symbols and concepts, such as numbers … for meaningful and increasingly complex purposes’ (MoE, 1996, p. 78).

This study had a particular focus on the outdoor play of toddlers as outdoor environments have been situated as the ‘place to play’ by research studies in New Zealand (Stephenson, 1999; 2002; Greenfield, 2007) and internationally (Greenman, 2005; Gruenwald, 2003; Herrington, 2005; Pica, 2006). In order to extend this notion of the outdoors as a favourite place for children to play and be situated, the focus on the outdoors was maintained.

The outdoor play experiences of a group of children aged between 12 months and three years (toddlers) were observed and analysed in order to provide evidence of their foundational mathematical knowledge and skill (Lee, 2009). The study sought to examine the mathematics evident within unstructured outdoor play. Only natural play, derived from toddlers’ thinking, reasoning, action and interaction within the setting context, was examined. Any play experiences that included interactions with adults were excluded from analysis.

Early childhood education in New Zealand is based on a holistic and integrated approach. Although holism was originally interpreted as the confluence of physical, emotional, intellectual, spiritual, and language development (Smith, 1998), a contemporary perspective of holism might be described as teachers observing and valuing children’s engagement with and exploration of any number of ideas or experiences of learning occurring at any one time in a play-based environment (Babbington, 2003). These experiences could include care and hygiene routines where learning is also occurring, such as singing to a child while changing them, or play opportunities where the child’s interest (e.g. sand play) is reinforced by teachers providing resources, language and emotional or physical support. For the learning environment to be holistic, consideration must be given to each child’s developmental level, pace and interest. It is also important that each child is being empowered by adults, and others, to reach their full potential. This implies a focus on the child playing an active role in their learning rather than being “taught” in a formal sense; commonly described as child-centred curriculum (Tinworth, 1997).

The study reported here encompassed this holistic view of the child alongside a view of curriculum as integrated. Emphasis was on one aspect of curriculum: mathematics learning. However, in a holistic and integrated curriculum, the mathematical learning of toddlers is not situated discretely; rather, it occurs while they engage in activities and experiences that have meaning for them. Considering curriculum in this manner positions all subject domain knowledge in a similar way. While the child’s focus may be on their artwork or building their sandcastle, they are exploring foundational conceptual understanding in a wide range of domains. For example, scientific concepts are explored while the child tips and pours sand; she is discovering the properties of this medium. Alongside discovering properties she is exploring concepts of space and weight, and may be considering ways to move the sand from one place to another. This foundational, conceptual understanding by infants and toddlers can be described as the precursor to formal academic learning, the simple, ‘naïve’ understanding that is built through experience (Wellman & Gelman, 1992). The current study takes ‘toddlerhood’ into consideration as a period of rapid social, emotional and cognitive development (MoE, 1996). It is within this period that toddlers are engaged in play experiences as the primary form of learning (Langston & Abbott, 2005).

The rapidly growing body of research in early childhood mathematics education focuses on mathematical themes and topics such as patterning, counting, numeracy, measurement, assessment, teacher subject-content knowledge, social interactions and transition to school. However, most of this research relates to three- to eight-year-old children. While examples of current research into early childhood mathematics claim that mathematical competency begins at birth (Anthony & Walshaw, 2009), very few studies substantiate this claim, and even fewer provide empirical evidence of infants’ or toddlers’ mathematical knowledge and skills.

Methodology

Qualitative methodology was used as a means of illuminating events rather than collecting data to support or refute a specific hypothesis. In the words of Eisner (1993), ‘Current emphases in qualitative research methodology acknowledge the importance of configuration and matters of context … [and] pay special attention to subtleties of practice as well as to the uniqueness of outcome’ (p. 53). Qualitative methods focus on rich detail and deep understanding of the case under analysis. In this study the evidence of mathematics in toddlers’ outdoor play was collected in a naturalistic manner; activities and experiences were not planned or manipulated by the researcher. Naturalism also implies that the field research in question is conducted in natural settings (Neuman, 2000). This type of enquiry allows accessibility to information about variations that occur within a social or cultural setting, in this case an early education and care setting.

Alongside qualitative, naturalistic procedures it was important to ensure an interpretivist approach to this case study. Neuman (2000) defines interpretivism as ‘the systematic analysis of socially meaningful action through the direct observation of people in natural
settings …’ (p. 76). Such an approach also suggests that knowledge is valid if it is authentic, the true voices of the research participants (Hughes, 2001). This analysis can then be applied to the setting under observation in order to understand how the social world of that setting is created and maintained. One of the tenets of interpretivism is that the individuals involved in research have different beliefs, thoughts and understandings about the world and these are created to interpret their social lives, therefore the individual has an impact upon the social world (Davidson & Tolich, 2003). In other words, an interpretivist case study methodology adopted in research design and data-gathering procedures enables a focus on understanding how people make sense of their experiences within a framework of socially constructed, negotiated, and shared meanings (Merriam, 1998).

Furthermore, Merriam (1998) states that case study research focused on ‘discovery, insight, and understanding from the perspectives of those being studied offers the greatest promise of making significant contributions to the knowledge base and practice of education’ (p. 1). A case study was, therefore, the most appropriate design for this research because it can account for realistic and natural behaviour within the context. A case study cannot be replicated, because of the individual social setting and the practices within it. Therefore, generalising from one case is not always possible. However, a growing body of literature suggests that the depth and scope of a case study can be used to gain a theoretical perspective which can be applied to other similar settings (Merriam, 1998; Mutch, 2002; Neumann, 2000).

The goal of this study necessitated that data was collected in a manner that allowed the researcher to approach children without interrupting or intruding on their play, and in this respect video technology was most appropriate. Video recording allowed the data gathered to be replayed many times, thereby creating opportunities for critical reflection. Alongside the clarity of data, video recording also enables viewers to observe phenomena that may not have been observed in the moment, thus ensuring reliability and validity. Guba and Lincoln (1994) suggest that reliability can be considered a form of objectivity: when others view the data they are likely to make similar interpretations even if video episodes are viewed from differing perspectives and viewpoints. Given that the age range of the children in this study meant that most were non-verbal, it was important that the qualitative analysis methods were rigorous and transparent enough to ensure validity of the analytic procedures and results, further supporting the use of videographic data collection.

The potential participants in this study included all children attending an urban Auckland early childhood care and education centre and for whom parental or guardian permission to participate had been gained. Of the potential 50, 32 children aged between 13 months and three years were included in the results of the study.

Forty-five hours of video material were collected during morning sessions over a four-month period. These videographic studies of children show their actions and interactions simultaneously and were used to interpret meaning and knowledge behind these actions. All of this video material was fully transcribed and analysis was based upon the New Zealand Curriculum (NZC), (MoE, 2007) and Te Whāriki.

From analysis of the data, seven mathematical categories were identified in the children’s play: Space, Number, Measurement, Shape, Pattern, Classification and Problem Solving. The last of these was observed across the other six categories as an integral part of the children’s play. It is important to reiterate that, although NZC achievement objectives were adapted as a framework for presenting the findings of the study, the early childhood curriculum is based upon a holistic view of the child; that is, consideration is made for overall wellbeing in terms of both care and education routines and practices, and the holistic nature of early childhood.

Results

Space

Spatial understanding and exploration of space were the most common areas of mathematics evident in the findings, including episodes in which children moved or manipulated objects, placed themselves upon equipment, placed equipment (such as dress-up clothing) upon themselves, and explored ways that objects could be manipulated or fitted together. Spatial experiences were observed many times in the children’s physical play, including examples of toddlers climbing onto large equipment, balancing across a bridge and a high beam, riding bicycles, pushing and pulling wheelbarrows, and moving planks and boxes. For example, Kyle used his previous experience with the climbing equipment, gaining confidence in moving his body within space, in order to solve the problem of getting stuck in the rungs of the bridge:

Kyle (two years, six months) crosses the bridge halfway and stamps his foot. Leaning backwards, holding onto the edge of the bridge, he places his feet on the bottom rung and carefully climbs up the archway, getting his foot stuck in the middle, pulling it out and climbing carefully rung by rung down to the bottom. As he repeats this circuit his right leg goes through the rungs of the bridge to the ground. He gets up onto one knee and attempts to turn around but is stuck. He gains a foothold with his left foot and uses this to lever himself up and pulls his leg out.
Developing the concept of space by being able to move objects within it was also observed in the following example:

Sarah (two years, two months) is wearing a dress made of lycra that has a hoop in the bottom hem to make it stand out in a circle. She goes to get onto one of the bicycles but cannot get her leg over the seat as the dress keeps getting caught on the bicycle wheel. She tries to do this twice, then, getting frustrated, she stamps her feet and pushes the bicycle, which allows the dress to rise over the top of the seat. She notices this and places her leg over the seat and sits down. As she attempts to ride the bicycle she is holding the edge of the hem of the dress off the ground to allow it to move.

Number

Number knowledge was evident within the observations as the children freely explored their environment, relationships and routines, using numerical concepts. Forward and backward counting skills were evident as children used counting as timing, to name objects, and to quantify groups and sets.

Number knowledge is often seen as the most important aspect of mathematical learning because counting and numerical concepts form the basis of quantifying the wider world (Davies, 2003), yet this was only the second most evident mathematical area with the toddlers in this study. The NZC learning outcomes show an expectation that children will be able to count to 100 and have the ability to share a number of objects equally by the completion of the first year of primary school, approximately age six (MoE, 2007). The findings in this study showed that children as young as 23 months of age understand some numerical concepts and can apply them to situations that have meaning for themselves and others. The following example gives an example of a toddler’s developing counting skills:

Conor (two years, nine months) is sitting in the sandpit and has filled a muffin tray with sand. He counts as he pushes his finger into each muffin hole: ‘three, six, seben’.

This clearly shows some knowledge of forward word number sequence and although not accurate, is indicative of this child’s knowledge that objects can be counted and that six comes after three and seven comes after six.

Counting also seemed to give some of the older toddlers elements of control over aspects of their play environment. This often occurred when children counted to a certain number before taking action. For example, Aiden counted to three, then continued his desired play:

Aiden (two years, six months) is on the deck area, holding a large plastic hula hoop. Aiden drops his hoop on the ground in front of him, pauses, then counts ‘one, two, three’, then steps into the centre of the hoop and spins right, holding onto his shark soft toy.

A further example of a toddler’s skill in rote counting was seen when Anne (two years, seven months) was sitting on a rope swing and used the forward number word sequence from one to 10 before letting herself swing. She also verbalised a backward number word sequence from four to one on the third time she swung, clearly showing her use of counting as a measure of control:

Anne (two years, seven months) is on the rope swing and as she goes to swing she counts forwards, ‘1, 2, 3, 4, 5, 6, (pauses) 6, 7, 8, 9, 10’ swings, then repeats counting 1–10. On the third swing she says ‘the four, the three, the two, the one’ before she swings.

Quantification (or cardinal knowledge) was also evident in toddlers’ play:

Trent (two years) in the sandpit picks up a small sand scoop, uses it to dig in the sand once, then picks up a second scoop. He holds the two scoops, one in each hand, digs them both into the sand and then tips the sand into a carton. He holds the two scoops up and says ‘Two’.

Trent classified the scoops as the same object, correctly identified the number of objects in a group and verbalised the correct word for the number of objects.

Some toddlers used numerals as symbols to classify objects. This was observed where the children who enjoyed riding the push-along bicycles (there were six identical bicycles numbered from two to seven on oval panels on the front of each one) referred to all of them as number seven even though they each were numbered differently. The teachers said they were not sure why this was the preferred number, but the children named all the bicycles in this way because ‘seven’ was perceived as the best bicycle. This is an example of the ways ‘numbers can amuse, delight, illuminate and excite’ (MoE, 1996, p. 78). The children seemed to understand that the bikes were not actually numbered seven when they stated, often with a grin, that the bike they were riding was a ‘seven’ when it was actually labelled with another numeral.

Measurement

Measurement, like space and number, is one of areas of mathematics that children explored more fully than others. The concepts of measurement regularly occur in day-to-day conversations and can be closely linked to a child’s experiences (Pound, 2006). Te Whāriki (MoE, 1996) includes examples of measurement concepts within the learning outcomes and examples...
of experiences which meet these outcomes as suggestions for educational programs, including suggestions for opportunities for children to experience rhythm, routines, exploring volume, length, weight and height, non-standard units for measuring objects (such as hands or blocks) and experience with tools for standard measurement (such as rulers and tape measures). However, the only suggestion for toddlers that could relate to underlying conceptual measurement understanding is to include the use of play objects that feature a variety of sizes.

A variety of measurement concepts was observed in the toddlers’ play, some of these involving children as young as 15 months. The most common outdoors places where measurement experiences occurred were the sandpit and the water trough. The resources in these play spaces seemed to indicate a certain way to play—for example, tipping sand, pouring sand or water, filling and emptying containers, digging holes, building sand structures, and experimenting with different ways to use these resources.

The most frequent examples of children exploring concepts of volume occurred in the sandpit:

In the sandpit, Alison (one year, five months) has a small sand scoop and is filling a plastic jug with sand. After each scoop she carefully pats the sand down into the jug with both hands. Once the jug is full she turns it upside down.

Observation showed that toddlers were capable of noticing that containers were not completely full, and continuing to fill them. There were also examples of toddlers simply experimenting with volume, gaining experience of ways to fill and empty containers.

Toddlers also seemed to understand the need to place objects at a higher level in order to achieve their desired outcome. One example of this occurred when a group of children were at the water trough as it was being filled. They each had a container and were holding these gradually higher and higher in the stream from the hose attached to an awning above the trough in order to fill them. As one toddler placed a container in the water stream, the next toddler held one higher (and so on), until each toddler was satisfied with the amount of water they had collected.

Another area of measurement is that of weight. Toddlers’ skill and understanding were relative to their experiences as they attempted to lift or move heavy objects as part of their play. In one notable example, Steven (two years), attempted to pick up a car tyre and place it on its side in order to roll it. He managed to get it upright but it was heavy and fell over. He attempted this many times, showing that he is still developing his understanding of his ability to lift and control heavy objects.

Shape

Concepts of shape, including naming, representing and manipulating geometrical shapes, have historically been understood as important mathematical learning (Pound, 2006). In this study, only four examples of children exploring concepts of shape were observed in the toddlers’ play. These included children using geometrical vocabulary, such as naming shapes, and children identifying shapes that were the same or similar. In the following example Steven identified the similarity in circular and spherical shapes:

Steven (two years) has picked up four hula-hoops and, holding two in each hand, takes them to the round water trough and places them inside it one by one. He notices other hoops on the ground and places two more in the trough. He moves to a tyre lying on the grass and attempts to pick it up and place it on its side in order to roll it. He manages to get it upright but it is heavy and falls over. He notices a golf ball inside the tyre and he picks this up, looks closely at it, and then drops it. He tries again to pick up the tyre and succeeds in rolling it a few metres. He drops the tyre and walks to a hoop, stands inside it for a few seconds, then goes to a large rubbish bin, takes the circular lid off it, places it on the ground, looks intently at it, and then places it back on the bin. He then goes to a small wheeled trolley, turns it over and rotates the wheels.

Although there is no verbal indication that Steven has identified the various objects as circular, his interest in this shape is obvious and he is clearly able to identify circular objects within his environment.

Pattern

Many studies focusing upon the development of skill and understanding of pattern in young children have highlighted its importance (e.g. Geist, 2001; Schwartz, 2005). Papic and Mulligan (2007) noted that experience in patterning serves to promote other areas of mathematical learning such as transformation skills. However, aspects of pattern referred to in the literature often focus on care routines, such as hygiene and meal times with infants and toddlers, and the rhythms of stories, poems and songs (Babbington, 2003; Pound, 2006). In this study, concepts of pattern and the exploration of pattern were rarely observed in toddlers’ physical behaviour in the outdoor environment, except for repetition of actions in play and repetition of the words in singing a popular television theme song:

Ricky (two years, six months) has a trowel and is banging on top of one of the large wooden boxes. As he bangs, he is singing ‘Bob the builder, Bob the builder, can we fix it, yes we can’. He repeats this four times.
Classification

The foundation of statistical understanding and the ability to represent concepts lies within the ability to classify (or sort) objects, data and ideas (Piaget & Inhelder, 1964). Geist (2001) further supports this in stating that, through classifying, comparing and ordering objects, children’s understanding of the relationships between them is developed. These concepts can be seen in the example of Bree (two years, five months), who became distressed when her own napkin was not used in changing. Her knowledge of objects belonging in sets or groups was quite obvious when she said she wanted a pink napkin as this was the ‘correct colour’ to her.

Problem solving

The ability to solve problems is a fundamental life skill and develops naturally through experiences, conversations and imagination (Geist, 2001). Many of the children encountered complex problems in their outdoor play and used a variety of strategies and techniques to solve them both physically and cognitively.

There were many observations of toddlers solving their own problems by using their previous experiences and understanding. Further, problem solving was evident within all of the six mathematical categories as toddlers solved problems in keeping the water and sand in their desired containers, in their exploration of measurements, manipulation of space and their bodies within it, quantifying sets of objects, figuring out similarity and difference of shapes, fitting objects together and taking them apart again. The following example, although initially analysed as evidence of spatial reasoning, shows Ricky’s perseverance to solve the problem of finding the correct key to fit the lock and then the correct way to replace the lock:

Ricky (two years, seven months) has a set of keys and is carefully attempting to fit one into the lock. After a few attempts with different keys, he inserts one that fits and turns it to see if it works. He removes the whole padlock from the wall of the storage box, and pushes the hook part in to lock it. He turns the key and unlocks the padlock, studies it carefully for a few seconds, and then attempts to place the padlock back into the space on the storage box. The hook of the padlock is facing the wrong way and he cannot make it fit. Ricky realises the problem and turns the lock around, places it through the space in the box and then closes it.

Given that Ricky did not require any prompting or assistance to solve his problem, it is evident that he had previous experience with keys and padlocks. He understood that only one key would fit, revealing his understanding of one-to-one correspondence and matching. He also understood that he needed to manipulate the parts of the padlock in order to replace it and close the storage box, thus showing his confidence in spatial rearrangement. Encouragingly, Ricky was very persistent in his desire to solve the problem he had chosen.

A different type of problem solving was evident in the example of Steven (one year, 11 months), when he sought to retrieve ping-pong balls from inside a water cooler. He attempted different ways of achieving this and finally succeeded when he tipped the water cooler bottle upside down and vigorously banged it on the ground, causing the balls to come out. This action was initially analysed as evidence of Steven’s conceptual understanding of number, as he exclaimed ‘more!’ when further balls came out of the bottle. However, he had also used the problem-solving strategy of trial and error to succeed in his chosen play.

Another area of mathematical conceptual understanding where problem-solving strategies could be applied is in the category of measurement, when toddlers attempted to reach desired objects but could not. They used a variety of strategies in order to reach their chosen objects, including moving themselves closer to the object, using other objects (such as chairs) to help them reach higher, and asking taller or older children to help them.

Summary and discussion

The three major categories of mathematical foundational knowledge and skills observed most frequently in the toddlers’ outdoor unstructured play were Space, Number and Measurement. Play experiences involving concepts of space were the most commonly observed mathematics, particularly those that illustrated the use of the body and movement of the body within space. Other observations of toddlers exploring space showed how they were able to fit objects together, take them apart and then reassemble them, an important life skill. Toddlers’ experiences incorporating number concepts were also present, perhaps as a result of conversations, experiences, songs, stories and rhymes that occur daily in most children’s lives. One of the interesting factors to note within this category was the toddlers’ competent use of verbal numerical language in most of the observations. The third most frequent category arising in the toddlers’ play involved concepts of measurement. In contrast to the examples of number concepts, not all of these included the use of verbal language and therefore were often inherent in the children’s play behaviour rather than within their verbal interactions.

Three further categories of mathematical conceptual knowledge were less evident in this study: Pattern,
Shape and Classification. Pattern-making skills were seen in only two ways: repeated actions of behaviour and repetitive singing of a popular song. Toddlers’ understanding of shape and concepts surrounding shape, and ideas and understanding surrounding classification occurred both verbally and non-verbally, indicating a range of language development. These areas of mathematical understanding are significant and could be further examined in future studies.

In addition to mathematical knowledge, examples of toddlers’ problem solving within their outdoor play were evident in many of the observations, providing support for the holistic and integrated nature of mathematical learning for children in this age range.

These findings provide clear evidence of toddlers’ ‘naïve’ (Wellman & Gelman, 1992) mathematical learning in their outdoor play. This further demonstrates the claim that mathematical competency begins at birth (Anthony & Walshaw, 2009) and further develops through play experiences.

As play is situated as the primary form of learning for toddlers (Langston & Abbott, 2005), outdoor play is a natural site of rich potential mathematical learning. This suggests a need to move beyond the traditional Piagetian view of when young children engage with mathematical experiences and can be ‘taught’. Early childhood teachers could be scaffolding this type of learning in all areas of early childhood care and education settings in order to provide a holistic, integrated, play-based and child-centred program.

The methods employed within this case study allowed for exploration without the opportunity for direct ‘corruption’ from ‘informed’ others who might have imposed their own views on the children or directed the outdoor play experiences. This would have been in direct contradiction to the outdoors being the children’s preferred area to play (Greenfield, 2007) and thus ripe for scaffolding as mentioned above.

Final thoughts and the way forward

This article has highlighted some ways toddlers exhibit mathematical knowledge and skill in outdoor play experiences and can thus be viewed as mathematicians.

As a consequence of this view it is the adults’ responsibility to be both aware of, and responsive to, supporting further interest and development in mathematical knowledge and skills. However, if they are to ‘notice, recognise, and respond’ (Carr, 2001, p.1) to the mathematical aspects of toddlers’ play, adults need to have some mathematical content knowledge, pedagogical knowledge and pedagogical content knowledge. As noted by Babbington and Lomas (2004), there is often a lesser focus on mathematics (and other academic subjects) than on generic learning theory in early childhood teacher education programs. The complexity of balancing and prioritising the content of teacher education programs provides challenges for the providers, but re-examination of the place of subject-specific content may be desirable.

Some possible future research questions could include: extension of the current study to other early childhood care and education settings in order to provide generalisability; a focus on toddlers’ learning in other curriculum subject areas (e.g. science); a focus on the teacher’s role within early mathematical experiences, and a focus on indoor toddler environments in order to ascertain mathematical experiences and opportunities within indoor experiences.

Purposeful teaching and learning in mathematics (and in other subjects) occurs when teachers are able to provide resources and environments that encourage exploration in the outdoors and strive to ensure that mathematical learning is meaningful and enjoyable for children. While maintaining a play-based and integrated philosophy, the mathematical knowledge of children, particularly toddlers, requires more explicit attention from teachers. In the words of Clemson and Clemson (1994), ‘We can influence young children’s keenness to learn mathematics by making the tasks we do of interest to them … by showing that we really think maths is important and fun’ (p. 19).

References


Introduction

Preschool education is an essential part of the educational system in Hong Kong. It is a part of daily life for five-year-old children (Wollons, 2000), and the transition from preschool to primary grades is also important for children (Graue, 2003; NAEYC, 1996). High-quality early education produces long-lasting benefits for child development and later academic success (National Research Council, 2001; Peisner-Feinberg et al., 2000; Reynolds, Temple, Robertson & Mann, 2001).

Recently, the importance of high-quality kindergarten programs that ‘promote the physical, social, emotional, aesthetic, intellectual, and language development’ (NAEYC, 2009) for five-year-old children has been recognised by policy-makers.

There is an increasing demand from the public to improve the quality of early childhood education in Hong Kong (Chan & Chan, 2003). The Hong Kong Education Commission released an ‘education blueprint for the 21st century’ in 2000, which presented a set of informal proposals for the education system in Hong Kong. In this document, early childhood education has been acknowledged as the foundation for lifelong learning. A key reform proposal is to begin the building of a new culture of quality in early childhood education through upgrading of professional competence of teachers and enhancing quality assurance mechanisms (Chan & Chan, 2003).

Kindergartens in Hong Kong

In 2009, there were 142,000 children enrolled in Hong Kong kindergartens (Hong Kong Government, 2010). The kindergartens cater for children from three age groups: nursery classes for three-year-olds, lower kindergarten classes for four-year-olds, and upper kindergarten classes for five-year-olds. Childcare centres cater for children from four age groups: N1 for two-year-olds, N2 for three-year-olds, N3 for four-year-olds, and N4 for five-year-olds. Day crèches provide services for children younger than two years (Chan & Chan, 2003).

The education system has become highly competitive and, because of the keen desire to gain admission to university, there is tremendous pressure on kindergartens to adopt a formal academic curriculum as well as test-oriented and teacher-centred approaches. Kindergartens are now expected to prepare children to seek admission into certain primary schools favoured by parents because of their reputation for...
a highly academic-oriented curriculum. These types of curriculum and teaching/learning approaches are inappropriate for young children, and can only result in a loss of interest in learning (Chan & Chan, 2003). Rote-learning of actual knowledge, spelling of difficult English words, or composition of numbers are practices that neither nurture creativity and problem-solving skills nor interest in learning, which are more important for promoting children’s balanced development and preparing them for lifelong learning (Boulton-Lewis, 1994; Siraj-Blatchford, 1999). Therefore, greater consideration needs to be given to the quality of programs provided to children, including issues of curriculum content, quality of learning experiences provided, patterns of staff–children interactions, and staff quality (MCrea & Piscitelli, 1991).

The Education Commission has proposed enhancing quality assurance through self-evaluation using certain performance indicators. In addition, it recommends the use of objective external evaluations of early childhood educational programs, to be conducted by specialists or institutions or the concerned regulatory bodies (Hong Kong Education Department, 2000).

DAP (Developmentally Appropriate Practice), developed by National Association for the Education of Young Children (NAEYC), has defined performance indicators to evaluate teachers’ teaching beliefs and practices and provided a useful platform to Hong Kong early childhood sectors to evaluate their programs.

**Developmentally appropriate practice (DAP)**

Developmentally Appropriate Practice (DAP) developed by the NAEYC has been an important guideline for early childhood programs in the US since its inception in 1987. Charlesworth (1998) argued that DAP is designed for all children, with diverse socioeconomic status, culture, race, gender, age, or special needs. Elkind (1989) also stated that a challenging and developmentally appropriate learning environment would help children develop creative and critical thinking abilities. Studies have demonstrated the effectiveness of DAP in enhancing children’s learning and development; children in DAP classrooms had better grades in science and in physical and social skills (Marcon, 1993) and applied knowledge skills (Huffman & Speer, 2000).

Teachers are an important component of high-quality, developmentally appropriate early childhood programs. According to NAEYC and National Association of Early Childhood Specialists in State Departments of Education (NAECS) (NAEYC, 2003), teachers are the key to the implementation of high-quality curriculum and assessment systems in early childhood programs. They are decision makers in the classrooms and their role is critical in supporting children’s development and learning (Bredekamp & Copple, 1997). Early childhood teachers should be knowledgeable about issues related to child development and learning, the uniqueness of individual children, and the social and cultural context when making decisions about their practices (Bredekamp & Copple, 1997). The Association for Childhood Education International (1986) also advocated developmentally appropriate kindergartens staffed by teachers who are knowledgeable in child development, and who listen thoughtfully to children, regularly assess children’s interests, needs, and skill levels, design positive learning environments, help children establish their self-esteem, utilise a variety of instructional approaches, and provide varied experiences for kindergarten children.

Because the teacher is crucial in implementation of the developmentally appropriate approach, teachers’ attitudes and beliefs about classroom practices are important. Research has shown that teachers’ developmentally appropriate beliefs and practices influence not only program quality but also children’s learning outcomes. McCarty, Abbott-Shim and Lambert (2001) found that teachers in low-quality classrooms tended to have more inappropriate beliefs and practices than did teachers working in high-quality classrooms. Jones and Gullo (1999) found that teachers’ developmentally appropriate beliefs and practices were associated with children’s positive social skills ratings, but not academic achievement. However, there is still some demand from parents to adopt academic curriculum as well as test-oriented and teacher-centred approaches in some kindergartens in Hong Kong. Research findings indicate that teachers’ beliefs and how they related to the practice of their beliefs are important issues in the delivery of early childhood education (Rusher, McGrevin & Lamiotte, 1992).

**Purposes of DAP**

The two purposes of DAP are: (a) enhancing the quality of early educational experiences of young children by using developmentally appropriate activities, materials and expectations in early childhood educational programs (Bredekamp, 1987); and (b) balancing academic instruction in early childhood programs with other social, emotional and physical development aspects (Bredekamp & Copple, 1997).

**Measurements of developmentally appropriate practice (DAP).**

The measurements of developmentally appropriate practices included two scales, the Teacher Beliefs Scale (TBS) measuring teaching beliefs and the Instructional Activities Scale (IAS) measuring teaching practices, developed by Charlesworth et al. (1991) based on the NAEYC guidelines (NAEYC, 2009).
The TBS contains one question about ranking of factors for teachers’ decision making and 42 items (27 developmentally appropriate and 15 inappropriate items) of beliefs about kindergarten practices; there are 18 developmentally appropriate and 12 inappropriate practices items in the IAS. Both are five-point Likert scales.

The internal consistency of the Teacher Beliefs Scale and the Instructional Activities Scale were found to be acceptable, with Cronbach’s alpha of 0.86 and 0.79 against the recommended level alpha > 0.70 (DeVellis, 2003; George & Mallery, 2003). High correlation was found between participants’ developmentally inappropriate practices scores and classroom observation scores. Teachers’ self-reported beliefs scores were significantly higher than practice and classroom observation scores. The construct validity was determined through exploratory factor analysis; results indicated that the three-factor solution (DAP, developmentally inappropriate practices (DIP), and Context Appropriate Practices) could engender the most meaningful factors of the Teacher Beliefs Scale in Kim’s study (2005). On the other hand, the four-factor solution (DAP Activities, DAP Principles, DIP Activities, and DIP Classroom Management) was best for the Instructional Activities Scale. Kim (2005) concluded that the Teacher Beliefs and Practices Survey could be a promising measure for critically examining teachers’ beliefs about and practices of DAP.

DAP in Asian countries

Several studies about early childhood teachers’ beliefs and practices in Korea have been conducted by Suh (1994), Shim and Herwig (1997), and Kim, Kim and Maslak (2005). Suh (1994) compared beliefs and values about public kindergarten programs and practices of Korean kindergarten parents, teachers and principals. The sample included 280 parents, 179 kindergarten teachers and 148 principals from three provinces in Korea. The kindergarten teachers valued the importance of affective development, play, social skills development, motor skill development, child-selected activity, and parent involvement in public kindergarten more than the parents and principals did. Further, kindergarten teachers showed higher agreement with developmentally appropriate practices compared with parents and principals. In addition, kindergarten teachers with early childhood education backgrounds had stronger developmentally appropriate beliefs and values than did teachers with an elementary education background. The level of education also influenced teachers’ knowledge about developmental appropriateness. It was found that the higher the teacher education level, the stronger the developmental appropriateness knowledge.

Shim and Herwig (1997) examined the beliefs and practices of early childhood teachers in public and private programs in Korea. The sample included 54 childcare teachers, 58 private kindergarten teachers, and 45 public kindergarten teachers. The results revealed that childcare, public kindergarten, and private kindergarten teachers in Korea demonstrated a high desire to follow DAP, but were low on developmentally appropriate teaching.

Kim, Kim and Maslak (2005) investigated Korean kindergarten and childcare teachers’ understanding and use of DAP. Study participants included 211 kindergarten teachers and 208 childcare teachers. Kindergarten teachers reported stronger agreement with DAP and more frequent use of appropriate activities than did childcare teachers. Reported inappropriate beliefs and practices were two important contributors to the significant differences in responses of kindergarten and childcare teachers.

Taiwanese early childhood education scholars have also examined the extent of acceptance of DAP by early childhood teachers. Yang (1997) compared the beliefs of parents, teachers and principals regarding DAP using the Teacher Beliefs Scale of the Teacher Questionnaire developed by Charlesworth et al. (1991) based on the NAEYC 1987 guidelines. Fifty-seven kindergarten principals, 70 kindergarten teachers and 59 parents of five-year-olds participated in the study. Overall, kindergarten parents, teachers and principals showed positive acceptance of DAP in this study.

Lin (2004) examined Taiwanese early childhood teachers’ beliefs about DAP curriculum. A total of 559 teachers, administrators and caregivers of three- to six-year-old children participated in the study. The participants’ beliefs about curriculum were obtained by using the Teacher Beliefs Scale developed by Charlesworth et al. (1991). The results indicated that Taiwanese early childhood teachers rated DAP higher than inappropriate practices. However, there were seven items where the teachers did not show consistency with DAP philosophy. These items were: evaluating performance on worksheets and workbooks, classroom activities responsive to individual differences in development, allowing children to cut their own shapes, plan their own creative activities, using workbooks and ditto sheet, using teachers’ authority through punishment and/or reprimands to encourage appropriate behaviour, and forming letters correctly on a printed line.

Liu (2007) examined DAP beliefs and practices of public and private kindergarten teachers in the US and Taiwan. A total of 205 Taiwanese public kindergarten teachers, 172 Taiwanese private kindergarten teachers, 54 US public kindergarten teachers, and 57 US private kindergarten teachers participated in the study. The results indicated that both the US and Taiwanese...
kindergarten teachers endorsed DAP beliefs to a large extent and conducted DAP activities regularly in their classrooms, while at the same time they valued some DIP beliefs and conducted DIP activities, but to a lesser extent. The study served as a starting point for further cross-cultural studies on DAP between the US and Taiwanese early childhood educators.

The above literature shows that NAEYC’s DAP has become a paradigm for early childhood education since its inception in 1987. The model supports the Education Commission’s proposal to enhance the quality of ECE and teacher competence in Hong Kong. The Education Commission has proposed making the curriculum focus on well-balanced development of children in early childhood education for 10 years. The Hong Kong Institute of Education (HKIED) first offered the three-year part-time Bachelor of Education (B.Ed) program for in-service kindergarten teachers in 1999, and the four-year full-time program for pre-service kindergarten teachers in 2005, in order to provide quality training in early childhood education to both in-service and pre-service teachers to enable them to meet the new challenges. In 2007, Liu found that teachers with higher early childhood education qualifications held strong beliefs about developmentally appropriate practices (DAP) and lesser beliefs about developmentally inappropriate practices (DIP) in Taiwan. The current study set out to review kindergarten teachers’ beliefs and practices based on DAP in Hong Kong.

Many measurement methods have been developed to quantify early childhood educators’ DAP beliefs and practices. However, the Teacher Beliefs and Practices Survey (Burts, Buchanan, Charlesworth & Jambunathan, 2000) was inadequate owing to the limited sample size (Liu, 2007). Therefore, the confirmatory factor analysis was also recommended for use. As well, several cross-cultural studies on DAP between Asian countries and the US have shown that some items in the scales were not consistent with the DAP philosophy. Therefore, the present study is valuable for comparing the items in scales used with Taiwanese and Korean samples to see any intra-cultural differences, and it may further develop the work of Liu to better identify the psychometric properties of the Teacher Beliefs and Practices Survey. Finally, both scales (TBS and IAS) have provided a platform to investigate whether teaching beliefs are consistent with teaching practices among kindergarten teachers in Hong Kong.

**Participants**

A total of 157 full time pre-service B.Ed (ECE) students of the four-year B.Ed (full-time) program (155 females and 2 males) and 126 part-time B.Ed (ECE) in-service students of the three-year B.Ed (part-time) program (all females) were invited to participate in this study. All were informed about the research and asked to sign the consent for the study.

**Instruments**

The Teacher Beliefs and Practices Survey (three- to five-year-olds) designed by Burts et al. (2000), based on Developmentally Appropriate Practice (DAP) guidelines (National Association for Education of Young Children, 1997, 2009) was used to collect data (Bredekamp & Copple, 1997). The survey included a teacher demographic questionnaire, Teacher Belief Scale, and Instructional Activities Scale. Information on teachers’ educational background, teaching experience and current teaching position was also collected.

There are 43 items in the Teacher Beliefs Scale (TBS) (1 ranking question, 27 items of developmentally appropriate beliefs, and 15 items of inappropriate beliefs). The first question in the scale asked teachers to rank the order of influence of parents, school system policy, principal/director, teacher self, state regulations, and other teachers on their decision making regarding how they plan and implement their programs. The remaining 42 questions of the TBS examined teachers’ beliefs about teaching kindergarten programs. The Instructional Activities Scale (IAS) contained 30 items (18 items of developmentally appropriate practices and 12 items of developmentally inappropriate practices for kindergartens). The IAS examined the teachers’ self-reported frequency of appropriate and inappropriate practices that occur in their classrooms. Both TBS and IAS scales used five-point Likert scales. The anchors of the Teacher Belief Scale are: 1 = Not at all important, 2 = Not very important, 3 = Fairly important, 4 = Very important, and 5 = Extremely important. For the Instructional Activities Scale (IAS), the anchors were: 1 = Almost never (less than monthly), 2 = Rarely (monthly), 3 = Sometimes (weekly), 4 = regularly (2–4 times a week), and 5 = Often (daily).

Kim (2005) reported the TBS has three factors: Beliefs about Developmentally Appropriate Practices (DAPB) (items 3, 4, 5, 8, 9, 12, 13, 16, 18, 21, 22, 23, 25, 26, 28, 29 & 33), Beliefs on Developmentally Inappropriate Practices (DIPB) (items 2, 7, 10, 11, 14, 15, 17, 19, 20, 24, 29, 31, 40, 41 & 42), and Attitudes toward Family, Culture, and Inclusion (FCI) (items 6, 27, 30, 32, 34, 35, 36, 37 & 38). The internal consistency and reliability coefficients (Cronbach alpha) of these three factors were 0.85, 0.82, and 0.81 in Kim’s study (2005), which had a sample size of 375 US teachers. He also found that IAS had four factors: DAP Principles (items 3, 8, 19, 21, 23, 26, 28, 29 & 30), DAP Activities (items 1, 2, 4, 5, 6, 7, 9, 24, & 25), DIP Activities (items 10, 11, 12, 13, 14, 15, 16, 17 & 20), and DIP classroom Practices (items 18, 22 & 27). The Cronbach alpha for the four factors were 0.82, 0.76, 0.73, and 0.59, respectively.
Procedure

Both TBS and IAS are self-reported questionnaires. Both pre-service and in-service teachers were asked to complete the questionnaire in the class within 15 minutes. Before working on the Confirmatory Factor Analysis (CFA) model, skewness and kurtosis were used to examine the normality of the data; values for all data were in the range of –0.74 to 0.81. The data was considered to be normally distributed; some statisticians suggest a threshold of ±1 as indicative of departure from normality (George & Mallery, 2003; Morgan, Griego & Gloeckner, 2001). Statistical Package for Social Science (SPSS) 18.0 was used to conduct the above analysis.

Confirmatory Factor Analysis (CFA) was used to test whether the pattern for a particular factor of teachers’ beliefs and practices fits significantly for the Hong Kong samples. Multi-samples modelling is used to compare the fit of two different models (in-service and pre-service kindergarten teachers), and to decide whether a complicated model gives a significantly better description of data than a simple model. AMOS 18.0 is employed to perform the CFA.

Results and discussion

CFA models of both TBS and IAS

Mean responses, standard deviations, and correlations among items of both TBS and IAS are presented in Tables 6–9. Goodness-of-fit for the three-factor model of TBS and four-factor model of IAS (Burts et al., 2000) were evaluated using maximum likelihood estimation procedures in AMOS.

Three-factor model of Teacher Beliefs Scale (TBS)

The three-factor model of TBS (Burts et al., 2000) statistically fit the results of Hong Kong samples, $x^2 = 169.74$, df = 149, and $p > 0.05$. The indexes of
the model were shown to conceptually fit and be acceptable, with the comparative fit index (CFI) = 0.98, RMR < 0.05, and RMSEA < 0.05 (Figure 1). However, the number of items of the TBS was reduced to 19 from the original 42 items used by Kim. Twenty-three items were identified as redundant after performing the CFA in the present model. The three-factor model still fitted to measure the Hong Kong samples. The items in the new model are similar to Lin’s model of Taiwanese samples (2007).

**Developmentally appropriate practice beliefs (DAPB)**

Items 2, 3, 4, 8, 12, 15, 21, 22 and 23 were deleted in the model since the respondents thought these items—related to individual differences, creativity, and extension of play session—are not important teacher beliefs. The deletion of items was determined by the modification indices greater than 4.0 (Hair, Black, Babin, Anderson & Tatham, 2006). The respondents focused more on teacher-oriented principles than on child-oriented principles, like item 11 ‘Instruction in letter and word recognition is _____ in preschool.’ (Table 1). For instance, item 11 with the highest mean of 4.49 among all DAPB items (Table 6).

**Developmentally inappropriate practice beliefs (DIPB)**

Items 1, 10, 13, 14, 16, 18, 23, 28, 30, 39 and 40 were not included in the new model. They are all about planned curriculum and activities, pre-designed writing and reading activities, and collective classroom teacher behaviour (e.g. talk to the whole class). The respondents didn’t think these were inappropriate beliefs. However, item 37, ‘It is _____ that services (like speech therapy) be provided to children with special needs in the regular education classroom by specialist within the context of typical daily activities’, was included. This may be because this service will affect their daily teaching schedule (Table 2).

**Family, culture and inclusion (FCI)**

Items 5, 26, 33, 34, 35, and 37 were deleted from the model. Two items, 21 ‘It is _____ for teachers to allocate extended periods of time for children to engage in play and projects’, and 31 ‘It is _____ for parents/guardians to be involved in ways that are comfortable for them’, were added. The deleted items related to cultural diversity, parents’ involvement in evaluation, and teachers’ professional training (Table 3). This may be because Hong Kong is a unilateral culture as nearly 98 per cent of the population is Chinese. Teachers may not be aware of the phenomenon of cultural diversity in Hong Kong. For parents’ involvement in school, teachers would invite parents to observe their children in class. However, they did not want to solicit and incorporate parents’ knowledge about their children for assessment, evaluation, placement and planning, since most kindergartens in Hong Kong are supported and run by religious bodies or academic organisations. Teachers may think this would affect their teaching schedules, courses planning, and the school’s education philosophy.

**Four-factor model of the Instructional Activities Scale (IAS)**

The four-factor model of IAS also statistically fitted the Hong Kong samples with $x^2 = 151.23$, df = 129, and $p > 0.05$. The indexes of the model were shown to conceptually fit and were acceptable by the comparative fit index (CFI) = 0.92, RMR < 0.05, and RMSEA < 0.05 (Figure 2). However, the number of items in the IAS was reduced to 18 from the original 30. Twelve items were identified as being redundant in the present model. The original four-factor model (Burts et al., 2000) still fitted to the measure of teachers’ practices of Hong Kong samples.

**Developmentally appropriate practices activities**

In-service teachers had significantly higher scores than did pre-service teachers in items 8, 9, 24 and 25. They are all about classroom activities, such as motor skills, play activities and artwork. This may be because these are easily evaluated and reflected in the learning process. Items 1, 4, 6 and 7 were deleted. The Hong Kong respondents did not think practising writing, block-building, and experiments with writing were important to appropriate activities (Table 4).

**Developmentally inappropriate practice activities**

Items 10, 11, 13, 16, 17 and 20 were deleted. These were about pre-planned activities, practising writing, and teacher-oriented behaviour. Item 4 was added in the subscale considered as inappropriate behaviour. This is consistent with results of DAPP (Table 4).

**Developmentally inappropriate classroom activities (DICA)**

Items 22 and 27 were deleted as they were about the use of time outside of class. The respondents did not think these were inappropriate classroom activities. Item 7 about ‘Teacher-directed behavior …’ and Item 4, ‘Experiment with writing …’, were added to the DICA instead. Teachers thought these constituted inappropriate classroom activities.

**Developmentally inappropriate classroom practices (DICP)**

Items 22 and 27 were deleted as they were about the use of time outside of class. The respondents did not think these were inappropriate classroom activities. They thought teacher-directed behaviour was inappropriate instead, so item 17 was added.
Research implications

Enhancing the quality of early childhood education

The quality of early childhood education might have been enhanced with the strong agreement on appropriate teaching beliefs and practices among kindergarten teachers in Hong Kong. McCarty, Abbott-Shim and Lambert (2001) found that teachers in high-quality classrooms tended to have more appropriate beliefs and practices. This may also reflect the effectiveness of education reform in the early childhood education sector, especially in upgrading professional competence (Chan & Chan, 2003). Balanced social, emotional and intellectual development (NAEYC, 2009) has been promoted through adding ‘teacher-child interactions to help develop children’s self-esteem and positive feelings toward learning’, ‘reading stories daily to children’ and ‘providing many daily opportunities for developing social skills (i.e. cooperating, helping, talking) with peers in the classroom’ to teaching appropriateness.

Teacher-oriented beliefs and practices

Even though teachers have tried to create more opportunities to develop students’ interest and context, most of the activities are planned by the teachers, such as ‘teachers planned to extend the period of play …’, ‘teachers move among groups and individuals to offer suggestions …’ (Table 1), and ‘do planned movement …’ (Table 4) are included in developmentally appropriate beliefs and practices. The teachers may think that teacher-planned and -directed activities are good for students’ learning. They allowed student-initiated activities with teachers’ guidance and advice. Teacher-oriented beliefs and practices not only focus on students’ classroom learning activities, but also on their social skills development (e.g. provide many daily opportunities for developing social skills). On the other hand, rote-learning of actual knowledge, spelling of difficult English words, or composition of numbers (Boulton-Lewis, 1994; Siraj-Blatchford, 1999) are considered as inappropriate teaching beliefs and practices.
Beliefs and practices consonance

Teachers’ beliefs (DAPB) and practices (DAPP) are consistent; i.e. what they believed in DAPB was what they practise in the classroom, especially in practising teaching skills. Rusher, McGreven and Lamiotte (1992) indicated teachers’ beliefs and how they related to their practices were important issues in the delivery of quality early childhood education. For instance, teachers believed it is important to facilitate student learning in class, such as moving among groups to make suggestions, to plan activities, and to read stories daily to children. It is consistent with what they provide by way of planned activities, such as drawing, painting, and working in different ability groups.

Limitations

Subjects

Only Year 2 of both full-time and part-time B.Ed students were invited to participate in the study, which means the sample was not large enough to be generalised to draw a conclusion for Hong Kong as a whole, even though the Hong Kong Institute of Education is the largest provider of training and programs for teachers in early childhood education. It is suggested that data be collected from senior students, such as final year students and students from other institutions.

Design

A cross-sectional design may not really reflect the beliefs and practices of kindergarten teachers, since beliefs and practices may be changed over time or with more training in education. It is suggested that a longitudinal design be used to examine their teaching beliefs and practices over a period.

Recommendations

Curriculum design

Li (2006) reported that the daily schedule of most preschools in Hong Kong consisted of seven major sessions: assembly, class teaching (carpet time), group activity time, tea break, music and physical movement, and pack-away time. With this schedule, it is hard to squeeze in more free time for both teachers and students to facilitate quality teacher–child and child–child interaction. Therefore, kindergarten curriculum planners should consider introducing a schedule where there is more free time for social interaction, such as a talks corner for children. For B.Ed students, the Institute could offer some modules about ‘Play’ and ‘Creativity’ to help student-teachers organise play and creativity activities for preschoolers.

Teachers

Li’s study (2006) indicated that teachers’ perceptions of student learning focused only on the achievement of academic outcomes, such as ‘children would give correct answers to questions’ and ‘how many vocabulary words they have learnt in class’. The present study shows that teachers now generally provide more activities to develop children’s social skills. They encourage children’s learning about social skills or about life gratification. However, the activities are still governed by the teachers. It is suggested that more child-initiated activities be encouraged.

Conclusion

With the strong agreement on selected appropriate teaching beliefs and practices, the quality of early childhood education in Hong Kong has been enhanced in the past few years. Teachers’ professional competence has been upgraded with more developmentally appropriate beliefs and practices identified. Compared with Kim (2005), teachers have identified far more developmentally appropriate items than inappropriate items. Teachers have provided a variety of activities to enhance teacher–child interaction, self-esteem, and social competence instead of just academic-oriented activities. This study also implies that the declared objective of the Education Commission to ensure well-balanced development of young children has been achieved primarily by the teachers, with quality teacher training provided by the Hong Kong Institute of Education.

References


Hong Kong Education Department (2000). Performance Indicators for Kindergartens (1st edn). Hong Kong: Hong Kong Government Printer.

Hong Kong Government (2000). Hong Kong Year Book. Hong Kong: Hong Kong Government Printer.

Hong Kong Government (2010). Hong Kong Year Book. Hong Kong: Hong Kong Government Printer.


Table 1. Comparison of DAPB in Kim (2005) and in this study

<table>
<thead>
<tr>
<th>Developmentally Appropriate Practice Beliefs (DAPB)</th>
<th>Kim (2005)</th>
<th>Present study</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. To plan and evaluate the curriculum, teacher observation is ______.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. It is ______ for activities to be responsive to individual children’s interests.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. It is ______ for activities to be responsive to individual differences in children’s levels of development.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. It is ______ for teacher-child interactions to help develop children’s self-esteem and positive feelings toward learning.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. It is ______ for teachers to provide opportunities for children to select many of their own activities.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Instruction in letter and word recognition is ______ in preschool.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. It is ______ for children to create their own learning activities (e.g., cut their own shapes, decide on the steps to perform an experiment, plan their creative drama, art, and computer activities).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. A structured reading or pre-reading program is ______ for all children.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. It is ______ for the teacher to move among groups and individuals offering suggestions, asking questions, and facilitating children’s involvement with material, activities, and peers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. It is ______ for teachers to develop an individualized behavior plan for addressing severe behavior problems.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. It is ______ for teachers to allocate extended periods of time for children to engage in play and projects.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. It is ______ for children to write by inventing their own spelling.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. It is ______ to read stories daily to children, individually and/or on a group basis.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. It is ______ for children to dictate stories to the teacher.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27. It is ______ for children to see and use functional print (telephone book, magazines) and environmental print (cereal boxes, potato chip bags).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28. It is ______ to provide many daily opportunities for developing social skills (i.e., cooperating, helping, talking) with peers in the classroom.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32. It is ______ for strategies like setting limits, problem solving, and redirection to be used to help guide children’s behavior.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>42. It is ______ to plan activities that are primarily just for fun without connection to program goals.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 2. Comparison of DIPB in Kim (2005) and this study

<table>
<thead>
<tr>
<th>Developmentally Inappropriate Practice Belief (DIPB)</th>
<th>Kim (2005)</th>
<th>Present study</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. As an evaluation of children’s progress, readiness or achievement test are _____</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. It is _____ that each curriculum area be taught as separate subjects at separate times.</td>
<td></td>
<td>6. It is _____ that each curriculum area be taught as separate subjects at separate times.</td>
</tr>
<tr>
<td>9. It is _____ to use one approach for reading and writing instruction.</td>
<td></td>
<td>9. It is _____ to use one approach for reading and writing instruction.</td>
</tr>
<tr>
<td>10. Instruction in letter and word recognition is _____ in preschool.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. It is _____ for children to work individually at desks or tables most of the time.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Workbooks and/or ditto sheets are _____ in my classroom.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. It is _____ for the teacher to talk to the whole group and for the children to do the same things at the same time.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. It is _____ for teachers to use treats, stickers, and/or stars to get children to do activities that they don’t really want to do.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. It is _____ for teachers to regularly use punishments and/or reprimands when children aren’t participating.</td>
<td></td>
<td>19. It is _____ for teachers to regularly use punishments and/or reprimands when children aren’t participating.</td>
</tr>
<tr>
<td>23. It is _____ for children to color within pre-drawn forms.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28. It is _____ to provide many daily opportunities for developing social skills (i.e., cooperating, helping, talking) with peers in the classroom.</td>
<td></td>
<td>37. It is _____ that services (like speech therapy) be provided to children with special needs in the regular education classroom by a specialist within the context of typical daily activities.</td>
</tr>
<tr>
<td>39. It is _____ to provide the same curriculum and environment for each group of children that comes through the program.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40. It is _____ to focus on teaching children isolated skills by using repetition by recitation (e.g., reciting ABCs).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>41. It is _____ to follow a prescribed curriculum plan without being distracted by children’s interests or current circumstances.</td>
<td></td>
<td>41. It is _____ to follow a prescribed curriculum plan without being distracted by children’s interests or current circumstances.</td>
</tr>
<tr>
<td></td>
<td>Family, Culture and Inclusion (FCI)</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Kim (2005)</strong></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>It is _____ for activities to be responsive to the culture diversity of students.</td>
<td>21.</td>
</tr>
<tr>
<td>26.</td>
<td>It is _____ that teachers engage in on-going professional development in early childhood education (e.g. attend professional conferences, read professional literature).</td>
<td></td>
</tr>
<tr>
<td>29.</td>
<td>It is _____ that books, pictures, and materials in the classroom include people of different races, ages, and abilities and both genders in various roles.</td>
<td>29.</td>
</tr>
<tr>
<td>31.</td>
<td>It is _____ for parents/guardians to be involved in ways that are comfortable for them.</td>
<td>31.</td>
</tr>
<tr>
<td>33.</td>
<td>It is _____ for teachers to integrate each child’s home culture and language with the curriculum throughout the year.</td>
<td></td>
</tr>
<tr>
<td>34.</td>
<td>It is _____ for teachers to solicit and incorporate parents’ knowledge about their children for assessment, evaluation, placement, and planning.</td>
<td></td>
</tr>
<tr>
<td>35.</td>
<td>It is _____ for establish a collaborative partnership/relationship with parents of all children, including parents of children with special needs and form different culture groups.</td>
<td></td>
</tr>
<tr>
<td>36.</td>
<td>It is _____ for the classroom teacher to modify, adapt, and accommodate specific indoor and outdoor learning experiences for the child with special needs as appropriate.</td>
<td>36.</td>
</tr>
<tr>
<td>37.</td>
<td>It is _____ that services (like speech therapy) be provided to children with special needs in the regular education classroom by a specialist within the context of typical daily activities.</td>
<td></td>
</tr>
</tbody>
</table>
Table 4. Comparison of DAPP and DAPA in Kim (2005) and this study

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Have their work displayed in the classroom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Do planned movement …</td>
<td></td>
<td>11. Work in assigned ability-level groups</td>
</tr>
<tr>
<td>19. Have the opportunity to learn …</td>
<td></td>
<td>19. Have the opportunity to learn …</td>
</tr>
<tr>
<td>20. Receive rewards as incentives to participate …</td>
<td></td>
<td>20. Receive rewards as incentives to participate …</td>
</tr>
<tr>
<td>21. See their own race, culture, language reflected …</td>
<td></td>
<td>21. See their own race, culture, language reflected …</td>
</tr>
<tr>
<td>23. Experience parents reading stories …</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26. Solve real math problems using real objects …</td>
<td></td>
<td>26. Solve real math problems using real objects …</td>
</tr>
<tr>
<td>28. Engage in experiences that demonstrate…</td>
<td></td>
<td>28. Engage in experiences that demonstrate…</td>
</tr>
<tr>
<td>29. Work with materials that have been adapted…</td>
<td></td>
<td>29. Work with materials that have been adapted…</td>
</tr>
<tr>
<td>30. Do activities that integrate multiple subject …</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Build with blocks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Select from a variety of learning areas …</td>
<td></td>
<td>2. Select from a variety of learning areas …</td>
</tr>
<tr>
<td>4. Experiment with writing…</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Play with games, puzzles, …</td>
<td></td>
<td>5. Play with games, puzzles, …</td>
</tr>
<tr>
<td>6. Explore science material …</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Sing, listen, and/or move to music</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Use manipulative …</td>
<td></td>
<td>9. Use manipulative …</td>
</tr>
<tr>
<td>25. Draw, paint, work with clay, …</td>
<td></td>
<td>25. Draw, paint, work with clay, …</td>
</tr>
<tr>
<td>----------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>10. Use commercially-prepared phonics activities</td>
<td></td>
<td>4. Experiment with writing …</td>
</tr>
<tr>
<td>11. Work in assigned ability-level groups</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Circle, underline, and/or mark items on worksheets</td>
<td>12. Circle, underline, and/or mark items on worksheets</td>
<td></td>
</tr>
<tr>
<td>13. Use flashcards with ABCs, sight words, and/or math facts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Participate in rote counting</td>
<td>14. Participate in rote counting</td>
<td></td>
</tr>
<tr>
<td>15. Practise handwriting on lines</td>
<td>15. Practise handwriting on lines</td>
<td></td>
</tr>
<tr>
<td>16. Color, cut, and paste pre-drawn forms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Participate in whole-class, teacher-directed instruction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. Receive rewards as incentives to participate in classroom activities in which they are reluctant participants</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Developmentally inappropriate classroom practices**

| 17. Participate in whole-class, teacher-directed instruction | 18. Sit and listen for long periods of time until they become restless and fidgety |
| 18. Sit and listen for long periods until they become restless and fidgety | 18. Sit and listen for long periods of time until they become restless and fidgety |
| 22. Get placed in time-out (i.e. isolation, sitting on a chair, in a corner, or being sent outside of the room) | 22. Get placed in time-out (i.e. isolation, sitting on a chair, in a corner, or being sent outside of the room) |
| 27. Get separated from their friends to maintain classroom order | 27. Get separated from their friends to maintain classroom order |
### Table 6. Mean and standard deviation of items of the Teacher Beliefs Scale

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
<th>21</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>2.97</td>
<td>4.39</td>
<td>4.63</td>
<td>4.39</td>
<td>3.99</td>
<td>2.69</td>
<td>4.45</td>
<td>4.24</td>
<td>2.20</td>
<td>3.41</td>
<td>4.49</td>
<td>4.53</td>
<td>3.13</td>
<td>2.91</td>
<td>3.78</td>
<td>3.49</td>
<td>4.3</td>
<td>3.71</td>
<td>2.27</td>
<td>4.15</td>
<td>4.10</td>
</tr>
<tr>
<td>SD</td>
<td>.97</td>
<td>.57</td>
<td>.55</td>
<td>.56</td>
<td>.66</td>
<td>.79</td>
<td>.63</td>
<td>.58</td>
<td>.94</td>
<td>.78</td>
<td>.59</td>
<td>.60</td>
<td>.88</td>
<td>.74</td>
<td>.81</td>
<td>.81</td>
<td>.68</td>
<td>.75</td>
<td>.84</td>
<td>.67</td>
<td>.63</td>
</tr>
</tbody>
</table>

### Table 7. Correlational matrix of items of the Teacher Beliefs Scale

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
<th>21</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>.06</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td>.35*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>.37*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.57**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.29**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.22**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.26**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.39**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.31**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.31**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.14*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.22**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.14**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.18**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.01</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.12**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.10</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.19**</td>
</tr>
</tbody>
</table>

Note: * $p < .05$, ** $p < .01$. 

---

Australasian Journal of Early Childhood
Table 7. Correlational matrix of items of the Teacher Beliefs Scale (continued)

<table>
<thead>
<tr>
<th></th>
<th>22</th>
<th>23</th>
<th>24</th>
<th>25</th>
<th>26</th>
<th>27</th>
<th>28</th>
<th>29</th>
<th>30</th>
<th>31</th>
<th>32</th>
<th>33</th>
<th>34</th>
<th>35</th>
<th>36</th>
<th>37</th>
<th>38</th>
<th>39</th>
<th>40</th>
<th>41</th>
<th>42</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td></td>
<td>.12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>.03</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>.17</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>.06</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>.22</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>.03</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>.15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>.03</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>.11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>.11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>.13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: * p < .05, ** p < .01.

Table 8. Mean and standard deviations of items of the Instructional Activities Scale

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
<th>21</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>3.76</td>
<td>4.02</td>
<td>4.08</td>
<td>3.50</td>
<td>3.74</td>
<td>3.05</td>
<td>3.82</td>
<td>3.95</td>
<td>3.73</td>
<td>3.27</td>
<td>2.97</td>
<td>3.43</td>
<td>3.34</td>
<td>2.87</td>
<td>3.33</td>
<td>3.36</td>
<td>3.54</td>
<td>3.57</td>
<td>2.07</td>
<td>3.28</td>
<td>2.88</td>
</tr>
<tr>
<td>SD</td>
<td>.85</td>
<td>.80</td>
<td>.75</td>
<td>1.05</td>
<td>.84</td>
<td>.93</td>
<td>.83</td>
<td>.86</td>
<td>.90</td>
<td>.96</td>
<td>1.08</td>
<td>1.05</td>
<td>.96</td>
<td>1.07</td>
<td>1.31</td>
<td>.98</td>
<td>.86</td>
<td>.87</td>
<td>.92</td>
<td>.82</td>
<td>1.01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>22</th>
<th>23</th>
<th>24</th>
<th>25</th>
<th>26</th>
<th>27</th>
<th>28</th>
<th>29</th>
<th>30</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>2.68</td>
<td>2.28</td>
<td>3.56</td>
<td>3.79</td>
<td>3.29</td>
<td>2.75</td>
<td>2.92</td>
<td>3.45</td>
<td>3.67</td>
</tr>
<tr>
<td>SD</td>
<td>.87</td>
<td>1.03</td>
<td>.84</td>
<td>.83</td>
<td>.91</td>
<td>.97</td>
<td>.94</td>
<td>.78</td>
<td>.76</td>
</tr>
</tbody>
</table>
Table 9. Correlational matrix of items of the Instructional Activities Scale

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
<th>21</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>36**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>.07</td>
<td></td>
<td>23**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>.16**</td>
<td>12</td>
<td>.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>.38**</td>
<td>28**</td>
<td>.22**</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>.13*</td>
<td>.28**</td>
<td>.31**</td>
<td>.04</td>
<td>.32**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>.09</td>
<td>.22**</td>
<td>.30**</td>
<td>-.10</td>
<td>.15*</td>
<td>.27**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>.25**</td>
<td>25**</td>
<td>.14*</td>
<td>-.06</td>
<td>.18**</td>
<td>.19**</td>
<td>.57**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>.59**</td>
<td>.32**</td>
<td>.15**</td>
<td>.03</td>
<td>.45**</td>
<td>.23**</td>
<td>.31**</td>
<td>.42**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>.09</td>
<td>.08</td>
<td>.21**</td>
<td>.26**</td>
<td>.22**</td>
<td>.09</td>
<td>.15*</td>
<td>.13*</td>
<td>.20**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>.15*</td>
<td>.14*</td>
<td>.08</td>
<td>.02</td>
<td>.15**</td>
<td>.29**</td>
<td>.19**</td>
<td>.19**</td>
<td>.24**</td>
<td>.20**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>.05</td>
<td>.03</td>
<td>.0</td>
<td>.50**</td>
<td>.08</td>
<td>-.07</td>
<td>-.04</td>
<td>-.02</td>
<td>.04</td>
<td>.40**</td>
<td>.12*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>.15*</td>
<td>-.01</td>
<td>.07</td>
<td>.33**</td>
<td>.15*</td>
<td>.06</td>
<td>.15*</td>
<td>.11</td>
<td>.16**</td>
<td>.55**</td>
<td>.24**</td>
<td>.61**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>-.01</td>
<td>-.10</td>
<td>.02</td>
<td>.45**</td>
<td>-.01</td>
<td>-.03</td>
<td>-.15**</td>
<td>-.09</td>
<td>.02</td>
<td>.35**</td>
<td>.13*</td>
<td>.44**</td>
<td>.47**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>.05</td>
<td>.03</td>
<td>.10</td>
<td>.57**</td>
<td>.12*</td>
<td>-.06</td>
<td>-.10</td>
<td>-.04</td>
<td>-.05</td>
<td>.26**</td>
<td>-.02</td>
<td>-.47**</td>
<td>.34**</td>
<td>.40**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>.16**</td>
<td>.09</td>
<td>-.02</td>
<td>.24**</td>
<td>.11</td>
<td>.07</td>
<td>.04</td>
<td>.06</td>
<td>.20**</td>
<td>.29**</td>
<td>.19**</td>
<td>.29**</td>
<td>.28**</td>
<td>.31**</td>
<td>.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>.07</td>
<td>-.02</td>
<td>-.15*</td>
<td>.33**</td>
<td>-.04</td>
<td>-.22**</td>
<td>-.20**</td>
<td>-.03</td>
<td>-.03</td>
<td>.13*</td>
<td>-.16**</td>
<td>.30**</td>
<td>.18**</td>
<td>.27**</td>
<td>.28**</td>
<td>.31**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>.05</td>
<td>.03</td>
<td>-.02</td>
<td>.38**</td>
<td>-.02</td>
<td>-.25**</td>
<td>-.17**</td>
<td>-.07</td>
<td>-.05</td>
<td>.19**</td>
<td>-.12*</td>
<td>.34**</td>
<td>.21**</td>
<td>.29**</td>
<td>.35**</td>
<td>.30**</td>
<td>.68**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>.08</td>
<td>.11</td>
<td>-.06</td>
<td>.12**</td>
<td>.22**</td>
<td>.05</td>
<td>.05</td>
<td>.14*</td>
<td>.07</td>
<td>.28**</td>
<td>-.01</td>
<td>.09</td>
<td>.08</td>
<td>.06</td>
<td>.05</td>
<td>-.15*</td>
<td>-.20**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>.16**</td>
<td>.23**</td>
<td>.26**</td>
<td>.08</td>
<td>.18**</td>
<td>.24**</td>
<td>.22**</td>
<td>.25**</td>
<td>.28**</td>
<td>.14*</td>
<td>.17**</td>
<td>.06</td>
<td>.17**</td>
<td>.09</td>
<td>.04</td>
<td>.12*</td>
<td>-.01</td>
<td>0</td>
<td>.20**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>.15*</td>
<td>.17**</td>
<td>.20**</td>
<td>.01</td>
<td>.22**</td>
<td>.28**</td>
<td>.20**</td>
<td>.12**</td>
<td>.27**</td>
<td>.14*</td>
<td>.19**</td>
<td>-.03</td>
<td>.11</td>
<td>.05</td>
<td>-.09</td>
<td>.06</td>
<td>-.16**</td>
<td>-.15*</td>
<td>.34**</td>
<td>.36**</td>
<td></td>
</tr>
</tbody>
</table>

Note: *p < .05, **p < .01.

Table 9. Correlational matrix of items of the Instructional Activities Scale (continued)

<table>
<thead>
<tr>
<th></th>
<th>22</th>
<th>23</th>
<th>24</th>
<th>25</th>
<th>26</th>
<th>27</th>
<th>28</th>
<th>29</th>
<th>30</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>.18**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>-.16**</td>
<td>-.25**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>-.18**</td>
<td>-.02</td>
<td>.49**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>-.04</td>
<td>.25**</td>
<td>.40**</td>
<td>.34**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>.29**</td>
<td>.21**</td>
<td>-.10</td>
<td>-.13*</td>
<td>-.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>.11</td>
<td>.23**</td>
<td>.30**</td>
<td>.23**</td>
<td>.33**</td>
<td>.04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>-.02</td>
<td>.07</td>
<td>.17**</td>
<td>.19**</td>
<td>.17**</td>
<td>0</td>
<td>.29**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>-.12*</td>
<td>.20**</td>
<td>.42**</td>
<td>.37**</td>
<td>.32**</td>
<td>-.10</td>
<td>.26**</td>
<td>.33**</td>
<td></td>
</tr>
</tbody>
</table>

Note: *p < .05, **p < .01.
The performance gap between urban and rural students in China’s education system is wide. According to a recent study, the matriculation rate of tier one or tier two colleges for students in large cities is about 54 per cent (Wang et al., 2011). In contrast, fewer than nine out of 100 students from the poorest rural areas in China achieve entry to a tier one or tier two college (Liu, Zhang, Luo & Rozelle, 2011). Gaps in educational performance, however, emerge even earlier: while more than 80 per cent of students in large city school districts attend high school, less than 30 per cent of those from poor rural areas do (Wang et al., 2011; MoE, 2006a).

The search for the reasons behind such low high school and college matriculation rates among poor rural students almost certainly needs to begin long before students and their families decide to leave the education system with only a junior high school diploma. One needs only to contrast the quality of the teachers or facilities to understand the deficits between rural and urban primary schools (Wang et al., 2011; World Bank, 2001). During the 1990s and early 2000s, per capita investment in the construction of facilities in urban areas was approximately four times greater than that in rural areas. Urban primary school students score far higher on standardised achievement tests than do their rural counterparts (Ye & Gong, 2001).

It is possible that at least part of the reason for rural students’ poor educational performance can be found even earlier. Many educators, worldwide and in China, believe that children’s education needs to begin before they enter the formal education system (Bowman, Donovan & Burns, 2001; Grantham-McGregor et al. & the International Child Development Steering Group, 2007; Heckman, 2000). Evidence from a number of studies suggests that educational readiness at the time of entry into the formal school system (at age five or six) is an important indicator of how well children will ultimately perform in school (Campbell, Pungello, Miller-Johnson, Burchinal & Ramey, 2001; Schweinhart, 2007). School readiness, while in part determined by the care received from family and others before age six, is also affected by schooling experience before primary school (hereafter, early childhood education, or ECE).

Despite the importance of this stage of children’s development, the literature in China is almost completely silent about the ECE experience in rural areas. In fact, since about two-thirds of Chinese children still live in rural areas, improving ECE services in these areas is one of China’s most pressing concerns. Although the Ministry of Education is officially responsible for promoting ECE in China, only a small number of ECE institutions are run by government departments and few of them are located in rural China. With only low
levels of support from local governments, most ECE institutions in rural China suffer from unqualified teachers, poorly developed curricula and inadequate and poorly maintained facilities. Some studies describe the nature of China’s ECE, in both urban and rural areas (Bi, Zhang & Ren, 2007; Liang, 2001; Wang, 2003; World Bank, 1999; Yu, 2005; Zeng, Zhu & Chen, 2007); however, most of this literature is purely descriptive and has little empirical rigour. Nowhere could we find a study comparing the readiness of rural and urban children at an age immediately before students begin their schooling. As a result, it is difficult to gain clarity about the participation of rural children in ECE programs and its effect on their educational readiness.

The purpose of the current study is to create a profile of the ECE experience in China’s poor rural regions. Specifically, we seek to address three questions: (1) What is the nature of ECE service delivery in China’s poor rural areas, including factors such as student participation rates, student:teacher ratio, ECE teacher training, and overall quality of the facilities? (2) What is the overall level of educational readiness of rural children? (3) What is the impact of ECE participation on educational readiness?

Methods

Overview

The data used in this paper to document the nature of ECE services and the educational readiness of rural children was collected in a survey by the authors. The research team conducted the data collection in the summer of 2008 in rural villages in six counties across three provinces (two counties per province): Gansu, Shaanxi and Henan.

County/township dataset (Dataset 1)

In collecting the county/township dataset, we surveyed all 97 townships in six sample counties to gain a basic understanding of ECE in these counties. All counties are nationally designated poverty counties.

The county/township dataset came from two sources: (1) information provided by local township hospitals (children’s vaccination records) and public security bureaus (PSBs); and (2) primary data on local ECE schools collected in collaboration with the county education bureau and their representatives in each township.

The main purpose of the dataset collected from the local township hospitals and PSBs was to produce a comprehensive list of children by age cohort. Using both lists we were able to categorise the children into lists by age group: three to three-and-a-half years; three-and-a-half to four years; four to four-and-a-half years; four-and-a-half to five years; five to five-and-a-half years; and five-and-a-half to six years. This information allowed us to create measures of participation in preschool and kindergarten and served as a sampling frame when we selected children who were not in preschool. In this paper preschool is defined as schooling before kindergarten that is voluntary and generally provided through the private sector. Students in preschool range in age from four to six years. Kindergartens are schooling facilities for children, mostly aged six, in the year before primary school. Although attendance is voluntary, kindergartens are primarily run by teachers/administrators in public elementary schools.

The second part of the county/township survey was conducted by working with education officials in the counties and townships to produce a list of preschools and kindergartens. This part of the survey had three blocks. The first block gathered information about the accessibility of ECE services for villages within each town. The second block identified the number of children by age cohort that were attending preschools and kindergartens. The final block identified the number of teachers in each ECE institution. The main purpose of this survey was to allow us to characterise access to preschool and kindergarten services and served as a sampling frame when selecting preschools.

Preschool and kindergarten dataset (Dataset 2)

With information collected during the county/township survey, we were able to establish a preschool sampling frame for preschools (Dataset 2). We randomly selected 20 out of 77 townships across five sample counties. In the sixth county, in Henan province, we surveyed all 20 townships since it was to be the focus of a special sub-study during year two of the project. In total, then, 40 townships were selected to be part of our sample. Within these townships, we then randomly selected 82 preschools for inclusion in our study: 20 in Shaanxi province, seven in Gansu province and 55 in Henan province.

After the sample preschools were selected, the enumerators conducted a detailed survey in each of these 82 preschools. The main purpose of the survey was to collect more detailed information from principals and teachers about the nature of ECE services in China’s poor rural areas. The preschool questionnaires contained two main blocks. The first asked about the staffing of preschools. For example, enumerators collected information on teachers’ educational attainment, age, and experience teaching at the ECE level. The second survey block focused on the size of the facility, the quality of the building’s construction material and furnishings (e.g. desks, blackboards) and whether or not the preschool had playground equipment, napping facilities, toilets, and the like.
Four-year-old children (and household) dataset (Dataset 3)

The third and final dataset was collected from a sample of four-year-olds in the study counties during a three-week period in June and July, 2008. The purpose of the survey was to measure the level of educational readiness of four-year-olds in poor rural areas. On average, we randomly selected 12 children in each sample town. Therefore, in the 40 sample townships the enumerators surveyed and tested 492 randomly selected four-year-olds and their parents/guardians.

The interactions between enumerators and the four-year-old respondents (and their parents) consisted of two parts. First, enumerators collected information on basic household characteristics, including household size; parents’ age, educational attainment and occupation; and the identity of the child's primary guardian. We also asked about the child's ECE experience. Next, the child was tested for educational readiness, described below in more detail.

In order to assess the educational readiness of the children in our sample, we adopted a testing instrument created by Dr. Mujie Ou (2007). For the past several decades, Ou, a child psychologist, has developed, tested, refined and benchmarked a test of educational readiness for children of different age groups. Based on her work, she produced a definitive distribution of readiness scores for four- to five-year-olds in urban areas. Built on the concept that educational readiness is multidimensional, Ou's educational readiness test seeks to assess each child's cognitive ability, language skills, communication ability, independence, and fine and gross motor capacity. Each section of the test is scored in relation to the child's readiness relative to these six dimensions. The section scores are added to achieve a total score.

According to Ou (2007), most urban children have readiness test scores between 85 and 115. Using the results of past scores, Ou produced a distribution of scores centred on 100 points (Ou, 2007; Hu, Xiao & Xu, 2009). Although the tests are slightly different, the benchmark statistics of the distribution for each cohort—for example, the four to four-and-a-half and the four-and-a-half to five years age groups—are the same. Ou believes this distribution is representative of urban four-to five-year-olds in urban China. Ou has also defined a cutoff of 70 points for determining a child's development relative to other children. In other words, if a child scores below 70 on the Ou Educational Readiness Test, the child can be deemed ‘not ready’ for continuing with his or her education. As seen from Ou's distribution, about three per cent of urban children aged four to five years can be called ‘unready’ (Figure 1, Panel A).

In this study we use the Ou test to measure the readiness of 492 rural four-year-olds. We have produced what we believe is the first set of scores and distribution of educational readiness for children from poor rural areas in China.

Results

ECE in poor areas of rural China: What the data says

According to the survey, relatively few families in rural China enrol their young children into formal childcare or early childhood education (ECE) programs. During our survey of ECE institutions we found almost no facilities for children under three years in formal care institutions. Specifically, none of the children under three years in the six sample counties were placed in preschools (Table 1, Columns 1 and 2).

Once children entered the four- to six-year-old category, preschool and kindergarten attendance rises slightly, although it remains low. Only 15 per cent of rural children aged four to six years in our sample counties were attending preschool (Table 1, Columns 3 and 4). Participation in kindergarten is slightly higher, though kindergarten is primarily attended by children who plan to enter elementary school (Grade 1) the following year. In our sample, only 29 per cent of children aged four to six years attended kindergarten (Column 5).

When considering the relationship between poverty and ECE, it is important to look at the behaviour of sub-groups in addition to the overall averages. When looking across sample counties, the ECE participation rates in poorer counties are lower. For example, the poorest county in the sample, Zhangjiachuan, has the lowest rate of ECE participation. In Zhangjiachuan only two per cent of four- to six-year-old children attend preschool and only nine per cent attend kindergarten.

Since China's education system ultimately (in high school and college) has all students competing for the same number of positions in schools, it is perhaps most important to determine how rural children's ECE participation compares to that of urban children. Comparing our survey data to findings of other researchers studying urban ECE in China, we find a large gap between urban and rural ECE participation rates (Sun, 2008). The total ECE participation rate in our sample counties is only 43 per cent. In contrast, according to Sun (2008), the ECE participation rate in some of China's largest cities is more than 90 per cent.

Provision of ECE in poor rural China

Why is it that so few children from poor rural areas participate in ECE? According to our county/township survey data, access to ECE services, especially for parents with preschool-age children, may be one of the problems. Despite the large number of towns (97)
and villages (1652) in our sample, there are only 180
preschools in the area, meaning that there are fewer
than two preschools per town (Table 2, Columns 1 to
3). Each preschool is therefore providing ECE services
for children in eight or nine villages, an unsurprising
finding since only 11 per cent of villages have preschool
services (Table 2, Column 4). The problem is even more
severe in the poorest counties. In Zhangjiachuan for
instance, there are 15 townships and 269 villages, but
only two preschools in the entire county.

Learning environment in ECE institutions

Our data demonstrates a low-quality learning
environment in most preschools in our sample, both
in terms of measured student:teacher ratios as well as
along other dimensions such as teacher training and
school facilities. While there are 96,209 children aged
four to six years in our sample (and 42,585 who attend
some type of ECE program), there are currently only
1492 teachers providing ECE services in these areas
(Table 3). Only 43 per cent of those are in preschools;
the rest (57%) are in kindergartens. Moreover, our
interviews suggest that most kindergarten teachers
only spend part of their time on ECE education; most
of their time is spent in teaching higher grades or
working as administrative staff. On many days, these
‘kindergarten teachers’ are only sporadically present
in the classroom and provide minimal monitoring, let
alone teaching.

With so few teachers, the attention that can be paid
to each child will necessarily suffer. According to
the county/township survey data (Dataset 1), in poor
areas of rural China each ECE teacher is in charge of
29 children. This level is far above that of urban China
(12:1—MoE, 2006a), and both urban and rural ratios are
above the official national standard for ECE teaching.
According to national regulations (MoE, 2006b), the
ECE student:teacher ratio should not exceed 7:1. The
29:1 ratio in our sample exceeds this level several times
over. Moreover, when dividing ECE into preschool and
kindergarten, we find that the student:teacher ratio in
kindergarten (33:1—not shown) is even worse than that
of preschool.

Of the ECE teachers who do exist, few hold formal
certification or have any formal training in preschool
education or related fields. Of all of the ECE teachers
in the six sample counties, less than 12 per cent majored
in (or had any training in) ECE (Table 3, Column 3). In
the case of kindergartens, the typical full-time teacher
(as opposed to the part-time teachers discussed above)
was most frequently a teacher nearing retirement.
And while it is true that teachers nearing retirement
and teachers without official qualifications typically do
have experience teaching maths or Chinese language,
almost none of them have any background in ECE
pedagogy. According to our survey, the number one
concern of the preschool principals is a serious shortage
of teachers with any training in ECE.

Our data also shows that the shortcomings of ECE
do not stop with teacher qualifications. Buildings are
poorly constructed and equipment frequently falls short
of meeting the developmental needs of students. Most
generally, the locations of many preschools are far from
ideal. During the preschool survey, enumerators had a
chance to describe the environment surrounding the
school on an open-ended portion of the questionnaire.
An uncomfortable number of preschools are located
beside unfenced fishponds and canals, alongside busy
highways, or adjacent to working factories or service
centres. Safety was almost never cited as a reason for
selection of the preschool site.

In addition, founders of preschools seldom have
facilities that are dedicated to teaching preschool
students. According to our survey, 34 per cent of
preschools are established in the homes of rural
residents, most frequently the homes of the principals
or the owners themselves (Table 4, Columns 1 and
2). Being homes built to service rural families, often
built during the 1980s and 1990s, most houses and
their yards are unsafe and unhealthy environments
for preschool education in terms of physical structure,
lighting and ventilation.

Inside the classroom, facilities are almost always under-
resourced. Nearly half of the sample preschools did not
provide children with desks and chairs that fit the needs
of small children. Children 1.2 metres tall are asked to
sit at desks that are 70 centimetres high and on chairs
that are 40 centimetres high (Table 4, Column 5). This
is an unhealthy and uncomfortable practice. Few of the
preschools our enumerators visited had specialised
playrooms or equipment for activities such as physical
games, painting or music (Table 4, Column 6). Only 50
per cent of the sample preschools had any specialised
playground equipment or toys. Almost none had any
equipment for undertaking basic science projects. In
addition, only 44 per cent of sample preschools had
resting or napping facilities (Table 4, Column 7).

Other services—in particular health and nutrition—
were noticeably lacking. Only half of the preschools had
a designated nurse, and only 15 per cent of these full-
time nurses had received formal training. Less than 50
per cent of the sample preschools provide any meals at
all. And less than 10 per cent of rural preschools were
concerned with providing a balanced diet. Few meals in
any of the preschools contained foods other than simple
starches and, at most, a small quantity of vegetables.
The kitchen facilities in many of the preschools were
often dirty and unsanitary.

While in a few respects the facilities of kindergartens
are better (since they are often inside the grounds of
elementary schools), in many others they are worse. Almost none of the kindergartens had any specialised equipment for children. Principals often told us bluntly that investment in kindergarten facilities was one of the lowest priorities in already-stressed capital equipment/building budgets.

Financial barriers to participation in ECE

Another reason parents—especially those in poor rural areas—may choose not to send their children to preschool and kindergarten is that they can be relatively expensive. While public primary schools are now free of tuition fees, preschools and kindergartens are not. Almost all the expenses of running ECE institutions are met by tuition costs and fees.

ECE tuition and fees can be so high that they may pose cash barriers for poor rural families. According to our data, the average yearly tuition cost is 380 yuan (50 USD), while yearly fees for in-school lunches are even higher, around 420 yuan (55 USD). Adding these costs together, we find that the yearly cost of ECE is a staggering 800 yuan (105 USD). Compare this with an average per capita income of just over 1000 yuan (130 USD) for Chinese families at the poverty line in 2007 (Wang & Wang, 2007). Considering these costs, it is easy to see why rural families, especially poor families, would choose to forego ECE.

Discussion: Why so little access, such poor quality and such high fees?

One reason there is so little access to quality ECE services in China is that the government views preschool as a purely private activity. Although there are signs this is changing, it is clear that the government still plays only a minor role in the provision of ECE services. According to the county/township survey, only 18 per cent of all preschools in the six sample counties are operated by the education departments of local governments.

Investment data from national sources also demonstrates the lack of commitment to ECE services, especially when compared to other categories of education spending (MoE & SSB, 2004). For example, in 2004 the government spent more than 180 billion yuan (21.8 billion USD) on college education. During the same year, total government expenditure on ECE was only eight billion yuan (under one billion USD), less than four per cent of the amount spent on colleges. Overall, the annual government expenditure on ECE is only about one per cent of the total annual expenditure on education. The gap between spending on the different levels of education is even larger when one considers the number of students affected. Whereas there are approximately 15 million students in college, there are more than 100 million children under six years, and more than 20 million of them attend preschool.

Educational readiness

We turn now to the results of the educational readiness testing, which show that most children in rural China are already behind during their preschool years. The mean of the educational readiness test scores of rural four- to five-year-olds was only 64, far below the test scores of their urban counterparts (Figure 1, Panel B). While about half of the urban children scored above the mean (100 points), only six per cent of our rural sample children scored more than 100 points. This means that an urban child who achieves an average educational readiness score surpasses 94 per cent of rural children.

The results of the Ou test also suggest that students from poor rural areas are not only behind in a relative sense, well over half of them are behind absolutely. While only about three per cent of urban children scored less than the critical cutoff of 70 points (and could be called ‘not ready’ for further education), 57 per cent of rural children are not deemed ‘ready’ to begin learning, according to Ou’s criterion. If there is any truth to the idea that ‘once behind, always behind’, certainly at least part of the urban-rural education gap starts during the preschool years.

Deconstructing rural ‘unreadiness’

Using the Ou framework, we can also identify in which of the different dimensions poor rural students perform relatively higher (or lower). According to Ou (2007), if a child scores equal to or higher than the benchmark value, it means that he or she is ‘educationally well-prepared’. In the case of five of the six dimensions of educational readiness, rural children in our sample, on average, did not reach the benchmark values. This is true of both four- to four-and-a-half-year-olds and four- and-a-half- to five-year-olds. Four- to four-and-a-half-year-olds had the lowest cognitive scores. Among four- and-a-half- to five-year-olds, language, communication and self-dependence scores are also low. Only in the case of gross motor ability (for both four- to four-and-a-half-year-olds and four-and-a-half- to five-year-olds) does the score of the average rural child exceed the benchmark readiness value.

Preschool attendance and educational readiness

With our current cross-sectional dataset we cannot statistically identify determinants of educational readiness, but our data will allow us to explore some of the major correlates (Figure 2). Using our data to descriptively examine the correlates of educational readiness, we see that the average ECE attendee achieved a score that showed the child was ready to continue with his/her education (the mean was 71 points). In contrast, four- to four-and-a-half-year-olds who did not attend ECE scored an average of only 58 points. Similar patterns are found for four-and-a-half- to
five-year-olds: Those who attended preschool scored higher than those who did not (65 versus 51 points). Importantly, when looking at children who did not attend ECE, a full 64 per cent of four- to four-and-a-half-year-olds and 83 per cent of four-and-a-half- to five-year-olds did not achieve the 70 point cutoff.

We also examine this question with multivariate analysis. In general, the educational readiness of a child is determined not only by his or her preschool attendance (if any), but also by other characteristics of the child and the child’s family (Aboud, 2006; Armecin et al., 2006). Following the literature, the relationship we hope to measure can be summarised as:

\[ Y = \beta_0 + \beta_1 X + \beta_2 Z + \varepsilon, \]

where \( Y \) is the educational readiness of each sample child; \( X \) is a dummy variable equal to one if the child participated in ECE; and \( Z \) is a matrix of other observed factors that affect educational readiness, such as parental age, occupation, and educational attainment. The symbol \( \varepsilon \) is an error term with mean zero that is assumed to be normally distributed.

Even when controlling for other factors in a multivariate regression framework, we find a significant positive correlation between preschool attendance and educational readiness scores. On average, a child who attends preschool scores 12 points higher on the Ou educational readiness test than a child who does not attend preschool (Table 5, Columns 1 and 2). Given that the mean educational readiness test score for a rural child is only 64 points, our results indicate that children who attend preschool have an educational readiness test score that is 20 per cent higher (0.6 standard deviations) than those who do not attend.

**Conclusions**

Despite the fact that China has made impressive strides in education over the past several decades (and even more so in recent years), the results reported here show that ECE in rural areas is still plagued by many problems. Many families and villages have limited access to quality ECE services. There are even fewer services for children under three years. Teachers are poorly trained and facilities do not meet minimum standards.

At the same time, ECE services in rural China are relatively expensive, especially for families in poor areas. This no doubt further discourages participation. Most ECE facilities are private. The government plays only a secondary role in the provision of ECE services, and the per capita investment is only a fraction of that being invested into higher levels of education. As a result, rural ECE institutions collect tuition and other fees from parents equal to almost one full year of the per capita income of a family at the poverty line. Many poor families appear to be unable to afford to send their children to preschools or kindergartens.

Under these conditions, China’s rural children appear to have fallen far behind their urban peers in physical, cognitive and social development. According to our analysis, more than half of children in poor rural areas of China are not ready for the next stage of their education. There is also evidence that children’s educational readiness test scores in rural China worsen as they move closer to school entry. As a result, rural children are entering school at a disadvantage. It is possible that this initial disadvantage will continue to hamper their learning experience throughout life.

Although there undoubtedly are other factors that cause the gap in educational readiness between rural and urban children before primary school, this paper shows that educational readiness scores are higher among children who participate in ECE. If this relationship is causal, improving accessibility to and quality of ECE services may be a first step in helping to close the urban-rural education gap.

While parents certainly bear some responsibility for their children’s education, the high cost of access means it is often difficult for families to send their children to ECE schools. Our results show that ECE is correlated with better academic outcomes, making it imperative that the government becomes actively involved in the delivery of ECE. There are many opportunities to do so: vouchers for the families of poor children, and direct and indirect support of preschools are just two options that have been tested in recent years (Currie & Thomas, 1995; Garces, Thomas & Currie, 2002). The main goal of this policy effort should be to enable greater numbers of rural children to enjoy access to higher quality ECE.

**Acknowledgements**

This project would not have been possible without the generous grant support and the capable field assistance of the Plan International and Nokia (China) Investment Co., Ltd. We also acknowledge the financial assistance of the National Natural Science Foundation of China (71033003), Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences (200905007 and 2011RC102).

Many people helped to make this project and paper possible. In particular, we would like to acknowledge Alexis Medina and Chernyin Lim.

**References**


Table 1. Preschool and kindergarten participation rates in rural China, 2008

<table>
<thead>
<tr>
<th>Province (County)</th>
<th>Total number of children aged 0–3 years</th>
<th>Percentage of children aged 0–3 years that attend preschool (%)</th>
<th>Total number of children aged 4–6 years</th>
<th>Percentage of children aged 4–6 years who attend preschool (%)</th>
<th>Percentage of children aged 4–6 years who attend kindergarten (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shaanxi (Baihe)</td>
<td>3774</td>
<td>0</td>
<td>3601</td>
<td>32</td>
<td>13</td>
</tr>
<tr>
<td>Shaanxi (Changw)</td>
<td>8584</td>
<td>0</td>
<td>7553</td>
<td>39</td>
<td>5</td>
</tr>
<tr>
<td>Gansu (Kongdong)</td>
<td>10001</td>
<td>0</td>
<td>11336</td>
<td>8</td>
<td>22</td>
</tr>
<tr>
<td>Gansu (Zhangjiachuan)</td>
<td>12496</td>
<td>0</td>
<td>13248</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Henan (Lushan)</td>
<td>29826</td>
<td>0</td>
<td>26539</td>
<td>24</td>
<td>19</td>
</tr>
<tr>
<td>Henan (Shangcheng)</td>
<td>32125</td>
<td>0</td>
<td>33932</td>
<td>7</td>
<td>56</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>96806</strong></td>
<td><strong>0</strong></td>
<td><strong>96209</strong></td>
<td><strong>15</strong></td>
<td><strong>29</strong></td>
</tr>
</tbody>
</table>

Data source: Authors’ county/township dataset (Dataset 1).
Table 2. Availability of ECE services in sample villages, 2008

<table>
<thead>
<tr>
<th>Province (County)</th>
<th>Number of townships</th>
<th>Number of villages</th>
<th>Number of preschools</th>
<th>Percentage of villages with preschools (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shaanxi (Baihe)</td>
<td>14</td>
<td>113</td>
<td>19</td>
<td>17</td>
</tr>
<tr>
<td>Shaanxi (Changwu)</td>
<td>11</td>
<td>187</td>
<td>57</td>
<td>30</td>
</tr>
<tr>
<td>Gansu (Kongdong)</td>
<td>18</td>
<td>245</td>
<td>17</td>
<td>7</td>
</tr>
<tr>
<td>Gansu (Zhangjiachuan)</td>
<td>15</td>
<td>269</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Henan (Lushan)</td>
<td>20</td>
<td>507</td>
<td>64</td>
<td>13</td>
</tr>
<tr>
<td>Henan (Shangcheng)</td>
<td>19</td>
<td>331</td>
<td>21</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>97</strong></td>
<td><strong>1652</strong></td>
<td><strong>180</strong></td>
<td><strong>11</strong></td>
</tr>
</tbody>
</table>

Data source: Authors’ county/township dataset (Dataset 1).

Table 3. Characteristics of teachers engaged in ECE services in rural China, 2008

<table>
<thead>
<tr>
<th>Province (County)</th>
<th>Number of teachers engaged in ECE</th>
<th>Percentage of ECE teachers in preschools (%)</th>
<th>Percentage of ECE teachers that majored in ECE (%)</th>
<th>Percentage of ECE teachers with special ECE training (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shaanxi (Baihe)</td>
<td>80</td>
<td>85</td>
<td>14</td>
<td>56</td>
</tr>
<tr>
<td>Shaanxi (Changwu)</td>
<td>148</td>
<td>92</td>
<td>22</td>
<td>39</td>
</tr>
<tr>
<td>Gansu (Kongdong)</td>
<td>160</td>
<td>26</td>
<td>23</td>
<td>55</td>
</tr>
<tr>
<td>Gansu (Zhangjiachuan)</td>
<td>57</td>
<td>25</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Henan (Lushan)</td>
<td>531</td>
<td>60</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>Henan (Shangcheng)</td>
<td>528</td>
<td>12</td>
<td>5</td>
<td>18</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1492</strong></td>
<td><strong>43</strong></td>
<td><strong>12</strong></td>
<td><strong>27</strong></td>
</tr>
</tbody>
</table>

Data source: Authors’ county/township dataset (Dataset 1).

Table 4. Nature of the facilities in sample preschools

<table>
<thead>
<tr>
<th>Province (County)</th>
<th>Number of sample preschools</th>
<th>Percentage of family-operated preschools (%)</th>
<th>Outdoor play space (per capita square meters)</th>
<th>Area occupied by buildings (per capita square meters)</th>
<th>Percentage of preschools with child-friendly desks/stools (%)</th>
<th>Percentage of preschools with playrooms (%)</th>
<th>Percentage of preschools with dorms (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shaanxi (Baihe)</td>
<td>8</td>
<td>75</td>
<td>1.1</td>
<td>3.6</td>
<td>38</td>
<td>0</td>
<td>75</td>
</tr>
<tr>
<td>Shaanxi (Changwu)</td>
<td>12</td>
<td>42</td>
<td>0.9</td>
<td>5</td>
<td>67</td>
<td>25</td>
<td>8</td>
</tr>
<tr>
<td>Gansu (Kongdong)</td>
<td>5</td>
<td>20</td>
<td>0.9</td>
<td>2.1</td>
<td>80</td>
<td>0</td>
<td>60</td>
</tr>
<tr>
<td>Gansu (Zhangjiachuan)</td>
<td>2</td>
<td>50</td>
<td>0</td>
<td>1.7</td>
<td>50</td>
<td>50</td>
<td>0</td>
</tr>
<tr>
<td>Henan (Lushan)</td>
<td>42</td>
<td>36</td>
<td>0.6</td>
<td>2.7</td>
<td>26</td>
<td>10</td>
<td>60</td>
</tr>
<tr>
<td>Henan (Shangcheng)</td>
<td>13</td>
<td>0</td>
<td>0.9</td>
<td>1.2</td>
<td>54</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total (mean)</strong></td>
<td><strong>82</strong></td>
<td><strong>34</strong></td>
<td><strong>0.7</strong></td>
<td><strong>2.7</strong></td>
<td><strong>41</strong></td>
<td><strong>11</strong></td>
<td><strong>44</strong></td>
</tr>
</tbody>
</table>

Data source: Authors’ preschool dataset (Dataset 2).
Table 5. Regression analysis examining the relationship between ECE and educational readiness in rural China, 2008

<table>
<thead>
<tr>
<th>Variable</th>
<th>Educational readiness test score (OLS)</th>
<th>Educational readiness test score (OLS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participates in ECE or not (0=no; 1=yes)</td>
<td>13.5 (5.85)***</td>
<td>12.8 (5.45)***</td>
</tr>
<tr>
<td>Gender (0=female; 1=male)</td>
<td>–0.001 (–0.00)</td>
<td>–0.10 (–0.05)</td>
</tr>
<tr>
<td>Age group (0=4-4.5 years; 1=4.5-5 years)</td>
<td>–6.93 (–3.36)***</td>
<td>–6.63 (–3.16)***</td>
</tr>
<tr>
<td>Value of family house (yuan)</td>
<td>1.73 (1.83)*</td>
<td>1.47 (1.51)</td>
</tr>
<tr>
<td>Gender</td>
<td>0.10 (0.05)</td>
<td></td>
</tr>
<tr>
<td>Age group</td>
<td>–6.63 (–3.16)***</td>
<td></td>
</tr>
<tr>
<td>Value of family house (yuan)</td>
<td>1.73 (1.83)***</td>
<td>1.47 (1.51)</td>
</tr>
<tr>
<td>Mother’s age (years)</td>
<td>–0.06 (–0.03)</td>
<td>–0.01 (–0.03)</td>
</tr>
<tr>
<td>Mother’s educational attainment (years)</td>
<td>3.85 (2.90)***</td>
<td>3.35 (2.19)**</td>
</tr>
<tr>
<td>Mother’s health status (0 = not in good health; 1 = in good health)</td>
<td>0.48 (0.23)</td>
<td>0.71 (0.31)</td>
</tr>
<tr>
<td>Mother’s off-farm employment status (0=no; 1=yes)</td>
<td>0.35 (0.21)</td>
<td>0.07 (0.04)</td>
</tr>
<tr>
<td>Father’s age (years)</td>
<td>–0.07 (–0.22)</td>
<td></td>
</tr>
<tr>
<td>Father’s educational attainment (years)</td>
<td>1.01 (0.62)</td>
<td></td>
</tr>
<tr>
<td>Father’s health status (0 = not in good health; 1 = in good health)</td>
<td>–0.96 (–0.37)</td>
<td>–0.74 (–0.31)</td>
</tr>
<tr>
<td>Father’s off-farm employment status (0=no; 1=yes)</td>
<td>–0.74 (–0.31)</td>
<td>–0.74 (–0.31)</td>
</tr>
<tr>
<td>Constant</td>
<td>46.84 (5.49)***</td>
<td>49.95 (5.05)***</td>
</tr>
<tr>
<td>Observations</td>
<td>454</td>
<td>454</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.13</td>
<td>0.12</td>
</tr>
</tbody>
</table>

Notes: T statistics in parentheses, and *** means $p < 0.01$; ** means $p < 0.05$; * means $p < 0.1$.
Data sources: Authors’ four-year-old children survey (Dataset 3).
Figure 1. Distribution of educational readiness test scores for children aged 4–5 between urban and rural China

Data sources: Data used in Panel A is from Ou, 2007. Data used in Panel B is from the authors' four-year-old children survey (Dataset 3).

Figure 2. The differences between educational readiness scores between children attending preschool and children not attending preschool

Data source: Four-year-old child survey (Dataset 3).
BUILDING RELATIONSHIPS WITH FAMILIES is an essential aspect of being an early childhood professional because children’s learning and development is situated in the cultural and social context of their communities and families, rather than simply the child (Christian, 2006; Neilson-Hewett & Coutts, 2009). Bronfenbrenner’s Social Ecology Model suggests that multiple factors, such as the home, school and governments, work together with individual child characteristics, such as age and temperament, to influence how children develop (Bronfenbrenner, 1979; Bronfenbrenner & Evans, 2000). Because families have a powerful influence on the development of a child, collaborative relationships between staff and families can be beneficial to all involved (Caplan, Hall, Lubin & Fleming, 1997). Not only can early childhood professionals gain knowledge about children from families; parents can gain knowledge from early childhood professionals on topics including child development, peer relationships and fostering development through play.

One thing that parents often struggle with is child discipline (American Academy of Pediatrics, 1998; Holden, 1997). When early childhood professionals work together in supportive partnerships with parents, it is possible to develop effective guidance strategies to respond to individual children’s behaviours (Gartrell, 2003). The aim of this study was to follow up with mothers and early childhood professionals who had previously participated in a hands-on parent education program focused on positive guidance (Saunders, McFarland-Piazza, Hazen-Swann, Burton, & Jacobvitz, 2012). Specifically, we were interested in gaining mothers’ and early childhood professionals’ experiences of, and perspectives on, the early childhood professional’s role as a support resource for parents in positive guidance. Responses were analysed using the constant comparative method. Themes of ‘guidance in action’, ‘home and classroom environment’ and ‘relationships’ emerged from the data.

This study reports findings from a follow-up study involving mothers and early childhood professionals who completed participation in a 12-week, hands-on parent education program in the United States. In this program, mothers learned about positive guidance in a weekly seminar, and additionally practised implementing positive guidance in an early childhood classroom with the support of an early childhood professional. After the program ended, 10 mothers and six early childhood professionals completed an online survey about their experiences of, and perspectives on, the role of the early childhood professional as a support resource for parents in positive guidance.
Most early childhood professionals are exposed to positive guidance in their teacher education courses and many have the professional knowledge to work with parents to find effective guidance strategies for children. However, as Stonehouse (1994) warns, when professionals are a source of parenting advice, there is a potential for parents to lose confidence in themselves and feel they are not as knowledgeable as the ‘expert’. Thus it is more desirable for early childhood professionals to avoid ‘educating’ parents, but rather empower them to have confidence in their parenting. In addition to utilising early childhood professionals as a source of information about child guidance, parents can participate in education programs to change their parenting behaviours. While research into parent education is vast (Kaminski, Valle, Filene & Boyle, 2008; Lundahl, Risser & Lovejoy, 2006), there has been little empirical data gathered on programs that include non-clinical samples, incorporate positive guidance, and include hands-on practice with the support of an early childhood professional.

Behaviourally based interventions typically focus on rewards such as praise and punishments such as ignoring and time-outs (Clawson, Kuchinski & Bach, 2007; Ingersoll & Gergans, 2007). However, praise, time-out and rewards are not consistent with a positive guidance approach (Gartrell, 2002). Other parenting programs focus on social-emotional attachment interventions, such as Video Intervention to Promote Positive Parenting (VIPP) and Circle of Security, which attempt to enhance parents’ awareness about their relationships with their children (Marvin, Cooper, Hoffman & Powell, 2002; Velderman, 2005). However, VIPP and Circle of Security do not incorporate parental practice of specific positive guidance techniques coupled with feedback from a mentor.

The delivery of most parent education programs involves seminars or lectures (Drugli & Larsson, 2006; McIntyre, 2008). Programs such as these are related to increased social competence of high-risk primary school children (Reid, Webster-Stratton & Hammond, 2007) and reduced stress (Eisen, Raleigh & Neuhoff, 2008) and depression (Hayes, Matthews, Copley & Welsh, 2008) in parents. It is not clear, however, if parenting behaviours actually changed. Other parent education programs are more interactive and provide one-on-one interventions either through in-home training by professionals or video feedback (Phaneuf & McIntyre, 2007). While these programs can have positive effects, they tend to focus only on specific behaviours, such as increasing at-risk children’s academic and behavioural functioning.

In contrast to other parent education programs, our own program aimed to help parents to learn and utilise positive guidance techniques through both parenting seminars and hands-on practice in an unbiased setting with the support and feedback of early childhood teachers. We found that the lecture combined with the hands-on aspect of the program was more effective in changing mothers’ discipline strategies than just a lecture (Saunders, McFarland-Piazza, Hazen-Swann, Burton, & Jacobitz, 2012). In this follow-up study, we explore the role of the early childhood professional more closely.

In order for early childhood professionals to support parents in child guidance, care must be taken to develop relationships with the families; this is an important part of their role. (Christian, 2006). Children’s learning and development is situated in the cultural and social contexts of their particular community and family unit, thus collaborative relationships between educators and families are necessary (Caplan et al., 1997; NSW DoCS, 2002). However, many early childhood educators receive little preparation to work with parents (Nieto, 2004). Pre-service teachers are not typically provided with hands-on experience to build parent–teacher relationships (Christian, 2006). Early childhood educators report that they feel under-prepared for work with families (Bennett, Katz & Beneke, 2006), and pre-service teachers report that interacting with parents was one of the most challenging aspects of teaching (McFarland & Lord, 2008).

This study aims to benefit both parents and early childhood professionals by focusing on how the professionals can be better prepared for providing support. The specific research questions are:

- What are the benefits and challenges of early childhood professionals providing support to parents in the use of positive guidance with children?
- How can early childhood professionals most effectively support parents in the use of positive guidance with children?
- How can teacher education programs better prepare early childhood professionals to support parents in the use of positive guidance with children?
Participants

Participants were recruited to follow up a larger study. We contacted a sub-sample of 24 mothers and 16 early childhood professionals who were originally part of a longitudinal study assessing the effects of a hands-on parent education program in positive guidance, which was approved by the relevant Institutional Review Board. Ten mothers and six early childhood professionals consented to participate.

The original sample included 52 mother–child dyads from the Austin, Texas area in the United States, recruited from early childhood classroom waiting lists. The ethnic distribution of mothers was: Caucasian (75.0%), Latino (11.5%), Asian (11.5%), and African American (2.0%). At the start of the study, mothers’ ages ranged from 26 to 43 years, with a mean age of 34 years. Children’s ages ranged from two years three months to three years seven months, with a mean age of three years.

Family income distribution was: $0–20,000 (5.8%), $20,001–40,000 (9.6%), $40,001–60,000 (11.5%), $60,001–80,000 (25.0%), and >$80,000 (48.1%). The distribution of mothers’ education level was: some post high school (9.6%), finished college (57.7%), and graduate school (32.7%). Because of the anonymous nature of the online survey used in the present study, it is not known if the demographics of our sub-sample differed significantly from the original sample.

Procedure

The original 52 mother–child dyads participated in a 12-week parenting education program which focused on positive guidance. Children were enrolled in one of four early childhood classrooms, attending these classes two days per week for three hours each day. Once a week, all mothers attended a two-hour seminar. Mothers were randomly assigned to one of two conditions: (1) the lecture-only condition, in which their child attended a preschool class and the mother attended the positive guidance seminar; and (2) the hands-on condition, in which mothers spent an additional three hours once a week observing a teacher role model and interacting with children in one of the toddler classrooms in which their own child was not enrolled. The hands-on group was instructed to implement what they had learned in the seminar under the supervision of experienced teachers who provided them with feedback.

Mothers on childcare waiting lists were mailed letters informing them about the opportunity to participate in this program. These mothers called research staff for an initial interview, at which time staff answered any questions, scheduled participants for classes and asked them to fill out consent forms, and health and safety information forms. Mothers were randomly assigned to either a Tuesday night or Thursday night seminar. Those in the Thursday night seminar also received hands-on positive guidance training in one of the toddler classrooms. These mothers practised using positive guidance under the supervision of the lead teacher, for three hours a week for 12 weeks. Half of the children in each classroom had mothers attending the Tuesday night seminar, and the other half had mothers attending the Thursday night seminar.

To staff the program, early childhood educators for the toddler classes, childcare providers for when parents attended seminars, and data collection researchers were needed. We recruited university research practicum students who had already been trained in positive guidance, had high university grades and excellent recommendations. We created a 12-week curriculum for the parent training seminars. Topics included:

- What is positive guidance?
- The use of positive language
- Praise versus encouragement, punishment versus guidance
- Fostering children’s social competence
- Baumrind’s parenting styles
- Specific guidance techniques
- Misbehaviour versus mistaken behaviour
- Children’s moral development
- Spanking and time-outs
- Children’s friendships, and
- Real-life guidance.

Mothers in the hands-on condition went through an extensive orientation regarding the guidelines and routines of working with children. Before entering the classroom to practise positive guidance, their role was explained and they learned the daily routine. They were required to talk with the lead teacher at the beginning and end of the class to go over their progress and discuss any questions they had about particular situations that had arisen.

For the present follow-up study, only mothers who were in the ‘hands-on’ condition, as well as the early childhood professionals who supervised them, were contacted by email informing them of the study. Included in the email was a link to an anonymous online survey. Participants were asked to avoid identifying other parents, teachers, children, or classrooms in the study. Our original study found that mothers in the hands-on group incorporated more positive guidance in their parenting compared to mothers in the seminar-only condition (Saunders, McFarland-Piazza, Hazen-Swann, Burton, & Jacobvitz, 2012).
Measures

Parent survey. The online parent survey took approximately 10 minutes to complete and contained four open-ended questions: (1) In what ways did you get support from the early childhood teacher in the classroom? (2) What benefits did you gain by using the early childhood teacher as a support in your learning positive guidance? (3) Were there any negative aspects or challenges of utilising the early childhood teacher as a support in your learning positive guidance? If so, please explain, and (4) In general, do you see the early childhood teacher as having a role in supporting parents in the use of positive guidance? If so, in what ways? If not, why not?

Early childhood professional survey. The intent of the online survey for the early childhood professionals was to gather information about their experiences of acting as a mentor in supporting parents in the use of positive guidance. The survey took approximately 10–15 minutes to complete, and contained seven open-ended questions: (1) In what ways did you support parents in the use of positive guidance in the classroom? (2) What benefits did you gain from providing support to parents in positive guidance? (3) What benefits do you think the parents gained from being supported by you in the use of positive guidance? (4) Were there any negative aspects or challenges that you experienced as you supported parents in their use of positive guidance? (5) In general, do you see the early childhood professional as having a role in supporting parents in the use of positive guidance? If so, in what ways? (6) What aspects of your undergraduate program prepared you for working with parents in the use of positive guidance? and (7) Can you think of anything that could have helped prepare you better for working with parents in the classroom?

Results

Data was analysed based on the idea of phenomenology, which holds that important knowledge can be gained through the understanding of others’ experiences (McMillan & Wergin, 2006). We wanted to understand more about the early childhood professional’s role in supporting parents in the use of positive guidance, through the eyes of both early childhood professionals and parents. The data was analysed using Grounded Theory, whereby theory is generated inductively from the data (Punch, 2005), as the intention was to discover new constructs or theories related to our research focus. First, analytic induction was used to develop the themes and properties that emerged from the open-ended survey responses. Analytic induction is the ‘systematic examination of similarities between cases to develop concepts or ideas’ (Punch, 2005, p. 196). The survey responses were coded using the principles of the Constant Comparative Method (see Bogdan & Biklen, 1998; Glaser & Strauss, 1967; Strauss & Corbin, 1999). Coding was done by the two lead researchers. A process of ‘open coding’ was used, which is ‘the process of breaking down, examining, comparing, conceptualizing, and categorizing data’ (Strauss & Corbin, 1999, p. 61). Each researcher read the transcripts and took notes about themes that were prevalent in the responses of the early childhood professionals and the parents. The two researchers then met to discuss their initial notes and look for commonalities. Common aspects of the survey responses were categorised initially into lower-level properties. As these codes were checked and re-checked against the initial or early codes, the researchers were able to identify three major themes: ‘guidance in action’, ‘home and classroom environment’, and ‘relationships’. Table 1 shows the themes and contributing properties.

Table 1. Themes and properties describing mothers’ and early childhood professionals’ experiences

<table>
<thead>
<tr>
<th>Themes</th>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guidance in action</td>
<td>Modelling</td>
</tr>
<tr>
<td></td>
<td>Feedback</td>
</tr>
<tr>
<td></td>
<td>Support</td>
</tr>
<tr>
<td>Home and classroom environment</td>
<td>Linking</td>
</tr>
<tr>
<td></td>
<td>Discontinuity</td>
</tr>
<tr>
<td></td>
<td>Values</td>
</tr>
<tr>
<td>Relationships</td>
<td>Team approach</td>
</tr>
<tr>
<td></td>
<td>Empowering</td>
</tr>
</tbody>
</table>

Guidance in action

Many of the parents and early childhood professionals indicated that the interactive nature of the guidance education program was beneficial for parents’ learning of positive guidance techniques. The three properties of ‘modelling’, ‘feedback’ and ‘support’ are described along with some examples of supporting quotes.

Modelling. Many of the early childhood professionals said they modelled positive guidance within the classroom instead of using direct instruction. They found this to be an effective way of helping parents to understand the philosophy behind positive guidance, and see it work in action:

*My main focus was modelling the use of positive guidance.*

They could see guidance working with children and understand how to do it in a hands-on way.

Parents also indicated that watching the early childhood professional use positive guidance with the children was a significant factor in their own learning:
It really helps me to see how the teachers handle different situations.

Primarily by modelling positive guidance, they provided a good template to mirror.

Feedback. Many of the early childhood professionals stated that, in addition to modelling, answering parents’ questions about guidance and giving them feedback were ways of helping parents learn the techniques:

I answered questions the parents had in the classroom, and I gave feedback to parents about their interactions with the children.

Parents asked questions about situations they had handled—whether I had advice for what to do that might be more successful.

Parents also stated that having the early childhood professional available to discuss guidance issues contributed to their learning:

It was helpful to not only watch the teacher during the class, but also have her to ask questions about specific situations.

Sometimes when you are in the middle of a certain situation it is really hard to see the different ways you could approach it. When you have a professional to talk to about it they can help you step back and see the different ways to handle different situations.

Support. Many of the early childhood professionals and parents mentioned that support through the parental learning process aided that learning.

They were supportive, they would answer your questions and seem to understand you were training and it was hard to get it right. (Parent)

Not only did the parent see the application of a positive guidance technique but I hope the parent felt a sense of support. (Early childhood professional)

Home and classroom environment

In their responses to the survey questions, many of the early childhood professionals and parents discussed the home and classroom environments. While there could be some continuity between the two environments in how positive guidance is implemented, there are also differences in the two. Continuity and discontinuity between positive guidance and parental values about discipline was also discussed. The three contributing properties—‘linking’, ‘discontinuity’ and ‘values’—are discussed below.

Linking. It was frequently mentioned by both early childhood professionals and parents that a major benefit of the parenting program was that links between the home and classroom environments could be seen.

Through their work with the early childhood professional in the classroom, parents were able to see how they could implement positive guidance techniques when certain behavioural situations occurred at home.

The ecp [early childhood professional] shows how positive guidance works in the classroom and shows that it could be successful at home also. (Parent)

We often talked about how positive guidance might apply to their own relationships with their children. (Early childhood professional)

Discontinuity. While many of the parents recognised that the positive guidance techniques used in the classroom could also be used in situations at home, some described aspects of difference:

They seemed too trained, a little bit far from the real human, they did not seem very spontaneous and when we did the experiments where the teacher was not there, a few kids got too wild! It seems spontaneity is important to the kids and the atmosphere in the classes was somehow cold.

A classroom environment instead of a home environment also helped a lot—but I was sometimes frustrated that I can’t make my home a ‘classroom’ environment—but I also now accept that it really shouldn’t, and can’t, be.

Home environment is very different than school/childcare environment. I learned and observed in the childcare environment, but only used what I felt was appropriate for the home environment. The main difference being the ‘Mommy playmate’ vs ‘Teacher’, who directs self-play or social play with other classmates.

Values. It was recognised by some of the parents and early childhood professionals that, while positive guidance is the preferred discipline approach in many early childhood classrooms, parents often have different personal or cultural values related to discipline.

Some of the rules are very different from what society says you should do and it was hard to break from these rules (time out, over-praising, etc.). (Parent)

The more parents were philosophically in line with the ideas of positive guidance, the easier it was for them to learn and adopt the techniques. It was much harder to support parents whose ideas about discipline were more divergent. (Early childhood professional)

Some parents still felt that their children had behaviours that positive guidance just would not work on. (Early childhood professional)

The challenge is in remaining supportive of parents.
even when they drastically differ in their approach to their children’s behaviours. Rather than strive for the ideal for every family (i.e. all families use positive guidance all the time), it’s important to consider family culture, how parents were raised, goals that families have for their children, etc. and offer strategies that will help parents meet their goals in ways that are developmentally appropriate for their children. (Early childhood professional)

Relationships

Parents and early childhood professionals both frequently mentioned that strengthening the parent–teacher relationship was an important feature of the parent education program. Taking a team approach to children’s guidance issues was viewed as being beneficial to all involved. Also, several early childhood professionals discussed the need to empower parents to guide their children, as well as empower themselves by building confidence in their abilities to work with parents and children.

Team approach. Participants’ responses indicated that they believed the early childhood professional could be a valuable resource for parents in the use of positive guidance. Working together as a team was considered particularly important.

I feel that when both the parents and the childcare professionals are on the ‘same page’, communication becomes clear and issues can be recognised, discussed and actions (if necessary) be taken in a less stressful manner. (Parent)

Early childhood professionals provide a second home for many children. And they are very much like surrogate parents; they spend heaps of time with the children and absolutely fall in love with them. There is such an opportunity for early childhood educators and parents to team on an individual they both hold dear. (Early childhood professional)

Empowering. Several of the early childhood professionals stated that working with parents so closely on guidance issues made them feel more confident and empowered as professionals:

Being a positive guidance role model keeps me fresh and on top of my game. I have to revisit the basics constantly and this causes my foundation in guidance to stay strong. By talking about guidance, it strengthens my own learning and understanding. (Early childhood professional)

The need to empower parents and build their confidence in using positive guidance with their children was also mentioned by early childhood professionals as being important:

It’s important to empower parents rather than lose parents—if we can help a parent who hits their child to use time-out instead, great!—even though ideally we’d like them to use their child’s behaviour as an opportunity to teach their child a more successful strategy.’

Preparation for working with parents on positive guidance

We also asked the early childhood professionals what aspects of their undergraduate or graduate program prepared them to work with parents and what they thought could have better prepared them. Some stated that, although they did not receive training specifically on working with parents, they did learn how to do so through practical experiences and by observing other early childhood professionals during their undergraduate or graduate study:

As a graduate student I saw others work with parents and supervise undergraduates, so through that modelling I could apply knowledge to my own work with parents.

I feel the hands-on experience I received during my education most prepared me for working with parents in using positive guidance. This hands-on experience gave me practical experience and practical ways I could use as a professional when working with parents.

When asked about how they could have been better prepared for work with parents, several of the early childhood professionals stated that more direct practice would have been helpful:

Practice working with parents. Just like I got to practise working with children, it would have been nice to have opportunities to practise working with parents (overseen by a mentor).

Possibly a little bit more training on specifically how to work with parents. I more learned as I went and didn’t feel as if I had received specific training on how to work with parents.

Discussion

This study examined mothers’ and early childhood professionals’ experiences of their participation in a hands-on parenting program in which early childhood professionals mentored and supported parents in the use of positive guidance. Research questions focused on the benefits and challenges as well as ways professionals can most effectively support parents in this area. We also examined early childhood professionals’ perspectives on how teacher education programs could have better prepared them to work with parents. Using Grounded Theory and the constant comparative method, themes and contributing
properties were identified from survey responses in order to answer the research questions. The theme of ‘guidance in action’ describes the most effective way that early childhood professionals were able to support parents in their use of positive guidance. The contributing properties of ‘modelling’, ‘feedback’ and ‘support’ describe how parents were able to learn more than they would have if they were not able to interact with the early childhood professionals in such a way. Observing and receiving supportive feedback was described as being the most effective element of parents using and understanding positive guidance themselves. This finding supports other research suggesting that interactive and hands-on practice is an effective way for pre-service teachers to learn positive guidance techniques (McFarland, Saunders & Allen, 2009). However, our study focused specifically on the use of positive guidance by parents and was unique in involving childhood professionals as mentors.

The theme of ‘relationships’ describes the main benefit cited by early childhood professionals of supporting parents in positive guidance. The contributing properties of ‘team approach’ and ‘empowering’ suggest that when early childhood professionals and parents work together, both feel empowered. This sense of empowerment is important for parents’ confidence in their ability to respond to their children’s challenging behaviours (Stonehouse, 1994). It may also build early childhood professionals’ confidence in their practice as well as their ability to positively impact on the parent–child relationship. As found in other studies, relationships between families and early childhood professionals benefit everyone involved, most importantly children (Christian, 2006).

The theme of ‘home and classroom environment’ describes both a benefit and a challenge to early childhood professionals supporting parents in the use of positive guidance. The contributing property of ‘linking’ suggests that parents were able to make some links between the use of positive guidance in the classroom to particular situations at home with their own children. However, the contributing properties of ‘discontinuity’ and ‘values’ suggest there were challenges in the linking of home and classroom environments. Some participants described the home and classroom environments as being quite different; so much so that they did not feel that positive guidance could always be used in the same way in home situations. Some parents felt that the home environment should be more relaxed and playful compared to the ‘professional’ classroom environment. Some participants also suggested that the positive guidance approach used in the classroom may contrast with some parents’ personal or cultural beliefs about discipline, as well as some of the values about discipline held by the wider society. This is important for early childhood professionals to remember as they work with parents; respect for personal and/or cultural beliefs is essential.

The themes and contributing properties that emerged in this study can also be interpreted using Bronfenbrenner’s Ecological Systems Theory, which emphasises the multiple influences on children’s development. In this model of children’s development, different environments in which children interact (e.g. preschool, a neighbour’s house) are separate microsystems. When these microsystems overlap, a mesosystem is created (Bronfenbrenner, 1979). When the people involved in the child’s mesosystems work supportively together, children may be better prepared to thrive in other microsystems (Bronfenbrenner, 1979). The themes of ‘guidance in action’ and ‘relationships’ describe how the early childhood professional can support parents in guiding their children’s behaviour, which has benefits for children. The theme of ‘home and classroom environment’ suggests that, while there is some overlap between the two environments, they are also separate, with their own rules and values.

This study also examined early childhood professionals’ perspectives on how they were prepared in their university programs to work with parents. None of our participants had received specific training in this area, although some said they learned by watching others interact with parents. Some participants said they could have been better prepared for work with parents by receiving more direct training and practice. This finding is consistent with other research suggesting that teachers often feel under-prepared for their work with parents (Bennett et al., 2006), and they receive little pre-service training in this area (Christian, 2006). Other studies have found that direct experience interacting with parents throughout pre-service coursework can be beneficial in building the confidence of pre-service teachers in their ability to build relationships with parents (McFarland & Lord, 2008).

The present study has some limitations. The sample size was small, thus results must be interpreted cautiously. Although we aimed to include all participants from the original study, the response rate was less than half for both parents and early childhood professionals. Also, the mothers in our sample were generally highly educated and had high incomes. Additionally, the parenting intervention occurred in a model university laboratory school with small class sizes and excellent teacher–child ratios. Future research could examine how early childhood professionals could mentor parents in positive guidance in more typical classroom settings. Future research could also explore ways for early childhood professionals to connect with and support families who have their own ways of managing children’s behaviours. By bridging the communication
gap and creating genuine rapport, it may be possible for families whose beliefs are very different from positive guidance to learn from as well as teach the early childhood professionals who care for their children.

Despite the limitations, this study contributes to the literature on parent–teacher relationships and parent-education programs by suggesting ways in which these two areas can overlap. Results from the study can be applied to both parent education program design and early childhood professionals’ work with families. Results also highlight the need for more emphasis on working with parents in teacher education programs. Additionally, these findings are particularly useful for cooperative (co-op) childcare programs, common in the United States, where parents work in classrooms on a regular basis under the guidance of early childhood professionals.

Early childhood professionals and parents have an opportunity to be a resource for one another. Because parents and teachers alike are concerned about the development of the same children, it is essential that the two find common ground to work together as a team. By sharing knowledge, education, and family culture with one another, early childhood professionals and parents, together, can positively impact on the development of the children in their care.

References


Introduction

The plethora of research in early childhood has framed advocacy as the actions that empower or protect the best interests of children (Gibbs, 2003; Smith, 2007). Various educational researchers have acknowledged the importance of early childhood educators (hereafter referred to as educators) in advocating for children’s rights (Boylan & Dalrymple, 2006; Kieff, 2009). However, little research has focused on educators’ capacities for advocacy beyond these parameters (Covington Soul, 2005) to include stakeholders such as families, colleagues, communities, students, employers, researchers and other professionals. Additionally, while researchers have explored the low status of the Australian early childhood profession (see Ashton & Elliott, 1995; Hayden, 1994; Nupponen, 2006), few have focused upon educators’ perceptions of advocacy in raising the professional status.

Various researchers have highlighted the magnitude of functions performed by educators in multi-layered contexts. In accordance with the diversity of internal and external contexts (Ebbeck & Waniganayake, 2003), advocacy can be defined by manifold behaviours that individuals or organisations execute in order to elicit recognition or support to change practices (Bown, 2009).

Contextual characterisation of advocacy

Traditional literature has focused primarily on educators advocating on, for and with children within the internal workplace (Couchenour & Dimino, 1996), specifically characterising advocacy as functions completed for children with additional needs, from culturally and linguistically diverse backgrounds, or from low socioeconomic circumstances (Boylan & Dalrymple, 2006). Cheeseman (2007) has argued that advocacy in Australia has been framed as a tool for social intervention, which negates the ill effects of social inequities, abuse, discrimination and isolation. Such views, as Cheeseman (2007) has noted, disregard the potential benefits that early childhood education and educators universally engender.

Conversely, within external contexts, advocacy has been associated with individual and collective leadership (Rodd, 2006; Waniganayake, 2002). For the purpose of this paper, leadership is defined as the amalgam of aptitudes, roles, responsibilities, strategies and understandings actively used to guide, direct and envision professional practice by individual(s) in positions of power within relational systems (Rodd, 2006). While various researchers have hypothesised that policy initiatives are pertinent for successful advocacy, some have noted the limited prevalence of...
educators’ viewpoints in the media (Hayden, 1994, 1997a) and within the socio-political arena (Bown, 2009; Sumison, 2006). Accordingly, this article will focus primarily on the perspectives of educators to build up an accurate profile of the phenomena in question, as practitioners themselves experience it.

Socio-historical underpinnings

Historically, there have been no national standards or frameworks to guide early childhood practices across Australia (Brennan, 2007). Recently, however, under the auspices of a national agenda, the Council of Australian Governments (COAG) has put forward a range of strategies to guide early childhood practices (Productivity Commission, 2011). As such, the current early childhood landscape shows a variety of new initiatives, including: the national Early Years Learning Framework (EYLF), universal access to early childhood education, the Early Years Workforce Strategy, National Quality Standards (NQS), National Partnership Agreement on Early Childhood Education (NPA ECE) and a national Early Childhood Development Strategy (DEEWR, 2011).

As a result, the current portrait of advocacy in early childhood is complicated by an amalgam of factors at varying contextual levels. Specifically, in terms of educators in long day care (LDC) settings, the Productivity Commission (2011) has suggested that the aforementioned changes will impact on: child: staff ratios, wages, training and professional development, and further lead to increased demands for qualified practitioners. Accordingly, although the current research was conducted within NSW, the recent unification of early childhood initiatives render research implications relevant to LDC settings across Australia.

The aim of the current research was to inductively ascertain educators’ perceptions of advocacy in raising the professional status with multiple stakeholders in diverse contexts. Accordingly, three research questions were devised:

1. What are educators’ understandings of advocacy in multiple contexts with diverse stakeholders?

2. What are educators’ perceptions of power in various contexts with diverse stakeholders?

3. What are educators’ self-perceptions of their professional status and how do they perceive themselves to be viewed by internal and external stakeholders in various contexts?

For the purpose of this article, the focus will remain on the first question alone to draw out critical considerations and overviews of educators’ perceptions and experiences of advocacy.

Methodology

This qualitative study used a predominantly phenomenological approach. The integral aim of phenomenology is to ‘disclose and elucidate the phenomena of behaviour as they manifest themselves in their perceived immediacy’ (Moustakas, 1994, p. 13). Through this design, both qualitative and quantitative methods for data collection were used to gain multiple insights into educators’ perceptions (MacMillan, 2004). As research has highlighted the lack of practitioners’ viewpoints within educational literature, the current study used two in-depth interviews, artefacts and a mosaic (see Appendix 1) to elicit understandings of advocacy as experienced and perceived by participants.

Sampling and recruitment

Purposeful sampling was used to elicit in-depth data from participants. Indirect snowball sampling was used to recruit 12 educators working full-time in LDC centres across Sydney, NSW. Four diploma-trained educators (one or two years training), four degree-trained educators (four years training) and four directors (minimum four years training) participated in the study. These three groups of educators were purposefully recruited to reflect the staffing variability in LDC settings and to gain multiple viewpoints from those employed in various positions.

Measures and instruments

Two in-depth, semi-structured interviews were used to extend ‘beyond the subjective experience of individuals to describe underlying structures or essences in that experience’ (Sharkey, 2001, p. 19). The first interview elicited demographic information, a history of participants’ careers and their rationales for becoming educators. Further questions deduced participants’ occupational environments, career aspirations, perceptions of professional status and definitions of advocacy and power. The second interview was conducted after the completion of the mosaic and the collection of artefacts. This interview investigated educators’ perceptions of advocacy within macro-contexts while subsequently exploring capacities for utilising power and leadership to advocate for professional status.

Moreover, because the contexts of experiences are as significant in shaping participants’ perceptions of events as the phenomena themselves, artefacts such as professional development records, workplace policies and job descriptions were collected. MacMillan (2004) has suggested that such artefacts enable researchers to detail the background of participants’ experiences, thereby increasing internal validity by diminishing the potential effects of researchers’ subjectivities (Coleman & Unrau, 2005).
In order to quantitatively substantiate the research, a numerical layer of data was collected through participants’ completion of a mosaic (see Appendix 1) that recorded the frequency, range and type of advocacy actions participants completed over a week. Through mapping educators’ advocacy actions, commonalities and differences between educators’ interactions with children, families, colleagues, the community, and the self as a professional were portrayed.

Data analysis

Von Eckartsberg (as cited by Moustakas, 1994, pp. 15–16) has described data analysis as the process whereby ‘data are read and scrutinized so as to reveal their structure, meaning, configuration, coherence, and the circumstance of their occurrence and clustering’. Data from the interviews and artefacts was analysed with the use of QSR NVivo Version 8. During this process, data was first thoroughly read, then each statement was analysed separately before being grouped into units of meaning (Moustakas, 1994). Coleman and Unrau (2005) have suggested that, by displaying data graphically through software such as QSR NVivo Version 8, researchers are able to organise data in ways that provide consistency of categorisations. Bazeley (2007) has further suggested that the use of such software enables researchers to sort, match and link data, thereby increasing internal validity by providing clear rationales for coding. As the purpose of the mosaic was to elicit simple numerical summaries, data from the mosaic was analysed using Microsoft Excel. Numerical summaries detailing the range, frequency and type of advocacy actions were calculated and graphically portrayed before being crosschecked for accuracy to reduce the likelihood of human error.

Once these multiple forms of data had been organised into broader themes, additional thematic analyses were conducted following role differentiation in order to discern similarities and differences between the perceptions of directors, degree- and diploma-trained participants. Demographic data concerning participants’ age, qualifications and experiences were further used during analysis. Educators’ perceptions and experiences were thematically compressed to ‘develop an overall description of the phenomena’ (Leedy and Ormrod, 2005, p. 140).

Results

Results from the interviews, artefacts and mosaics were analysed thematically and synthesised into categories and sub-categories surrounding the three focal questions regarding advocacy, power and professional status. Findings from the study are discussed below.

Participants’ perceptions of advocacy

Participants’ perceptions of advocacy were coded under the categories ‘external’ and ‘internal’ according to participants’ definitions. Responses were characterised as ‘external’ if participants defined, completed or attributed advocacy as actions occurring within external contexts (outside of participants’ immediate workplace), involving public relations, lobbying and activism. Analyses revealed that directors completed external advocacies more frequently than did degree- and diploma-trained participants (Figure 1).

Figure 1. Percentage of advocacy actions completed by participants in external contexts

External advocacy

Demographic data revealed that three of the four directors belonged to a union, in comparison to one of the eight degree- and diploma-trained educators. Three of the four diploma-trained educators perceived that the directors of their settings held the power to advocate. Degree-trained educators similarly related power hierarchically to directors, licensees, major organisations and regulatory bodies. Congruently, directors perceived early childhood organisations, political figures and government personnel to hold the power to advocate within the profession.

Internal advocacy

If participants aligned advocacy as interactions occurring within the immediate context, these responses were characterised as ‘internal’. This involved ‘trying to get the best for the children and the family’ (Participant 2), as well as empowering staff, colleagues and other personnel in the centre. Accordingly, all 12 participants prioritised internal functions, noting: ‘You have to be there for the staff, families and children’ (Participant 3) (see Figure 2).
Analyses of frequencies found the five most frequently completed advocacy actions by all participants were predominantly ‘internal’, whereas the five least completed were ‘external’ (see Table 1).

Table 1. Highest and lowest frequency of advocacy actions

<table>
<thead>
<tr>
<th>Highest frequency</th>
<th>Lowest frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Praise children’s achievements</td>
<td>1. Contribute to public policy in the sector</td>
</tr>
<tr>
<td>2. Inspire a love of learning in children</td>
<td>2. Engage with upcoming legislations</td>
</tr>
<tr>
<td>3. Praise or support a colleague</td>
<td>3. Engage in policy development</td>
</tr>
<tr>
<td>4. Listen to families’ concerns and provide useful information</td>
<td>4. Look at the Code of Ethics for dilemmas</td>
</tr>
<tr>
<td>5. Delegate tasks to colleagues</td>
<td>5. Participate in a union</td>
</tr>
</tbody>
</table>

Notably, of the five least frequently completed advocacy actions, directors’ engagements were considerably higher than those of other participants (see Table 2). Significantly, two of the diploma-trained participants said they were uncertain of the meaning of the term ‘advocacy’. Demographic data revealed that these two participants were the least qualified and had the least experience of teaching (five years or less).

Discussion

As the current study sought to examine educators’ perceptions of advocacy in raising professional status, the consistency of findings is measured against current literature. Implications for findings and future research are addressed within the frame of the Australian context.

Educators’ understandings of advocacy

Consistent with prior research, educators within the current study provided generalised definitions of advocacy that were principally related to children (Boylan & Dalrymple, 2006; Buysse & Wesley, 1993; Smith, 2007; Stone, 1995). Two of the four diploma-trained educators were unaware of the meaning of the term ‘advocacy’. The two diploma-trained participants who were aware of the term acknowledged that their understandings of advocacy were formed by their current involvement in tertiary education courses. It could therefore be interpreted that educators’ definitions of advocacy are framed by academic rather than experiential engagements.

However, the pursuit of academic attainment for LDC practitioners is problematised by various factors, specifically, as the Productivity Commission (2011, p. 85) has noted:
ECEC [early childhood education and care] service workers have continuously busy working conditions due to the nature of work, however this means little to no time for professional development unless undertaken outside of work hours and usually at the cost of the employee. This presents problems in up-skilling the workforce on current and emerging regulations and maintaining good practice within the workplace.

Additionally, as Legg (2011) and the Productivity Commission (2011) have stated, the ‘regulatory burden’ of the current reform agenda will further subtract educators’ daily time, energies and resources.

Overall, this study found educators perceived that they influenced internal stakeholders but were reluctant to access and utilise power in external contexts. Consistent with earlier research by Covington Soul (2005), this study revealed that participants ‘equated advocacy with power … [as] the areas in which they felt they had the most power, for example in their classrooms, were the areas in which the teachers took the most advocacy actions’ (Covington Soul, 2005, p. 70). Congruent to prior research (Covington Soul, 2005) this study highlighted the participants’ ambivalence towards power.

Ambivalence towards power
Consistent with earlier research, the current study found that educators’ ambivalence towards power was characterised by their simultaneous reluctance to access power (Nupponen, 2006; Waniganayake, 2002), and their use of power to complete internal advocacies for children, families, colleagues and the self as a professional (Covington Soul, 2005; Hayden, 1997b). It could be construed that this ambivalence is a by-product of ‘the discourse of niceness [that] continues to pervade images of what is required of ECEC personnel’ (Hard, 2006, p. 43). Conversely, in accordance with Sumson (2006), it may be inferred that educators’ externalisation of advocacy and power to those in hierarchically senior positions has occurred as educators have preferred ‘reactive, rather than proactive’ (Sumson, 2006, p. 4) approaches to managing change. Potentially, the use of reactive approaches has limited educators in collectively advocating within the overarching professional context.

Differences between degree- and diploma-trained educators’ and directors’ perceptions and engagements with advocacy
There were notable differences between directors’ and degree- and diploma-trained educators’ advocacy engagements and perceptions. While degree- and diploma-trained educators perceived directors to be advocates for the profession, directors predominantly perceived early childhood organisations and the government to hold power as advocates. This infers that ‘directors who are in positions of authority and influence have not … perceived the importance and relevance of their position as promoters of … the industry in general’ (Hayden, 1997a, p. 42).

Limitations of the present research, implications for future research, and suggested recommendations for practice within the sector are addressed below.

Limitations
Limitations of the research included the paucity of time, resources and participants, and the limited experience of the researcher. However, various measures were adopted to ameliorate these issues. In line with phenomenological methodology, to negate the possibility of researcher bias, the researcher engaged in the processes of bracketing to suspend any ‘preconceived notions or personal experiences that may unduly influence … the researcher’ (Leedy & Ormrod, 2005, p. 139). Additionally, although snowball sampling was used to secure participants (McMillan, 2004) within NSW, no more than one educator per setting was eligible to participate. Moreover, an equal number of diploma- and degree-trained educators and directors were chosen for the purpose of variance.

Implications for future research
As the current study was conducted within NSW and encompassed a limited sample size, a noteworthy implication for future research would be to recruit a larger sample size across Australia, and to include multiple stakeholders in early childhood settings. By investigating multiple viewpoints, such as the perspectives of unqualified staff, family members, community members, governments, peak organisations, employers and unions, views that are scarcely reported would be revealed.

This study found that directors, degree- and diploma-trained educators varied in their completion of advocacy actions. Therefore an implication for future research could include the use of researcher observations to investigate professionals’ advocacy engagements (McMillan, 2004). Additionally, research could involve the examination of the relationship between educators’ advocacy engagements and their levels of education.

Recommendations for practice
As the study found that educators externalised advocacy and power to hierarchically senior personnel, the provision of in-service and pre-service training is paramount. This is supported by recommendations from the current Productivity Commission draft
report on the early childhood workforce (Productivity Commission, 2011). Accordingly, it is suggested that tertiary institutions inform prospective educators about the value and process of advocacy, particularly in the training of diploma-qualified educators. Moreover, it is suggested that minimum standards and registered training officers (RTOs) be used to instruct pre-service educators. Specifically, it is recommended that advocacy be characterised as core functions and roles completed by educators themselves, both within and outside the immediate workplace setting.

Furthermore, the synthesis of an operational definition of advocacy specific to early childhood contexts is also recommended. Significantly, as previous researchers have highlighted the lack of collective advocacy used by educators (Lyons, 1996; Taylor, 2000), inter-governmental entities or peak organisations could collectively address cross-sectoral considerations and ultimately let ‘teachers themselves ... take a leadership role in reclaiming the agenda of professionalism’ (Sachs, 1997, p. 264).

**Conclusion**

The purpose of the study was to investigate educators’ perceptions of advocacy in raising professional status. It found that educators perceived they had an influence on internal stakeholders but externalised professional considerations to stakeholders in wider socio-political contexts. This finding deduced that educators displayed ambivalence towards power; therefore it is suggested that educators engage collectively to gain power in advocating for their professional status.

**References**


Appendix 1. The advocacy mosaic
Early childhood professionals and inter-professional work in integrated early childhood services in Australia

Sandie Wong
Jennifer Sumsion
Frances Press
Charles Sturt University

A GROWING BODY OF LITERATURE argues that integrated services, where a range of professionals including early childhood professionals work together in teams, offer a potentially highly effective strategy for providing families with access to a range of services in a seamless ‘joined-up’ way. Some have cautioned, however, that early childhood pedagogy and professionals within such hybrid services are in danger of being marginalised. Despite the growing literature suggesting strategies for supporting inter-professional teamwork in integrated services, there are relatively few empirical studies of how such teams operate in practice in Australian contexts. This paper reports on findings from a project funded by the Professional Support Coordinators Alliance (PSCA), that investigated, through a survey ($n=25$) and case studies ($n=10$), the experiences of professionals in integrated services across Australia and their perspectives on factors that contribute to the success of these services and to inter-professional working. The findings indicate that the early childhood professionals who participated in the study are generally optimistic about these services and about working in inter-professional teams.

Introduction

Growing recognition of the complexities of parenting has highlighted the need for families to have access to a range of childcare, health, and/or intervention services. Currently, many services ‘stand alone’, making it difficult for them to respond effectively to the diverse and often multiple needs of families, and leaving families to negotiate a complex and sometimes confusing service delivery system (Moore, 2008). As a means of remedying this problem, governments, policy experts and advocates from early childhood, health and welfare have expressed great confidence in integrated early years’ services that offer a range of programs for children and families—generally including early childhood care and education along with health and/or family support programs.

Numerous policy initiatives that support the development of integrated services have emerged internationally and in Australia. In the United Kingdom, for example, Children’s Centres provide ‘… fully integrated early childhood education and care for children, child and family health, family support and outreach education services for parents’ (Whalley, 2006, p. 8). Similarly, in Canada, the Toronto First Duty program has consolidated community services for children and families, including an early learning, care and parenting program for every young child, into a single integrated service (Toronto First Duty, 2006, n.p.). A review of the websites and Annual Reports (2007/08 and 2008/09) of Australian Commonwealth Government and Australian state and territory government departments responsible for the provision of early childhood services, reveals that in Australia there is a commitment, to a greater or lesser extent, to integrated service delivery. For example, the Australian Government’s Agenda for Early Childhood states that it ‘focuses on providing Australian families with high quality, accessible and affordable integrated early childhood education and care’ (DEEWR, 2010), while the Tasmanian framework states that the ‘integration of services across agencies and organisations should take place to create holistic environments for young children and their families’ (Jenkins, 2005, p. 17).

Policy interest has been accompanied by a rapidly growing body of literature about integrated services. Much of this literature focuses on the potential of integrated services

---

1 Integrated child and family services can operate on a number of different models. For instance, they may be co-located, as in ‘one-stop-shops’, or virtually integrated as in the case where services are located in different places—but there are strong links between services, and child and family access is actively facilitated. Integrated child and family services can also be a hybrid, having some co-located services and other virtual aspects. They may be managed by one single auspicing body or be an amalgamation of several different organisations. In Australia, Canada and the United Kingdom integrated child and family services are often provided or supported by governments and tend to be in areas of disadvantage. In some cases they are located on or near schools.
to offer efficient and effective ways of meeting the needs of children and families, especially those dealing with multiple challenges. Corter, Patel, Pelletier and Bertrand (2008, p. 775), for instance, argue that integration facilitates continuity. Citing Saracho and Spodek (2003), they note that continuity has a horizontal dimension (‘the child and parent move across settings at one point in time’) and a vertical dimension (the child’s development over time) (Corter et al., 2008, p. 775). Greater continuity can mean fewer transitions for the child, more recognition of the child’s individual needs, better and more consistent programming, and more consistent expectations and support from adults (Corter et al., 2008, pp. 775–6). Other potential benefits for children and families are said to include easier access to services, access to accurate information in a timely manner, prompt recognition of developmental concerns and prompt referral to required intervention); and for services, the potential for pooling resources, less duplication of services, more efficient administrative procedures and reduced costs (Corter et al., 2008; Moore, 2008).

At the same time, there has been an emerging critique of the arguably uncritical support for integrated services. One aspect of this critique focuses on their possible, unintended, adverse effects, including the potential devaluing of specialist professional expertise. In Australia, for example, Cheeseman (2007) has been particularly forceful in cautioning that the shift in focus in early childhood services towards health- and welfare-based early intervention may marginalise early childhood pedagogical practices. She argues that in early intervention programs ‘... selective use of particular types of research evidence and reliance on a narrow range of evidence is diminishing the importance of early childhood pedagogies ...’ (Cheeseman, 2007, p. 244). She also contends that: ‘while early childhood teachers may consider themselves influential in the design and delivery of education and care programs, powerful policy agendas are dominating the discourses of early childhood education and care that favour health and welfare imperatives over more comprehensive and pedagogically driven possibilities’ (p. 244).

Cheeseman goes on to assert that ‘the silence of pedagogy is deafening and the absence of early childhood pedagogical voices within these discourses is alarming’ (p. 251).

The findings of a small Australian case study of an early intervention playgroup run by an inter-professional team (Cumming & Wong, 2012) lend some support to Cheeseman’s concerns. Cumming and Wong (2012) found that the early childhood educators brought a range of skills and expertise to the team. Yet ingrained perceptions of unequal professional status, and professional biases that valued the knowledge and expertise of staff from medical/scientific disciplines over educational or play-based disciplines meant that their status within the team was relatively low. It is not possible to generalise from small, ‘one-off’, case studies; however, such findings need to be interpreted with caution. Moreover, conceivably, given the long struggle for recognition of early childhood education and care as a specialist professional field, early childhood educators and their advocates could be unduly sensitive to any changes they perceive might devalue their knowledge and expertise in evolving systems of service provision. Hence moving beyond partial and speculative understandings requires systematic investigation of early childhood practitioners’ experiences of working in Australian integrated services.

This paper reports on a recent national study that investigated factors perceived to contribute to successful service integration in Australia (Press et al., 2010). The study was funded by the PSCA, which had a particular interest in identifying the professional development needs of early childhood practitioners in integrated services. The main aim of this paper is to give an account of the perspectives of the early childhood practitioners and leader/manager participants concerning their experiences of inter-professional work in integrated services and factors that support inter-professional teams. The secondary aim of the paper is to consider, in light of these findings, whether Cheeseman’s (2007) concerns about the possible overshadowing of early childhood educators’ specialist expertise in integrated services appear warranted or unduly pessimistic.

We begin by explaining what we mean by inter-professional work, and briefly review a small selection of relevant literature that has been particularly helpful in scaffolding our thinking. Next, we outline the methods used in the study and some of its key findings. Finally, in light of these findings, we revisit Cheeseman’s concerns.

Inter-professional work: A definition and brief review of literature

Inter-professional work involves collaboration and cooperation by professionals from different disciplinary backgrounds and is a core feature of integrated service delivery (Press, Sumsion & Wong, 2010). In keeping with Malin and Morrow’s (2008) evaluation of Sure Start in the United Kingdom (UK), we use the term ‘inter-professional work’ to encompass multi-disciplinary, inter-disciplinary and trans-disciplinary work. The three terms reflect differences in the extent to which professionals from different disciplines work alongside each other (‘co-exist’); with each other—for example, in sharing information and making joint decisions, while remaining within their respective disciplines; or together to develop new knowledge and skills in ways that transcend disciplinary boundaries (Malin & Morrow, 2008; Press et al., 2010; Siraj Blatchford & Siraj Blatchford, 2009).

Robinson, Atkinson and Downing (2008) reviewed 35 studies of ‘integrated working’ (inter-professional work)
in a range of professional contexts, including children's services, mostly in the UK. Their review highlights the many demands the shift from working within a 'single' professional context to inter-professional working places on organisations and practitioners. For organisations, demands and ensuing challenges are likely to be associated with governance, leadership, organisational culture and ethos, 'frontline' professional practice and team-building (Press et al., 2010). Robinson et al. (2008), for example, emphasise the importance of an organisational culture that fosters mutual respect for different professional knowledge bases and judgement; an appreciation of the complementary strengths of different bodies of specialist knowledge and expertise; and a commitment to structures and processes that assist in maximising synergies between professionals. As Kelly (2003) notes in a report on a study involving social workers in Northern Ireland, organisational ambivalence to inter-professional work can readily translate into minimal efforts by staff to maintain contact and effective communication with colleagues, participate fully in team meetings, or work at addressing the endemic structural and organisational barriers to integration. Even when governance, leadership, organisational culture and ethos are all conducive to inter-professional practice, practitioners face demanding challenges associated with the imperatives to broaden their professional roles and responsibilities, change well-sedimented, traditional practices, and develop new knowledge and skills (Robinson et al., 2008).

Descriptions of specific mechanisms, processes and strategies used to promote organised cultures and practices conducive to inter-professional work abound in the literature and it is not our intent to rehearse them here. Rather, our interest in this paper is in constructs identified in the literature that, collectively, seem to offer a useful scaffold for examining early childhood practitioners' experiences of and perspectives on integrated services in the Australian context. In this section, we briefly discuss four constructs that we consider particularly pertinent: distributed expertise, relational agency, critical reflection, and organisational culture and distinctive service identity.

**Distributed expertise**

Edwards (2009) uses the term distributed expertise to refer to a network of expertise spread across the many knowledge bases and skills of different professions. In contrast to metaphorical 'professional silos' that seek to preserve established practices and interests by demarcating disciplinary boundaries around practitioners (Edwards, 2009), distributed expertise is grounded in assumptions of 'knowledge flows' among professionals from different disciplines. Anning, Cottrell, Frost, Green and Robinson (2006) argue that, when different kinds of knowledge are distributed across and flow freely around an inter-professional team, the team is able to respond flexibly to changing circumstances, requirements and needs. Similarly, Edwards (2009) contends that, when practitioners see themselves as a part of such a network, they are better able to 'look across the lives of vulnerable children, identify the complex components of risk ... and work together to disrupt trajectories of exclusion ...' (p. 38). Importantly, this way of thinking about distributed expertise and knowledge flows can accommodate different models of intervention within an integrated service. It provides a way of conceptualising, for example, how medical models of intervention, based on addressing individual impairments, and social models, based on addressing the effects of discrimination, can co-exist and complement each other.

**Relational agency**

As Edwards (2009) emphasises, realising the potential of distributed expertise and knowledge flows requires relational agency, that is the 'capacity for working with others to strengthen purposeful responses to complex problems' (2009, p. 39). It can be thought of as a kind of inter-professional 'literacy' that enables practitioners to 'look beyond their own professional boundaries to recognise both different expertise and priorities, but also common values' (Edwards, 2009, p. 41). As Edwards (2009, p. 39) explains, exercising relational agency involves a dynamic process of 'offering and accessing expertise', comprising two interconnected stages. Initially, it involves practitioners from different disciplines working together to 'expand' understandings of the task at hand, in part by recognising and valuing the motives and resources other professionals bring to the task and the ways they interpret that task. It then entails drawing on those jointly expanded understandings and interpretations to change the way one approaches the task. Edwards (2009, p. 40) argues that requiring practitioners to recognise and articulate their professional values and expertise, 'working relationally' can enhance their 'sense of themselves as professionals'.

**Critical reflection**

Strongly emphasised in the literature is the need for mechanisms and processes to assist inter-professional teams tease out, critically reflect on, and endeavour to reconcile the inevitable tensions and contradictions arising from different professional knowledge bases, traditions and beliefs, and practices (Robinson et al., 2008). As these give rise to different social constructions of children, families, communities and their relationships with institutions, they have direct consequences for views about what constitutes appropriate priorities and practices (Moss, 2003; Nichols & Juvantsuu, 2008). Moss (2003) maintains that, for this reason, an understanding of different professional cultures and traditions is essential for professional interdependence. He emphasises the
need for practitioners to critically reflect on ‘what may seem abstract areas such as culture, tradition and social construction because they can help us understand potential obstacles [in relation to moving towards full integration] as well as how these might be overcome’ (p. 29). Through collective engagement in critical reflection, he contends, it is possible to address crucial issues such as perceived differentials in status and power, different social constructions, priorities, views about appropriate practices, and their flow-on effects. As Moss cautions, ‘Rather than one culture colonising the other, the search must be on for a new shared culture and understanding’ (p. 29).

Organisational culture and service identity

Accounts of successful integrated services frequently highlight the importance of the organisational culture and distinctive service identity, in part, as manifestations of collective ownership and commitment (Robinson et al., 2008). In her exploration of inter-professional collaboration in child mental health care, Ødegård (2006, p. 8) refers to organisational culture as ‘shared basic assumptions’ that are ‘taught to new members as the correct way to perceive, think and feel’, especially in relation to problems facing the group. We suggest that shared values and patterns of behaviour are also significant (Vecchio, Hearn & Southey, 1994). Influenced by Rhodes, Scheeres and Ledema (2010), we use the term ‘service identity’ to refer to how those within the service describe the service, what it stands for, the practices that are taken up within it, and the meanings with which those practices are infused. Broadhead, Meleady and Delgada (2008), for example, describe the evolution of the Sheffield Children’s Centre in England as a ‘heartland’ for its community and a catalyst for social change, with the centre’s identity strongly grounded in a shared commitment to valuing and fostering diversity. They contend that a sense of connectedness, unity and self-belief directly contributes to the solidarity and strength they consider so crucial to the centre’s success. Aylward and O’Neil (2009) describe a similar sense of group identity in an Australian intervention project, based on a joint commitment to a specific model of professional practice. According to Aylward and O’Neil, service-wide acceptance that ‘this is how we do things here’ (p. 25) has played a crucial role in the emergence of a team culture.

We return to these constructs when we report some of the key findings of the national study. Before proceeding, we outline the methods used in the study.

Methods

Following ethical clearance, data were gathered via a national survey of integrated services and case studies.

Survey

A questionnaire was developed which included items related to the description of the service (e.g. size and location, length of operation, demographics of clientele, services offered, organisational structure, and qualifications of the coordinator) and open-ended items designed to elicit respondents’ ideas about factors they considered enhance and inhibit successful integrated provision (e.g. What within your service supports effective integrated service provision?). Our initial intention to survey all integrated services in Australia was confounded by the lack of an extant database of such services, and no agreed definition as to what constitutes an integrated service in Australia. In several Australian states, ‘stand-alone’ early childhood services which integrate care and education are considered integrated services—but this definition is much narrower than what is generally understood by the term ‘integrated services’ in the literature. Thus we developed a working definition of integrated services as: ‘… services which are inclusive of early education and care, but have multiple additional components encompassing a range of other professional supports for children and families’ (Press et al., 2010, p. 7).

In the absence of a readily available national database of integrated services an initial list was compiled by drawing on the local knowledge of the PSCA representatives and the research team. A research assistant was then employed to search the relevant websites of state, territory and national governments. These included departmental sites related to education and child care. This resulted in 116 services across the nation being identified as potentially meeting our definition of integration, and their details were entered into a database. In December 2009, the survey was emailed to all services listed in the database. As there was a response rate of only eight per cent (n = 9)—possibly because of the timing of the survey at a particularly busy time of year for services—the survey was re-sent in January 2010. A further 10 responses were received.

The still relatively poor response rate prompted the research team to employ a research assistant to telephone services that had not responded to the survey, to verify whether or not they were integrated services and to invite them to respond to the survey. This resulted in six additional responses (25 responses in total). It also resulted in the removal of five incorrectly identified services from the database. Not all services on the database were able to be contacted within the time constraints of the study, thus it is not possible to determine the final percentage of services that responded to the survey in relation to a fully verified database, but it is at least 22 per cent (25 of 111).

Of the 25 respondent integrated services, 19 were headed by Directors with early childhood qualifications. Sixteen had a diploma or above, including three with Masters level qualifications. Of the six other Directors, one had an
(unspecified) teaching qualification, two held social work qualifications, one had a business degree and two did not state their qualifications.

Case studies

Potential sites for case studies were identified by drawing on the local knowledge of the PSCA representatives and research team members, as well as on the survey responses. Ten sites across six states/territories were selected for their diversity. Five services were located in a purpose-built building, while others operated as a precinct model or virtual hub. A number of case study sites had a single governance body; others operated using inter-service agreements (implied or explicit). Each offered a different mix of services, but all included an early childhood education setting. Six services were in a metropolitan area, three were regional and one rural. Five had been established for less than five years, while the longest-established service had been in operation for 96 years (but did not state for how long it had been an integrated service). All were anecdotally known within the sector as successful examples of integrated services.

A ‘pre-visit’ phone call was made to the Director of each service (or other nominated person) to jointly identify the main areas of focus for the visit. Services were visited for approximately one to one-and-a-half days by a member of the research team who had undertaken background reading on the service. In general, visits involved a guided tour, discussions with key personnel, unobtrusive observations, and (where appropriate) sitting in on relevant activities (e.g. meetings). Some visits involved focus groups with staff and/or families. Some, but not all, discussions and meetings were audio-taped and partially transcribed. The primary focus of the visit was to identify and probe in some depth some of the complex issues associated with successful integration. The focus was on ‘How and why has this service been able to be successful?’

Survey responses, observation and meeting notes, transcripts, and any illuminating written material provided by the participating services were analysed during an intensive, two-day meeting of all nine members of the research team. Initially, data were categorised according to key themes identified in a literature review of factors contributing to effective integrated services components. These factors were: policy, governance, leadership, organisational culture and ethos, and frontline inter-professional practice and team-building. Finer-grained thematic analysis (Braun & Clarke, 2006) was then undertaken within and across those categories.

Findings

In this section, we focus on themes identified in our analysis of the data that, in our view, provide insight into the presence and/or absence of distributed expertise, relational agency, critical reflection, and an organisational culture conducive to inter-professional working and a distinctive service identity. As highlighted earlier in the paper, these constructs are identified in much of the literature about integrated services and are pertinent to any consideration of Cheeseman’s (2007) concerns about the (potential) devaluing of specialist early childhood expertise where early childhood services move to a health and/or welfare focus. Excerpts taken directly from the data are reported in italics. A full report of the findings of the study is available elsewhere (Press et al., 2010).

Collective ownership and joint professional learning

In all 10 case study services there was a tangible sense of collective ownership, excitement, optimism, enthusiasm and passion imbuing much of the data. Participants emphasised the possibilities for making a difference to children’s lives; the new ideas being explored within the service; the synergies from working inter-professionally; and the scope for personal and professional growth. Staff in one service described how they felt that they were embarking together on a ‘new and different journey’. In another service, participants emphasised the satisfaction and other intrinsic rewards that come from a ‘rich way of working … with people from different backgrounds … and [the opportunities to] get our heads together and share resources’. Comments such as these resonated with Edward’s (2009) notion of relational agency. In yet another service, staff described their work environment as ‘an inspiring workplace … the richest [possible] professional environment’. In many services, there was, in the words of one participant, a ‘willingness to being professionally stretched’.

In some case study services, processes and mechanisms had been established to encourage systematic and critical approaches to reflective practice that challenged taken-for-granted assumptions about practices, referred to by one participant as ‘taking our values and philosophy and pulling them apart’. A participant in a different case study site described the service’s tradition of ‘nerpurla’—which, according to the service director, is an Aboriginal term meaning ‘coming together to yarn and to sort things out’. Within this service, nerpurla involves ‘yarning about why we do what we do, and can we do it differently?’ In several services, participants reported that the introduction of new procedures—such as the use of flexible templates to enable sharing information and writing of a single set of case notes for each child—made potential professional tensions transparent. These tensions then became a focus for reflection and discussion. These endeavours seemed consistent with Moss’ (2003) emphasis on disrupting taken-for-granted ways of thinking and providing practitioners with opportunities to reconsider the various explanatory theories and frameworks that underpin their professional practice, ultimately leading to greater understanding among inter-professional team members.
**Professional agency and efficacy**

Although the terms themselves were not used, there was a strong emphasis in the survey responses and case study data on the importance of distributed expertise in generating a strong sense of professional agency and efficacy. One survey respondent commented, for example:

*We assist each other as we recognise that everyone has something to contribute. We recognise that we are dependent on each other and expect the best from everyone working in the field. This has resulted in making this a better community for families to raise their young.*

In a similar vein, another responded:

*The learning has been exciting and ideas have grown out of the work, so we feel we have gone from strength to strength, and that the services are beginning to have a large impact in terms of the outcomes we are seeking for children and families.*

Another respondent noted that the involvement of ‘other’ professionals in their early childhood service and the service’s success in ‘enrolling, and most importantly keeping, involved, many vulnerable children and families at the centre for longer periods of time’ had enhanced the status of the service in the local community. In the respondent’s words, ‘The centre has increased its profile amongst other community services within the local Government area as it is now seen as more than just a kindergarten.’ Encapsulating the views expressed in much of the data, yet another respondent simply wrote: ‘Together, we are much stronger …’

Nevertheless, the potential for marginalisation of early childhood professionals within inter-professional teams was raised by several survey respondents and case study participants. Their concerns were similar to those reported in the literature review undertaken for the study on which this paper is based and to those articulated by Cheeseman (2007). Some survey responses and case study data from the current study similarly referred to tensions arising from different images of and beliefs about childhood, child-rearing and parenting that can be associated with different disciplines. They also referred to tensions arising from ingrained beliefs about the value and role of various disciplines involved in integrated services and the hierarchical ordering of those disciplines. One respondent encapsulated these concerns in listing the following factors that she/he perceived to hinder integration:

*Embedded beliefs within individual disciplines about (the) value of each discipline; Underlying hierarchical beliefs (e.g. Medical/health versus education); Different images of childhood between the disciplines and different beliefs about child-rearing and motherhood in particular.*

Several case study participants expressed concerns that many early childhood professionals appear to find it difficult to articulate their knowledge base and to explain the rationale behind their professional decision making and practice. They were concerned, therefore, that early childhood professionals’ contributions could be easily overlooked in inter-professional teams.

Seemingly concerned about the possibility of exploitation and lack of awareness of the specialist skills required, one respondent expressed the view that early childhood services should remain focused on education:

*I am wary that pre-schools may be expected to lead the way and incorporate additional work (unfunded) to manage integrated services and this is not their specialist area. Preschools need to focus on their key role in early education but can be a hub for raising awareness.*

Such comments were relatively few, however, and, overall, survey respondents and case study participants were largely positive and optimistic about inter-professional work.

**Trust, perseverance and reciprocal respect**

Respondents and participants recognised, however, that achieving real change requires concerted effort and goodwill over long periods, and invariably involves a steep learning curve. The importance of trust was emphasised repeatedly; without trust, they considered it would be impossible to develop the relationships, shared vision, collaboration, or openness to new ideas they considered necessary for successful integration. Neither would it be possible to challenge the kinds of deeply entrenched views that hinder integration, nor take the risks needed to ‘stretch’ personally and professionally. In the words of a member of the research team, ‘There seemed to be a real trust in the process and each other that they would work it out together.’ The importance of relational agency (Edwards, 2009) was emphasised, albeit implicitly, in a great deal of the data. Facility with language conducive to inter-professional work, for example, to enable effective dialogue, negotiation and learning, was seen as crucial and endeavours were under way in all case study services to assist staff to develop the inter-professional literacy to which Edwards (2009) refers. In addition to fostering the ability to articulate one’s professional knowledge base, practices and decisions, and the rationales for them, respondents and participants placed considerable emphasis on the use of inclusive language (including the deliberate use of generic terms such as ‘early learning’, ‘early learning centres’ and ‘professional learning and development’). They were conscious of the power of symbolic language, especially of the ways in which metaphors can obscure taken-for-granted assumptions. They recognised the need for a shared language that reflected the philosophy, vision and principles of the service, while providing scope
where necessary to retain specialist disciplinary language. Consistent with the literature, their emphasis was not on relinquishing discipline-specific language but on one’s professional responsibility to choose the most appropriate language for the particular context.

**Team-building around a coherent philosophy and culture**

Case study participants in leadership and management roles generally highlighted the importance of an overall vision of integration and the development of a practice framework that assisted in articulating and working towards that vision and in creating a distinctive service identity. When asked ‘what supports integrated service delivery?’ one case study participant responded: ‘instilling a shared vision and culture of the bigger good—they all have an important role to play’. Her statement was typical of responses to that question.

Managers/leaders consciously adopted recruitment, induction and retention practices and participatory learning opportunities that reinforced the organisational culture, philosophy and vision. For example, they made explicit the philosophy underpinning the organisation and its distinctive identity when seeking new staff and their expectations of staff as members of an inter-professional team, and had explicit processes for dealing with obstructive behaviour. One service, for instance, had a three-month orientation program for new staff, which a participant noted provided opportunities for developing a shared passion and commitment to the work of that service.

Managers/leaders also emphasised the need for continuous and ongoing access to formal and informal professional development opportunities to increase discipline-specific knowledge and cross-disciplinary understanding, and to enable staff to take on new ways of conceptualising their roles and practice. To support inter-professional work, they provided opportunities for staff to experience the work and practices of other professional disciplines in the service to facilitate the development of shared perspectives, as well as regular time for group reflection.

In addition, organisational leaders/managers highlighted the importance of transparency. In some single-organisation integrated services, professional divisions were addressed at the structural level through developing enterprise agreements with integrated pay scales. In at least one organisation, further transparency was achieved by making pay scales freely available on the staff intranet. Although at times expressed in the current study in arguably more managerialist terms, the issues raised by the participants were similar to those discussed by Broadhead et al. (2008) in their account of the organic evolution of Sheffield Children’s Centre.

**Discussion and conclusion**

There was considerable congruence between the perspectives of the survey respondents and case study participants about factors contributing to successful inter-professional working and integrated service provision and those factors reported in the existing literature. Particularly noticeable in the current study, however, was the early childhood practitioners’ optimism about their place in integrated services. They found working in inter-professional teams rewarding and considered that inter-professional work contributed to positive outcomes for children and families. To this extent, the findings of the current study could assist in alleviating Cheeseman’s (2007) concerns about the possible marginalisation of early childhood professionals in integrated services.

Caution is needed, however, in interpreting and extrapolating from these findings. As mentioned previously, anecdotally all participating case study services were considered successful integrated services. A different picture may have emerged had the case study sample included services that were perceived to be less successful. Similarly, survey responses may have come primarily from services perceived by their organisational leaders to be operating successfully, thus potentially accentuating a positive bias. Moreover, as in any study that relies primarily on participants’ voices, there is a risk of placing undue weight on voice as evidence (Mazzei & Jackson, 2009). In the current study, for example, conceivably participants may have felt obliged to present their organisation and their experiences in a positive light. As researchers, inadvertently we may have given more weight to optimistic voices than to what Lather (2009) refers to as difficult stories. Further, participants and researchers alike may have unintentionally glossed over complications arising from differences in the status, power and ideologies of different professional groups.

In conclusion, then, we suggest that Cheeseman’s (2007) concern, along with similar concerns raised elsewhere in the literature, should not be discounted prematurely. Nevertheless, we believe that the findings of the current study give some cause for optimism about the possibilities for rewarding and successful inter-professional work for early childhood educators in integrated services. The perspectives of survey respondents and interview participants concerning factors that contribute to effective inter-professional work are congruent with the contributory factors identified in much of the existing literature. They reinforce the need for sufficiently robust mechanisms to support the development of relational agency, inter-professional literacy and critical reflection needed to tease out and address inevitable and difficult issues and tensions. While the adverse impact of structural problems such as unequal status, pay and conditions (Robinson et al., 2008) should not be underestimated and must be addressed at a policy level, the findings suggest that much can be
achieved at the organisational level by organisational leaders and ‘front-line’ professionals, as we have outlined in the full report of the study on which this paper is based (Press et al., 2010).

Acknowledgements

Our thanks go to the funding agency, the Professional Support Coordinators’ Alliance and particularly to Kay Colmer and Leanne Gibbs. We also thank all participants in the project, especially the leaders and staff of the case study services for their generosity in sharing their insights with us. Finally, we thank our fellow researchers: Jan Duffie, Joy Goodfellow, Anne Kennedy, Marie Lewis, Anne Stonehouse and June Wangmann.

Reference list


Introduction

The prevalence of childhood obesity has increased dramatically in recent years and is seen to be ‘one of the most serious public health challenges of the 21st century’ (WHO, 2010). It is estimated that, worldwide, 42 million children under the age of five are overweight and/or obese. This is of particular concern to medical professionals, researchers, parents and teachers because of a number of associated health risks, including the development of cardiovascular conditions, hyperlipidemia, high blood pressure, respiratory problems and the onset of Type II diabetes (Burdette & Whitaker, 2005; Fulton et al., 2001; Oliver, Schofield & Kolt, 2007; Trost, Sirard, Dowda, Pfeiffer & Pate, 2003). These findings have significant implications for children’s health, not only now but also into adulthood. Research has found that the physical activity patterns of adults are established during the early childhood years (Cashmore & Jones, 2008; De Onis & Blössner, 2002; Klesges, Klesges, Eck & Shelton, 1995; Oliver et al., 2007; Trost et al., 2003). These findings suggest obesity in childhood will often result in obesity in adulthood (Whitaker, Wright, Pepe, Seidel & Dietz, 1997). Physical activity has also been found to be integral for children’s physical, emotional and cognitive development (Vives-Rodriguez, 2005).

Given that a growing number of young children (birth to age five years) are spending increasing amounts...
of time in preschools, these sites stand to become important settings for tackling childhood obesity. Yet recent research suggests that children at preschools are physically inactive for a significant amount of time each day (for a systematic review, see Tucker, 2008). The American National Association for Sport and Physical Education (2002) recommends that preschool-aged children participate daily in 60 minutes of structured moderate to vigorous physical activity and a further 60 minutes or more of unstructured free play. Recent studies have found that preschool-aged children are consistently failing to meet the recommended daily requirements (Cashmore & Jones, 2008; O’Connor & Temple, 2005; Reilly et al., 2008; Tremblay & Willms, 2003; Tucker, 2008).

A number of individual, environmental and social factors undoubtedly influence children’s physical activity behaviours at preschools. Individual factors, such as gender (Tucker, 2008), parental patterns of play and physical activity (Birch & Davison, 2001), weight (Trost et al., 2003) and ethnicity (McKenzie et al., 1997; McKenzie, Sallis, Nader, Broyles & Nelson, 1992) have all been shown to influence the physical activities of young children.

A number of studies have sought to determine the environmental factors that influence children’s physical activity behaviours. These researchers have examined how factors such as playground design (Dyment, 2005; Herrington & Studtmann, 1998; Moore, 1989), playground markings (Cardon, Labarque, Smits & De Bourdeaudhuij, 2009), play equipment (Cardon et al., 2009; Hannon & Brown, 2008; Taggart & Keegan, 1997; Zask, van Beuran, Barnett, Brooks & Dietrich, 2001) and weather conditions (Boldemann et al., 2006; Fisher et al., 2005; Ridgers, Stratton, Clark, Fairclough & Richardson, 2006) may be influencing children’s physical activity in childcare centres.

A currently under-theorised aspect of the existing literature relates to the influence of social factors on children’s physical activity behaviours. These influences include factors such as policy and practices that govern preschools as well as the perceptions held with regard to physical activity. Particularly important is the role that early childhood educators assume in facilitating physical activity. The evidence in this area appears to be rather inconclusive: while some studies show a positive relationship between educator/adult presence and physical activity, others show a negative relationship.

When adults are involved in facilitating programs or activities targeted at improving physical activity and skill development, the response from children has been found to be largely positive (Brown, Pfeiffer et al., 2009; Cashmore & Jones, 2008; Hui-Tzu Wang, 2004; Reilly et al., 2008; Taggart & Keegan, 1997). Brown and his colleagues (2009), for example, found a positive relationship between teacher-directed activity programs (‘Track Team’ and ‘Dance Party’) and preschoolers’ moderate and vigorous physical activity. Hui-Tzu Wang (2004) also found that preschoolers who participated in an adult-facilitated ‘creative movement program’ had enhanced gross motor and locomotion skills. In a similar vein, Taggart and Keegan (1997) found that teacher-directed activities (e.g. setting up and facilitating obstacle courses, throwing and catching stations, and running races) were positively received by preschoolers, who were seen to demonstrate enhanced fundamental motor skills as a result of the structured activities.

But adult presence alone does not appear to be enough to stimulate physical activity in preschoolers. Some studies have found that children are actually less active when adults are present. Brown and colleagues (2009), for example, found that children were more likely to be involved in moderate and vigorous physical activity when adults were not present or involved with the children. Similarly, Cardon and colleagues (2008) found that girls were less active when more teachers were present. They postulate that ‘since many children, and presumably especially girls, prefer to stay close to the teachers, more supervising teachers may cause decreased activity levels’ (p. 14).

Some researchers have sought to determine the constraints and facilitating factors educators perceive in relation to the physical activity of children in their care (Davies, 1997; Dowda, Pate, Trost, Almeida & Sirard, 2004; Lawlis, Mikhailovich & Morrison, 2008; O’Connor & Temple, 2005; Taggart & Keegan, 1997; Temple & O’Connor, 2004; Vives-Rodriguez, 2005). These studies revealed that: many educators lacked knowledge about the importance of physical activity for preschool-aged children; they gave more priority to unstructured play opportunities than they did to games and structured movement activities; and they lacked confidence in their ability to facilitate the physical activity of children in their care.

This study seeks to shed further insight to these findings. We explore the role that early childhood educators assume in facilitating physical activity at four preschools in Australia. The following research questions guided this research:

---

1 The National Physical Activity Guidelines for Australians have recently been developed by the Department of Health and Ageing. The Guidelines suggest that Toddlers (1 to 3 years) and Pre-schoolers (3 to 5 years) should be physically active every day for at least three hours, spread throughout the day. However, research discussed in this paper makes reference to the American Guidelines (2002).
RQ 1. What are preschoolers’ actual and perceived levels of physical activity in the playground?

RQ 2. What are educators’ actual and perceived roles during outdoor playtime?

**Methods**

**Setting**

This study took place in four Australian preschools (Table 1). The centres were run by one organisation and had similar directives and policies.

**Observations: Physical activity and role of educator**

There are number of objective (pedometers, accelerometers) and subjective (direct observation, questionnaires) measures for quantifying physical activity patterns of preschoolers, each with their advantages and disadvantages (for a review, see Oliver et al., 2007). With a view to gaining insight into preschoolers’ actual levels of physical activity (RQ 1) as well as educators’ actual roles during outside playtime (RQ 2), direct observations of 16 randomly selected preschoolers (two boys and two girls at each preschool, ages four or five) were completed. Each child was observed for 50 minutes over a 30-day period in July 2009, with a maximum of 10 minutes of observation per day. Data was collected at one-minute intervals (50 seconds of observation, 10 seconds of recording). During each interval, two pieces of information were recorded:

-the level of the preschooler’s physical activity and the role of the early childhood educator.

The preschoolers’ intensity of physical activity was categorised as Sedentary, Moderate or Vigorous. Physical activity codes were modified from the Children’s Activity Rating Scale (Puhl, Greaves, Hoyt & Baranowski, 1990) as well as the Observation for Recording Physical Activity in Children–Preschool Version (Brown et al., 2005). The activity levels were ultimately scored on a 1–3 scale, with 1 indicating Sedentary activity that included stationary as motionless or stationary with limb movements such as lying down, standing, riding in a wagon. Two indicated Moderate activity and included movement such as walking and easy bike riding, and 3 indicated Vigorous activity that included fast movements such as running, skipping and riding bikes at speed.

Additionally, at each minute interval the role of the early childhood educator was recorded in relation to the child being observed, using one of four categories:

1. Teacher Initiated/Child Responsive Activities (playful/play-based) (TI/CR)
2. Teacher Initiated/Directed Work or Non-Play (TI/W)
3. Child Initiated/Teacher Responsive Activities (CI/TR)

Issues of validity and reliability were appropriately addressed.2

---

2 It is beyond the scope of this paper to fully address issues of reliability and validity. For more information regarding these issues, please contact the first author.

**Table 1. Features of the childcare centres profiled**

<table>
<thead>
<tr>
<th>Childcare centre</th>
<th>Guardian descriptor/SES</th>
<th>Number of rooms and children/room</th>
<th>Number of staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centre A</td>
<td>High SES. Generally attracts professionals working in the city area</td>
<td>5 rooms—12 infants; 20 young toddlers; 20 older toddlers; 30 older toddlers/young children; 30 young children</td>
<td>25 Permanent part-time (P/PT); 10 casuals</td>
</tr>
<tr>
<td>Centre B</td>
<td>Varied SES. Predominately attracts university students, faculty staff, and small amount of community</td>
<td>5 rooms—20 infants; 25 young toddlers; 25 older toddlers; 2 rooms of 20 young children</td>
<td>23 P/PT; 5 casuals</td>
</tr>
<tr>
<td>Centre C</td>
<td>Lower SES. Located in light industrial area. Larger amounts of single parent family and de-facto relationships</td>
<td>4 rooms—12 infants; 15 young toddlers; 15 older toddlers; 20 young children</td>
<td>17 P/PT; 2 casuals</td>
</tr>
<tr>
<td>Centre D</td>
<td>Medium SES. Generally attracts a mix of professional and university students with an interest in an alternative lifestyle.</td>
<td>One room—25 two–five-year-olds</td>
<td>4 P/PT; 2 casuals</td>
</tr>
</tbody>
</table>

*Italicised denotes rooms that can access the outdoor play areas profiled in this study.*
Interviews
To gain insight to preschoolers’ perceived levels of physical activity (RQ 1) as well as educators’ perceived roles during outside playtime (RQ 2), follow-up in-depth semi-structured interviews were conducted with 16 early childhood professionals (four educators and/or managers at each of the preschools)\(^3\) (Mason, 2002; Travers, 2010). The interviews were taped and lasted between 30 and 60 minutes. They were held at the preschool and consisted of a series of open and closed questions, such as:

- How physically active are the preschoolers at your centre?
- Are the preschoolers active enough during their time at child care?
- What do you see to be your main role during outside playtime?
- What factors limit/enable your ability to provide opportunities for physical activity?

Ethics
This study received ethical clearance from the University of Tasmania. Information sheets were provided and consent for participation was secured from: a) the directors of the childcare centres; b) the parents of the children who were observed; and c) the early childhood educators who were interviewed.

Data analysis
Descriptive analyses were conducted for the categorical data collected from the direct observations. Specifically, the percentage of observations for each category of intensity of physical activity (Sedentary, Moderate, Vigorous) as well as the role of the educator (TI/CR; TI/W; CI/TR; CI/CD) was calculated. Data was analysed for the boys and girls at each centre.

The interviews were fully transcribed (Cresswell, 2008), then a thematic coding of the interview data was done using NVivo 8 qualitative data analysis software. Fifty-nine tree nodes were used. These included a priori codes sourced from the existing literature and inductive codes that emerged as a result of the interviews. A priori codes used in this study include ‘perceptions of health and physical activity’, ‘perceptions of role’ and ‘perceptions of limiting factors’. Inductive codes include ‘training’ and ‘confidence’.

The interview transcriptions were categorised into the appropriate codes and examined to highlight commonalities and inconsistencies within the participants’ responses.

Interview data resulting from this study was analysed on a number of levels (Cresswell, 2008). First it was analysed across all four childcare centres to identify common themes. Second, where possible, it was analysed on the individual centre level to compare the perspectives of educators from the same centre. Finally, in some instances it was possible to identify differences between the perceptions of managers and on-the-ground educators.

Results
RQ 1. What are preschoolers’ actual and perceived levels of physical activity in the playground?

Actual
Four children at each of the four preschools were observed for 50 minutes over a 30-day period. During each minute interval, the preschooler’s level of physical activity (Sedentary, Moderate and Vigorous) was recorded. Descriptive statistics for the intensity of physical activity are found in Table 2. When the data was amalgamated across the four preschools, children in almost half of the observations were engaged in Sedentary physical activity (boys and girls 46.1% of observations, boys 50.6%, girls 41.4%). Children were engaged in Moderate physical activity in 30 per cent of the observations (boys 26.7%, girls 33.3%) and Vigorous activity in less than a quarter of the observations (boys and girls 23.9%, boys 22.6%, girls 25.3%). The breakdown by preschool is also available in Table 2, but the results are generally discussed as amalgamated data across the four centres.

Table 2. Observations of intensity of physical activity by centre

<table>
<thead>
<tr>
<th></th>
<th>Centre A</th>
<th>Centre B</th>
<th>Centre C</th>
<th>Centre D</th>
<th>Collapsed across 4 centres</th>
</tr>
</thead>
<tbody>
<tr>
<td>B G T</td>
<td>B G T</td>
<td>B G T</td>
<td>B G T</td>
<td>B G T</td>
<td>B G T</td>
</tr>
<tr>
<td>Sedentary</td>
<td>33.7</td>
<td>29.5</td>
<td>31.6</td>
<td>57.1</td>
<td>56</td>
</tr>
<tr>
<td>Moderate</td>
<td>31.6</td>
<td>47.4</td>
<td>39.4</td>
<td>29.6</td>
<td>24</td>
</tr>
<tr>
<td>Vigorous</td>
<td>34</td>
<td>23.2</td>
<td>29</td>
<td>13.3</td>
<td>20</td>
</tr>
</tbody>
</table>

Note: B = Boys, G = Girls, T = Total

\(^3\) Throughout this paper, reference is made to both educators and managers. Unless stated, educators is the collective term used to describe both ‘on the ground’ childcare centre staff responsible for the day-to-day care of children and managers who complete administration duties at the centre. In some instances, managers who participated in this study were often also responsible for the daily care of children in addition to their administrative role. To account for the dual role of some managers, in this paper the phrase ‘educators and managers’ (meaning both on-the-ground educators and managers in their administration or dual role) is used when there is a need to comment on observable conflicts in opinions within the two groups.
Perceived

When asked about their perceptions of health and physical activity, the 16 educators interviewed all agreed that physical activity was extremely important for preschool-aged children. When asked if children were active enough during their time at preschool, 13 believed the children in their centres were engaging in sufficient physical activity. Only three educators stated that children were not participating in enough physical activity during their time in care.

RQ 2. What are educators’ actual and perceived roles during outdoor playtime?

Actual

During each minute interval, the role of the early childhood educator (in relation to the child being observed) was also recorded, and descriptive statistics are found in Table 3. When the data was amalgamated across the four preschools, the observations revealed that the children spent most of their time engaged in Child Initiated/Child Directed activities (85.5% of observations). Educators were engaged in Teacher Initiated/Child Responsive Activities in only 8.6% of the observations. Very few observations of either Child Initiated/Teacher Responsive (3.9%) or Teacher Initiated/Directed Work (2.1%) were noted. The breakdown of educators’ roles by preschool is also available in Table 3 and, while there are notable differences across each of the preschools, the general trends described above persist.

Perceived

The interviews allowed important insights into the educators’ perceptions of their role during outside playtime. When asked to describe their primary role, managers and on-the-ground educators were adamant that the outdoor environment should not be seen as a break time. Instead, they emphasised that safety and supervision of children are their main concerns during outdoor time. Ingrid, an educator at Centre B, explained that ‘my number one priority is to make sure that the playground environment is safe for the children and that they all come back inside in one piece’. Commenting on how they ensure children’s safety, educators mentioned that completing playground safety checks, continuously scanning the playground for hazards, keeping children off broken or unsuitable play equipment, and maintaining climbing frame height restrictions were all tasks they performed daily. The educators noted that the focus on safety could at times limit opportunities for physical activity. Felicity, an educator at Centre A, explained that ‘ensuring safety of children can take up so much of my time that there isn’t much left over for facilitating activities’.

The educators gave differing interpretations of what was required of them during their supervision. Four educators stated that supervision involved standing back and giving children space to play their own games. Andrea, an educator from Centre C, said, ‘If you see a group of children playing wonderfully without you, then just let them be ... because sometimes they stop playing when you get too close to them’. Another four educators suggested that monitoring and alleviating safety hazards was their primary supervision concern. Two stated that effective supervision also required educators to help excluded children find opportunities to enter into the play of others, while the remaining educators did not comment on their supervision duties.

Although on-the-ground educators appeared to have different interpretations of their supervision duties, all four managers were consistent in their expectation that educators should be engaged in a program of ‘active supervision’. They said active supervision involved watching children, interacting in children’s own games, providing opportunities for physical activity, and ensuring children’s safety in the playground.

The supervision policies of the childcare centres were identified by a number of educators as limiting their ability to facilitate and engage children in physical activity opportunities. Claire, an educator at Centre D, commented that ‘it would be nice if the ratios were less because then I would be able to focus more on

<table>
<thead>
<tr>
<th>Percentage of observations</th>
<th>Centre A</th>
<th>Centre B</th>
<th>Centre C</th>
<th>Centre D</th>
<th>Collapsed across 4 centres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher Initiated/Child Responsive Activities (playful/play-based) (TI/CR)</td>
<td>9.3</td>
<td>14.6</td>
<td>0.5</td>
<td>9.6</td>
<td>8.6</td>
</tr>
<tr>
<td>Teacher Initiated/Directed Work or Non-Play (TI/W)</td>
<td>2.1</td>
<td>2.5</td>
<td>2.7</td>
<td>1</td>
<td>2.1</td>
</tr>
<tr>
<td>Child Initiated/Teacher Responsive Activities (CI/TR)</td>
<td>3.6</td>
<td>3</td>
<td>1.6</td>
<td>7.1</td>
<td>3.9</td>
</tr>
<tr>
<td>Child Initiated/Child Directed Activities (pure play) (CI/CD)</td>
<td>85</td>
<td>79.8</td>
<td>95.2</td>
<td>82.3</td>
<td>85.5</td>
</tr>
</tbody>
</table>
programming and facilitating activities and less on supervising and counting kids’. The four centres that participated in this study observed child–educator ratios of 10:1 for children aged between three and five years. When asked about the supervision ratios, all the educators appeared to be very aware of the ratios and described them confidently. The educators gave mixed responses, however, when asked whether they felt the supervision ratios observed at their centres were adequate for the children. Most supported the ratios, with only three believing they needed revising if educators were expected to do more than simply observe children during outdoor time.

Interestingly, managers at two of the centres contended that the supervision ratios were insufficient, while all the on-the-ground educators at these centres believed them to be satisfactory. A manager at one of the preschools provided the following explanation:

> Obviously [the supervision ratios] are adequate in that they meet the [licensing] standards, but I think, as far as meeting high-quality expectations in our class for children, I don’t think the ratios support that. I think it makes it very tough work on the educators to actually produce and support those learning outcomes for children with their ratios.

Despite only three educators saying they felt the supervision ratios were inadequate, an additional eight educators echoed this manager’s sentiments throughout their interviews. They argued that the supervision ratios limited their ability to facilitate children’s physical activity as they restricted their opportunities to set up structured physical activities for the children. An educator from one of the preschools aptly summarised the perceptions of this group of educators:

> I guess that if [supervision ratios] were purely for supervision, it would be fine. If you are meant to do programming and you are meant to be interacting with the kids and everything, it is not. It is really hard to interact with a group of five kids and play a game or something, [because] you’ve got another five kids that you are meant to be supervising as well, so it’s quite difficult to do activities with them, and supervise them at the same time.

These findings indicate that half of the educators in this study suggested at one point during their interview that the current supervision ratios limited their ability to facilitate children’s physical activity. Throughout the interviews, they identified numerous additional barriers that limited this ability. One related to issues of training and confidence. Only five of the educators acknowledged having received any form of physical activity training over the course of their careers. All five received this training either while studying for their initial childcare qualifications or while employed at childcare centres located in other states of Australia. All of the educators interviewed said they had not received any specific physical activity training during their employment with the organisation that operates the four childcare centres. Unsurprisingly, this lack of training affected the educators’ confidence in their abilities to facilitate physical activities. The educators were very open to attending in-service professional development workshops specifically aimed at providing educators with the skills and ideas to facilitate more structured physical activities, such as games and sports. Meryll, one of the managers, expressed their sentiments: ‘[You need] professional development in that area just to update you with different and new ideas and things like that because you only know as much as you have learnt’. Supporting this manager’s statement, three other educators also requested professional development as they believed their repertoire of games and activities had become ‘stale’ and ‘monotonous’. This finding may be significant, as educators appear to be suggesting that children are repeatedly participating in the same types of physical activity that may not be adequately supporting their needs.

**Discussion**

The observations and interviews shed light on the actual and perceived amount of physical activity children are engaged in, as well as on the actual and perceived roles educators assume in facilitating physical activity.

**RQ 1. What are preschoolers’ actual and perceived levels of physical activity in the playground?**

To start, the observations add to a growing body of evidence that is documenting the physical activity patterns of preschool children. In this study, the children observed in the playground were engaged in Sedentary physical activity in almost half of the observations (46.1%). Other researchers have found similar results, with children playing outside being Sedentary 56% of the time (Brown, Pfeiffer et al., 2009), 49% of the time (Hannon & Brown, 2008) and 61% of the time (Cardon et al., 2009). Other researchers have examined physical activity patterns across the entire preschool day, and the level of Sedentary physical activity for both indoor and outdoor environments is, unsurprisingly, even higher (see, for example, Brown, Pfeiffer et al., 2009; Dowda et al., 2004; Finn, Johannsen & Specker, 2002; Pate, McIver, Dowda, Brown & Addy, 2008; Pate, Pfeiffer, Trost, Ziegler & Dowda, 2004; Tucker, 2008). The interviews revealed that the educators in this study lacked accurate perceptions regarding the amount of physical activity preschoolers were engaged in. Contrary to the actual findings (46.1% of observations, children are Sedentary), the large majority (n = 13) of the educators interviewed perceived that the preschoolers...
were engaged in adequate amounts of physical activity. There seems to be a commonly held perception among the educators that preschool children are active, busy, and ‘on-the-go’ most of the time.

Despite this misconception, the interviews allowed insight to the educators’ perceptions of the importance of physical activity for preschoolers, and the results were largely positive: All educators in this study agreed that physical activity is very important for preschoolers. This finding is in direct contrast to those emerging from Vives-Rodriguez (2005): that many of the early childhood professionals in their study were unaware of the importance of physical activity for this age group and do not plan for physical activity opportunities accordingly. O’Connor and Temple (2005) and Cashmore and Jones (2008) found the importance that early childhood professionals afforded to physical activity was often actually determined by the educator’s own personal philosophy. Participants in these studies asserted that the beliefs and backgrounds of individual educators often determined the amount of physical activity opportunities planned and provided for children in their care. This finding suggests that early childhood professionals who are more physically active themselves will place greater importance on facilitating physical activity than will those who are physically inactive in their own lives.

RQ 2. What are educators’ actual and perceived roles during outdoor playtime?

In this study, the observations revealed that children rarely interacted with the educators, as evidenced by the high rates of Child Initiated/Child Directed activities observed (85.5%). Based on the literature, it was initially thought that perhaps educators were seeing the outdoor time as a chance to have break. Davies (1997), for example, has argued that educators in childcare centres often simply ‘stand around and watch children play’ rather than engaging children in meaningful movement activities. Furthermore, Vives-Rodriguez (2005) found there was a perception among educators that outdoors was often a time for the educator to take a break, relax and sit down as they supervise children. Yet this appears not to be the case for educators in the present study: both managers and on-the-ground educators agreed that the outdoor environment should not be seen as a break time for educators.

Instead of seeing outdoor time as a ‘break’, the educators took their role seriously. The major theme that emerged in the interviews was the educators felt their primary role while outside was to supervise and ensure the safety of the children. This primary focus on supervision and safety is noted in the existing literature as potentially limiting children’s physical activity opportunities. The literature notes that a culture of ‘risk avoidance’ can limit children’s opportunities for physical activity (Little & Wyver, 2008; Sandseter, 2007, 2009; Stephenson, 2003; Waters & Begley, 2007). Regarding supervision, the interviewees felt their supervision duties often prohibited them from actively engaging children in physical activity. Specifically, some educators in this study indicated that children–staff supervision ratios (10:1 in the centres studied) restricted their ability to spend time setting up extra play opportunities for the children as it took them away from their supervisory duties. These sentiments were echoed by participants in the study conducted by Vives-Rodriguez (2005), who found that childcare centre supervision and safety policies often restricted the number of children who could use play equipment that promotes moderate to vigorous physical activity (such as bikes and scooters) because children need to be more closely supervised while using this equipment. Supervision and safety policies are, therefore, clearly affecting children’s choices in physical activity and may in fact restrict their ability to participate in more vigorous types of play.

The educators in this study also indicated that a lack of training and overall confidence limited their ability to provide opportunities for physical activity. Other research has identified this as a limiting factor (McWilliams et al., 2009; O’Connor & Temple, 2005; Temple & O’Connor, 2004; Vives-Rodriguez, 2008). The provision of training for early childhood professionals in the facilitation of physical activity may greatly increase the types and intensity of physical activity opportunities children are offered during time spent in child care (Dowda et al., 2004).

Conclusions and recommendations

The present study makes several important contributions regarding the factors that influence the physical activity patterns of preschool children. With regard to RQ 1, the preschoolers in this study were sedentary for more than half of the observations; yet the educators did not perceive this to be the case, believing instead that children were provided with enough physical activity opportunities. With regard to RQ 2, the educators were rarely observed to be facilitating activities for children; the interviews revealed that this might be because the educators’ primary concerns were supervision and ensuring the safety of the preschoolers. The educators also identified other issues related to training that limited their ability to provide in this regard.

A number of recommendations emerge from these findings. First, a key priority is to increase the physical activity opportunities for preschoolers. This can be achieved through implementing a range of interventions identified in the literature as being effective for enhancing the health and wellbeing of preschoolers. For example, interventions such as playground greening (Dyment, 2005; Herrington &
Studtmann, 1998; Moore, 1989), painted playground markings (Cardon et al., 2009), the provision of fixed and loose play equipment (Cardon et al., 2009; Hannon & Brown, 2008; Taggart & Keegan, 1997; Zask et al., 2001) and an examination of policies related to weather conditions (Boldemann et al., 2006; Fisher et al., 2005) have all been shown to positively influence preschoolers’ physical activity. Second, the educators’ understandings of preschoolers’ levels of physical activity need to become more accurate. They need to reject commonly held notions that the preschoolers are busy and on-the-go and become aware that most are failing to meet the recommended daily physical activity requirements. Third, if educators’ main priorities are supervision and safety, it is understandable that they are unable to facilitate physical activity opportunities for preschoolers. Perhaps supervision ratios need to be adjusted or additional staff need to be brought in with the sole goal of facilitating programs and activities for preschoolers. This has been shown in the literature to be effective (Brown, Pfeiffer et al., 2009; Cashmore & Jones, 2008; Hui-Tzu Wang, 2004; Reilly et al., 2008; Taggart & Keegan, 1997). Finally, since educators indicated that a lack of training and associated confidence might limit their abilities to facilitate physical activities, then opportunities for professional development should be provided. Again, there is evidence from the literature to suggest this can go a long way to facilitating the provision of physical activity opportunities (Dowda et al., 2004). These four recommendations need to be considered along with a range of other environmental and social interventions that are currently being used to tackle the obesity epidemic in preschoolers.

References


Introduction

This article contributes to understanding refugee experiences, the challenges and cultural perspectives that may put them at odds with the countries where they resettle. It focuses on Congolese refugee families who have come to New Zealand in the past 10 years, their experiences of parenting and their views about the kinds of early childhood education and care provision and practices that might enhance the agency of children and families.

New Zealand is a significant site for this study because it is one of only 19 countries that take quota refugees. Refugees are a distinctive group with challenges that are different from those of immigrants who choose to settle in another country. They have been forced to leave their home country because of persecution. They may have seen traumatic events, had to leave family members behind, and spent months or years in refugee camps in another country, awaiting resettlement.

Quota refugees are permanent residents in New Zealand and have the same rights as other permanent residents in education, health, employment and social welfare. They are entitled to social and economic rights on a non-discriminatory basis, including access to education on the same basis as other citizens. Yet an annotated bibliography (McMillan & Gray, 2009) on the long-term settlement of refugees in New Zealand has identified that many refugees face discrimination in finding employment commensurate with their skills and qualifications, and in obtaining suitable housing. They may also endure new and continued health problems. Challenges exist for refugees in accessing education that is responsive to their ethnic and cultural identities and the contexts of their lives. The annotated bibliography suggested that New Zealand schools and tertiary institutions are not serving refugees well.

Acculturation difficulties have led many young refugees to lose motivation and even drop out of school and/or training … There is a strong correlation between educational attainment, ethnicity and economic deprivation … The literature argues for a modified curriculum, changes in teaching practices, specialist teachers, inclusive education, more language support and more support for parents to become involved in their children’s education. (McMillan & Gray, 2009, p. 30).

A growing percentage of refugee children in New Zealand are preschool children, but there is very little research on the experiences and aspirations of their families. The Families Commission consultation with immigrant and refugee families in 2006/07 pinpointed the importance of early childhood education that is responsive to the cultural and integration needs of

Experiences of Congolese refugee families in New Zealand: Challenges and possibilities for early childhood provision

Linda Mitchell
Amondi Ouko
University of Waikato

INTERNATIONALLY, THERE HAS BEEN a broad commitment to seeking refugee perspectives on resettlement experiences. Recent research has highlighted challenges for refugees in accessing school and tertiary education that is responsive to their ethnic and cultural identities and to the contexts of their lives. There are few studies, however, of refugee perspectives on early childhood education. This absence is worrying, given the growing number of refugee families with preschool children and the potential for early childhood education to play a transformative role in family lives. In a small community research study we analyse the drawings, stories and focus group discussions of Congolese refugee families who talked about living in New Zealand, their aspirations for their children and for early childhood education and care. We argue that understanding these points of view could be the basis for creating new possibilities that enable cultural and social connectedness, social justice and equity, and agency within early childhood provisions.
families, and the need for child care to help families to access English language learning. These families often lacked extended family and friendship support for child care (Families Commission, 2009). Broome and Kindon (2008), who undertook a study of immigrant and former refugee families, came to similar conclusions and also highlighted issues of access: a shortage of places and services for the hours suitable for these families, and a need for more inclusive practice within early childhood education settings.

Recently, Adair and Tobin (2008) led a cross-country study of approaches to working in education and care settings with children of recent immigrants. The study, conducted in five countries, used videos of a typical day for four-year-olds in preschools as a catalyst for interviews with diverse groups of participants, including immigrant families. Some of the early findings were similar to those of New Zealand studies (Broome & Kindon, 2008; Butcher et al., 2006; Chile, 2005): the racism, discrimination and poverty suffered by immigrants and a need for adults and children to learn the host country’s language and gain a sense of belonging. The authors also highlighted the discrepancy between immigrant parents’ views of ‘quality’ and notions of ‘quality’ held by professional organisations and early childhood teachers. They argued that these different viewpoints could usefully be explored through dialogue among teachers and parents in their local settings.

Formal, good-quality early childhood education and care can play a transformative role in families’ lives, especially when it is integrated with other services, such as health, parent education and support, economic assistance and employment (Karoly, Kilburn & Cannon, 2005; Mitchell, Wylie & Carr, 2008). The aim of our study was to find out about the kinds of early childhood provision and practices that might contribute to the agency of refugee and immigrant families. We analysed the experiences and aspirations held by refugee families from Congo Brazaville and the Democratic Republic of Congo. Discussion of our research report (Mitchell & Ouko, 2010) at a community meeting of immigrant and refugee families led to the formation of a working group that aims to establish an integrated early childhood education and care service alongside English language learning and other opportunities for families.

In this paper, we first outline the central methods of this study: i.e. focus group discussions, drawings and storytelling. This multimodal approach was fundamental to the depth of data gathered since it enabled expression of ideas in different ways. We then use the data to discuss the main themes related to what a ‘good’ early childhood education and care service might look like. We draw out implications for offering early childhood provision that is multifunctional and contributes to a range of outcomes.

### Methods

We used an interpretive approach in which our interest was the collective perspective and ‘funds of knowledge’ of the Congolese community. A ‘funds of knowledge’ approach (Gonzalez, Moll & Amanti, 2005, pp. ix–x) recognises that families have competence and knowledge that are relevant to, but ignored by, educational provision. First-hand researching with families enables such competence and knowledge to become apparent and to be included (Gonzalez & Moll, 2002; Gonzalez et al., 2005). Few studies have positioned immigrant parents (in this study refugee parents) as experts/insiders or sought to find out their views (Adair & Tobin, 2008).

Consistent with our interest in the Congolese community’s ‘funds of knowledge’, we used methods that would generate stories and communal discussions about experiences and views. We used focus group research methods (Kamberelis & Dimitriadis, 2005) to foreground the insider perspectives and stories of Congolese men and women. Background information was also gathered through a questionnaire.

Participants were recruited through invitation from one of the authors, Amondi Ouko, and a key informant. Between them they knew the Democratic Republic of Congo and the Congo Brazaville communities well and had connections with services for refugees. They talked about the project to community members and left information sheets explaining the research and inviting participation from parents. On this basis, 18 parents volunteered to participate and were divided into four focus groups. These focus groups were organised according to gender and marital status. Advice from key informants suggested research participants were likely to feel comfortable about expressing their views in such groupings.

The following were characteristics of each focus group membership:

- Four married men from Democratic Republic of Congo. The largest family had five children and the smallest two.
- Four women without partners, two from Democratic Republic of Congo, one from Congo Brazaville, and one who was African Columbian. The Columbian woman wanted to attend because of her refugee experiences and identification with the Congolese women. The largest family had four children and the smallest two.
- Seven married women from Democratic Republic of Congo. The largest family had seven children and the smallest had one.
- Three married women from Congo Brazaville. The largest family had six children and the smallest two.

The following were characteristics of each focus group membership:

- Four married men from Democratic Republic of Congo. The largest family had five children and the smallest two.
- Four women without partners, two from Democratic Republic of Congo, one from Congo Brazaville, and one who was African Columbian. The Columbian woman wanted to attend because of her refugee experiences and identification with the Congolese women. The largest family had four children and the smallest two.
- Seven married women from Democratic Republic of Congo. The largest family had seven children and the smallest had one.
- Three married women from Congo Brazaville. The largest family had six children and the smallest two.

The following were characteristics of each focus group membership:

- Four married men from Democratic Republic of Congo. The largest family had five children and the smallest two.
- Four women without partners, two from Democratic Republic of Congo, one from Congo Brazaville, and one who was African Columbian. The Columbian woman wanted to attend because of her refugee experiences and identification with the Congolese women. The largest family had four children and the smallest two.
- Seven married women from Democratic Republic of Congo. The largest family had seven children and the smallest had one.
- Three married women from Congo Brazaville. The largest family had six children and the smallest two.

In this paper, we first outline the central methods of this study: i.e. focus group discussions, drawings and storytelling. This multimodal approach was fundamental to the depth of data gathered since it enabled expression of ideas in different ways. We then use the data to discuss the main themes related to what a ‘good’ early childhood education and care service might look like. We draw out implications for offering early childhood provision that is multifunctional and contributes to a range of outcomes.
Each participant took part in one focus group discussion. The discussions took place at the Refugee Orientation Centre over several hours and after an African meal. They were held in the home languages of participants, with an interpreter translating into English. The participants were researching their own experiences, challenges and aspirations for their children. Digital recordings were made of the discussions and translations. However, we acknowledge as a limitation that the process of translation may filter what participants said, since not every word is translated exactly.

Focus groups are able to generate ideas and thoughts that build on each other. They are also suited to ‘real-world’ problem solving:

‘Real-world’ problems cannot be solved by individuals alone: instead, they require rich and complex funds of communal knowledge and practice (Kamberelis & Dimitriadis, 2005, p. 903).

Paulo Freire (1970/1996) regarded focus groups as a means to enable people to come together in a space for dialogue, critical thinking and action. Like these writers, we held emancipatory aims to work with people and encourage collective responsibility for any political aims that emerged.

Drawings and narratives were another powerful method that drew on a rich African tradition of storytelling. Storytelling is one way to learn about somebody without asking too many questions or imposing one’s own view about what is important. It was a way to find out about the meanings that participants ascribed to events in their lives and to find out what was important to them (Chase, 2005). The research questions and aims of the project were explained to participants. These were about the experiences and challenges of living in New Zealand, aspirations for children, and views of early childhood education. Participants were then invited to ‘think about something important in their lives [related to the themes of the research] and draw a picture or do a painting to represent it’. The drawing was to have a story which participants would be invited to share with the other group members at the end of the meeting. In this way, participants were able to choose what they were comfortable with sharing in public. Paper, paints, brushes, pencils, felt pens and crayons were provided. The method evoked many feelings and concerns about living in New Zealand, life in Africa, and children’s education.

In this article, we organise our analysis of discussions and stories around themes that explore participants’ views of a ‘good’ early childhood education and care centre. The four themes are: belonging and community, learning English, cultural identity, and resettling in New Zealand. Congolese leaders spoke formally about these themes at the report launch and participants agreed we had captured these and further themes. Further discussion was held at a community meeting where refugee and immigrant families from Somalia, India and Columbia agreed that the themes reflected their experiences as well.

**Views of a ‘good’ early childhood centre**

My aspirations for my child, if everything was beautiful, I would really like my child to have a good education. In the present world, the foundation of everything is education and with a good education my child will live well forever and forever ... I would really like my children to go to school because I have known how education has helped me (Father C).

In the focus group discussions and stories we found considerable agreement among parents about the value of their preschool children attending an early childhood centre from around the ages of one and two years.

**Belonging and community**

The Congolese participants were heirs to an African view of life journeys and traditions. These African patterns of parenting and understanding of infants’, children’s and young people’s care and development contrast with many of the prevalent practices and understandings found in early childhood, school and tertiary educational institutions in New Zealand. In Africa, the wider family, siblings and community are as influential in child rearing and education as are parents and education institutions (Nsamenang, 2008). Arrival in New Zealand disrupts these patterns of child rearing and places refugee families under pressure to work within norms of New Zealand society and outside of the community networks that were present in Africa.

In Africa, care and education was portrayed as a communal responsibility in which mothers, other female adults, and older siblings take on caregiving roles, and fathers have distinctive roles in providing for families. The established pattern of extended family and community responsibility was lost on arrival in New Zealand.

The difference between here and Africa is in Africa the child is not the responsibility of one parent. A child is the responsibility of the whole big family. ... So the child is seen as an asset to the whole community and the whole community is interested and keen on the education of that child. ... While in Africa there’s a lot of support in relation to how we raise children, in New Zealand it’s really the individual parent’s responsibility (Father B).

Children contribute to community by participating in work for the family and helping others.
My eldest daughter aged nine years already knows how to wash the dishes. I always send her to help me washing dishes and if I want them to go and bring me something, I tell them to do it. Even the youngest one [aged four years] I’ve given small jobs to do. But the one who helps me most of the time is the older one (Mother E).

This mother’s comments indicate distinct age-related responsibilities that, according to Nsamenang (2008), are part of a developmental socialisation process intended to engender responsibility. ‘The infant toddler matures into a child participant in domestic chores, and thereafter, into an adolescent who graduates into higher order interactional networks and transactional roles’ (p. 141).

The focus on individual rights of women and children within New Zealand society was regarded as breaking down an established patriarchal structure and family relationships.

In Africa we have patriarchal families whereby at least we have the head of the family as a man. And the way that people have been brought up … has made that structure work very well. But here is a case whereby people came here with their husbands, but because of this rights business, even the women are not listening to their husbands now, so the children are not listening. And the mother is not listening. And the man is somewhere suspended (Mother C).

Maathai (2010) has argued that ‘the base of the African society is the family’ (p. 275) and that traditionally the African man needs to provide physical and emotional security to his family. Although she does not advocate a return to a traditional patriarchal society, she regards a genuine partnership in raising and caring for children to be essential.

Ideas of an established order, where children are brought up to contribute through taking responsibility for work and for caring for others, came together in a mother’s drawing of her village in Africa.

Figure 1.

I have drawn our village. This is the playground and this is my mother. This is how we prepare cassava and maize for making ugali. This is me. In Africa the child works close to the mother; we work hand in hand with our mother. The children we have given birth to do not help us [in New Zealand]. If you look at this drawing this is my grandmother and she is old, she is sitting here with a walking stick. When you see your mother going to the river, you stop playing and run and catch the bucket from her and go to the river. Our children here just sit down and let you do all the work in the house. They do not do anything. It is hard for us (Mother C).

Parents missed the traditional support from family and community that had been available in Africa. A ‘good’ early childhood service would be a place where they felt a sense of belonging, that this was their place where they could experience a sense of community.

I would like a kindergarten where there’s a lot of openness between the teachers and the family, and general interaction where I can go [and be welcomed](Father B).

A father drew a parallel between the roles played by the church in uniting his community and what an early childhood service might possibly be. He had drawn a picture of the Catholic church in his community and his story told that ‘church brings everybody together, it’s a place for unity and everybody goes there if they have a problem and consult’.

And if we could come up with this centre where we could come and feel free, the way we feel free at home, then you can communicate ‘Oh, you are coming to pick your child up at one o’clock’. Then we’ll be meeting there almost like we met at church. And we see and talk at church with each other. If we have that kind of centre! (Father A).

Learning English

These parents came from a country where the languages spoken were one or more of their many indigenous languages and the European language of French (the language of colonists in Congo Brazaville and the Democratic Republic of Congo). Parents listed being fluent in at least two and up to six languages, but many children and parents were only beginning to learn English. Parents said English language was a key to opening opportunities for education, training, paid employment, and communicating with others in New Zealand.
This is Congo and New Zealand and in the middle is the barrier. English is the biggest problem; it takes us two to three years before we can speak any English. Your level of education does not matter because everybody who comes from Congo has a language problem. It is also difficult to join the university because of we do not have the right language (Mother D).

These parents wanted their children to grow up knowing their home languages, but did not necessarily want to have bilingual education. Ideally, they would like Congolese teachers or teacher aides to work alongside New Zealand teachers, using the home languages of children where necessary, acting as interpreters for children, parents and teachers, and explaining cultural values and experiences. This would enable children to be better understood and supported. New Zealand teachers would be able to find out more about Congolese values and practices and draw on home experiences and knowledge within the curriculum.

It would be very important if the children are being taught English [by] somebody who understands their local language so that it is mixed so that the kids can communicate effectively. If they don’t understand something in English but somebody has their mother language, their home language, who is teaching the children (Father C).

Parents would be able to learn about New Zealand’s education system and become better able to support their child’s home learning. Many parents talked about their difficulties in communicating with teachers of their school-aged children because of English language barriers.

Even me as a parent, if a child comes back with homework, how will I assist them and I do not understand English? At times they send a child with a letter. How will I read the letter? (Mother F).

Their children were learning English faster than they were and were being asked to act as interpreters, a role shift which parents said changed the power dynamics in the relationship.

An important outcome of participating in early childhood education, therefore, is for children to become fluent in English, and for parents to have access to child care while they themselves learn English.

It is very important, early childhood. Because already speaking a new language for us parents is very difficult, but it will be easier for the children. So if they are going to [early childhood] earlier they are going to know the new language which they need (Father B).

My problem is English and finding school for our children under five years old. In learning English we have only 2–3 hours per week, which is not enough. Mothers should be given the opportunity to learn English five days a week. It is very tough to learn English when you go with the child to school. Lessons are interrupted when the child starts crying (Mother G).

Parents said they needed child care for 20 to 30 hours per week, near to the tertiary institution offering English language learning. One mother told of going to learn English for two hours per week when her preference was to study for longer hours. She was not able to get a place for her child at the centre attached to the tertiary education institution which offered longer English for Speakers of Other Languages (ESOL) teaching time. Other early childhood education and care services told her she had to enrol and pay for a full-time place for her child which she did not want and could not afford. She did not think two hours English language learning per week was sufficient for her to acquire fluency in English. These findings are similar to those of Broome and Kindon (2008), whose study of immigrant and refugee families in New Zealand found a pressing need for parents to gain basic English proficiency as a precursor to obtaining paid employment.

**Resettling in New Zealand**

Parents also wanted early childhood education to offer opportunities for families and children to find out about living in New Zealand, and to make connections with other families from New Zealand and their own ethnic group.

At the end of the day, these children are not going to work for the Congo; they are not the assets of the Congo government, they don’t belong there. They belong to the New Zealand government (Father B).

One father argued that his children needed to be in full-time care in order to become adapted to living in New Zealand, and the parent could learn English and go to work.
Some parents expressed gratitude to the New Zealand government and government agencies, but said they did not always have the courage to ask questions of government officials or agency representatives or did not know what they were entitled to or whom to turn to. In the next example, a desire is expressed for connections with New Zealanders who are trusted and with whom the parent feels comfortable to ask difficult and personal questions:

We would like somebody like you [interviewer] who is going to be very honest with us, because you were born here, you know New Zealand, you are a mother, you are a grandmother, so you know all these things. So if you sit with us and tell us all these things, that’s an authority. There are times when our children come and ask us, ‘We want you to do this’ or ‘In New Zealand it’s not done like this’. Because we were never born here we don’t have anybody else, and at times they are very personal questions and you don’t want to go and ask other people. So if you can sit and bring us and discuss and everything comes out, then that will help us a lot (Mother B).

The parents wanted their children to succeed in New Zealand society and to become New Zealanders, and at the same time retain their home language and cultural identity.

What we are requesting to be done, we would like the parents to be brought in a seminar together. When you bring the parents together in a seminar we will talk about the New Zealand culture. We will talk about our culture from Africa. From these two cultures, we will make a hybrid culture and this hybrid culture is what is going to make our children survive and live in New Zealand. Not like in Africa, not like here but something … something good for them, from both sides (Mother A).

Adair and Tobin (2008) have discussed these tensions between the immigrants’ language and culture and the need to help their children learn the host country’s language, and to develop a sense of belonging and identity with that country. In the suggestion above is the idea of creating a common culture as a way to achieve this. Adair and Tobin (2008) point out that debate about how to facilitate efforts of immigrants to become members of society tends to become polarised in positions advocating for biculturalism or multiculturalism versus appeals for a common culture or language. They call for genuine dialogue with immigrant parents so that we understand the desire of such parents for their children to become citizens of the host country without losing their home language and culture.

## Cultural values and identity

Parents would like their important cultural values to be understood and upheld. In Africa, respect is valued as the basis for all relationships, especially between children and adults.

*Education in Africa is not only about going to school and passing exams. It involves respect, it involves life skills on how to live with different people and it teaches the child, not only to respect their parents, but to respect everybody else* (Father B).

The traditional value of respect and caring for each other was being eroded in favour of what was seen as selfish materialism and individualism. Parents spoke with emotion about their school-aged children’s demands for possessions. They were highly critical of a society where they regarded the emphasis to be on the children’s rights at the expense of parents’ rights.

*So those ones [children’s rights], we Africans, really we are against those ones because every time in Western countries [they say] ‘children’s rights’, but they never, never, never talk about parents’ rights* (Father D).

Many parents spoke strongly about being prohibited from using physical punishment which is the common form of discipline in Africa. They did not see alternative means that are acceptable to them and ‘work’. They fear losing the ability to guide their children. They turn to prayers which one parent said ‘works 50/50’.

All the parents wanted an early childhood centre that is inclusive of all cultures, and that does not isolate African children. Several parents talked of Congolese women being trained to become qualified teachers or work as teacher aides.

*The thing is, we don’t want like an isolated group of kindergarten or early childhood with Africans, but … if we have the African children in there, we could have a supervisor who is educated, could be even Pākeha1. But the people who are one-on-one with the children, it’s very important to be Africans, because they know the culture* (Mother A).

*We have teachers who do not understand the African culture. If the child is quiet because he/she is shy they ignore the child. If we have someone who understands the African culture they can support the teacher and the children by telling the teacher the right thing to do* (Mother H).

---

1 Pākeha is the Māori word for settlers who came to New Zealand.
The loss of cultural values through children’s experiences in the New Zealand education system and with their peers represents a loss of what parents hold most dear for their children.

And here when I saw kids, not just my kids, Congolese kids here, I say the conclusion: ‘We are losing our kids’. We lost our culture and I know they will have a job, they will learn here, but the culture, we lost ... completely (Mother A).

### Barriers to early childhood access

Stories were told about a range of barriers preventing access to early childhood education. Long waiting lists prevented parents from getting a place for their child when they needed it. Cost was a barrier, especially outside the provision of ‘20 hours ECE’, which enables free or nearly free early childhood education for three- and four-year-olds in New Zealand. Much provision was inflexible, so that parents had to pay for extra hours they did not want to use, or could not get it at times to fit with their commitments. There was a commonly held and strong wish for early childhood provision to be affordable and available in a location and at times that enabled parents to learn English.

The value placed on work, participation and community responsibility for others was evident in the desire of these participants to belong as contributing members of New Zealand society.

We are grown ups, we are mothers; we do not want to do things like children’s play. We would like to have a good reputation and whatever we are doing should be serious. We would like to be seen as part of the wider community and our contributions should be felt. We need to help younger mothers get employment. As for me, cleaning is not a job I should be doing at my age. It is too hard and I also feel I can do more productive work. We appreciate what the New Zealand government has done for us but we need to be given more opportunities to contribute what we have (Mother A).

Early childhood services cannot do everything to address the complex needs of refugee families and children, but their potential can be expanded to better support them. We discuss these ideas next.

### Discussion

Our aims in undertaking this study were to understand more about the points of view and experiences of Congolese refugee parents as a basis for creating new possibilities for early childhood education and care provision. Three overarching themes we heard running through the focus group discussions, drawings and stories have direct implications for the nature and shape of early childhood provision.

The first theme is cultural and social connection. Education institutions and workplaces should enable the families and children to feel they are in a place where they belong, where the community supports its members, and where they feel related to others in that place. New Zealand’s early childhood curriculum Te Whāriki (Ministry of Education, 1996) emphasises these values. The desire for participation in community and connectedness with others is particularly relevant for refugee parents living in a new country, often without their extended family, who traditionally view education and care as a communal responsibility.

This will be, at least in part, a matter of the families’ cultural values and knowledge being reflected and valued within the fabric of the curriculum. A body of research suggests this will happen when the ‘funds of knowledge’ (Gonzalez et al., 2005) of diverse families and the community are shared in the curriculum (Clarkin-Phillips & Carr, 2009). Our research and the study of Adair and Tobin (2008) offer some ways to find out about ‘funds of knowledge’ which could be modified for use within early childhood services. Offering parents and teachers the opportunity to watch and discuss a video of a day in a preschool centre, undertaking focus group discussions in parents’ home languages, and inviting parents to draw and tell stories were worthwhile ways for generating much open discussion among immigrant and refugee families. Assessment, planning and evaluation practices can provide spaces for contributions. Carr et al. (2001) have argued that assessments can also invite children, families and the staff team to participate in a social community of learners and teachers. They can also signal to families that the curriculum is ‘permeable’ (p. 31) and open to contribution.

At a program-wide level, Pence and others have described a generative curriculum (Ball & Pence, 1999; Dahlberg, Moss & Pence, 1999) in Victoria, Canada, aimed at building indigenous understanding into the teacher education program.

The curriculum and its outcomes are not predetermined, but rather are ‘generated’ each time the programme is delivered, in order to reflect the unique indigenous knowledge and the particular needs, goals, and circumstances of the communities participating in the programme (UNESCO, 2003).

Locally recruited instructors, elders and other community resource people discussed and modelled traditional customs, language and values with student teachers in the program. In New Zealand, Penetito (2001) has argued for local Māori knowledge to be available in

---

2 Māori are the indigenous people of New Zealand.
education institutions and for processes to be established that are meaningful for Māori.

In similar ways, refugee and immigrant teachers, leaders, and resource people could work with early childhood services and schools. The parents in our study held an array of skills, qualifications and experience that were not utilised in New Zealand. Parents wanted to see qualified Congolese teachers or teacher aides working alongside New Zealand teachers to facilitate cultural understanding and communication among children, teachers and parents. New Zealand’s current Equity Funding system, which provides a non-English-speaking background funding component, could be expanded and targeted to meet costs of employment of such teachers or teacher aides.

The second main theme, social justice and equity, requires that refugee and immigrant families can access the services that will enable them to reach their goals for productive participation in life in New Zealand. Early childhood education can play a key role in offering a first formal education setting for children that supports them in learning English as an additional language alongside other valued learning outcomes. Australian studies (Jackson, 2006; Sims, Hayden, Palmer & Hutchins, 2000) have illustrated the emotional support that early childhood services can provide for children and families who have endured traumatic situations. Another vital role is for early childhood services to offer child care alongside education facilities for parents to learn English. There is also a strong desire by parents to find out more about living in New Zealand, and to have support in their parenting. Integrated multi-service early childhood education and care provision that encompasses children’s education and offers integrated support for families has the potential to offer wider possibilities for learning and for enhancing the agency of children and families than do stand-alone education services (Biddulph, Biddulph & Biddulph, 2003; Cohen, Moss, Petrie & Wallace, 2004). Within the context of this community research project, integrated provision could recognise and include refugee and immigrant parents’ knowledge and values and offer a range of services for families, school-aged children and preschool children.

Currently, early childhood education and care service waiting lists, high costs, and some inflexibility in operation make it hard for these families to access services where and when they need them. These problems are also experienced by other families (Mitchell, 2008; Mitchell & Davison, 2010), and are largely a consequence of a market approach to provision that has not ensured appropriate services are available where they are needed. We argue that all children should be entitled to a place. In the first instance priority could be given to children of refugee and immigrant families for whom English is an additional language.

The third theme is for Congolese families to have a sense of agency, to be positioned with authority, to be able to use their competence and experience to make positive changes to their worlds. Bruner (1998) describes a sense of agency as being that ‘the children feel that they know how to do things and can depend on themselves, and can succeed in doing something well’ (p. 6). In one mother’s words, families want to be seen as part of the wider community and for their contributions to be felt. Lloyd et al. (2005) in their systematic review of literature about outcomes of interventions for young refugee children (aged 0–8 years) also found a sense of agency and resilience to be important factors. These were refugee children who had experienced armed conflict and living in difficult circumstances.

The part played by children themselves in activities promoting the ‘normalisation’ of their daily living circumstances and strengthening their coping mechanisms, appeared crucial to the success of the interventions (p. 1).

The Congolese collective researched their own experiences, challenges and aspirations in focus groups for this community research project. Their discussions offer a basis for planning and providing education services that are responsive to the wider context of children’s and families’ lives, that support a strong sense of community at a local level, and that promote a socially just world. We have set out to undertake this work in our own New Zealand city, Hamilton. Congolese leaders and the researchers have presented our report to a wider community of refugee and immigrant families. A working group has been established with Congo Brazzaville, Democratic Republic of Congo, Somali and Columbian representatives to work together in developing plans for an integrated children and family centre that meets the aspirations of the immigrant and refugee communities.

**Conclusion**

The research examined in this article highlighted the experiences and views of Congolese refugee parents who had resettled in New Zealand and their aspirations for what a ‘good’ early childhood service could possibly be. Participants desire a service that offers space for social and cultural connectedness. They want opportunities for themselves and their children to learn English, but current waiting lists and costs mean services are not always accessible when they are needed. They also want an early childhood service to support a sense of agency so that they and their children can contribute to society. The article examines how these themes are being taken forward by a refugee community action group in planning for an integrated children and family centre.

**Acknowledgements**

The study was funded with a grant from the Faculty of Education, University of Waikato.
Young school-aged children’s behaviour and their care arrangements after school

Kym Simoncini
Nerina Caltabiano
Michelle Lasen
James Cook University

CHILDREN’S PARTICIPATION IN out-of-school-hours care (OSHC) has increased significantly over recent years. From 1996 to 2005, the number of school-aged children attending after-school care doubled from 6% to 12%. Despite the large numbers of children accessing OSHC, little is known about the outcomes of attending such programs. This study aims to investigate how parents, teachers and OSHC coordinators perceive children’s behaviour and the outcomes of attending OSHC services. The Strengths and Difficulties Questionnaire was used to rate children’s behaviour.

According to teachers’ and OSHC coordinators’ reports, children in full-time after-school care had more behaviour problems than did children who received parental care or a combination of parental care and after-school care. Teachers and coordinators also rated boys as having more behaviour problems than did girls. Mothers’ reports revealed no differences in children’s behaviour according to after-school care arrangements or gender. All three informant groups reported year-level differences in behaviour, with children in Year 1 having the highest scores.

Introduction

Nowadays many parents use alternative care arrangements to help care for their children. Just under half (48.2%) of children aged between birth and 12 years participate in child care (ABS, 2010). Rising numbers of mothers in the workforce, increased numbers of single-parent families, and family mobility may explain the numbers of children accessing non-parental care (Seppanen et al., 1993). In Australia, 64 percent of mothers with children under the age of 15 are employed (ABS, 2008a), while 14 percent of families are single-parent families (ABS, 2008b). Many families live away from other extended family members who may have helped with child care in the past. The aim of this study is to investigate whether teachers, parents and after-school care coordinators perceive differences in children’s behaviour according to their after-school care arrangements, in a large Australian sample where the quality of the OSHC services is known.

In Australia, families may use a combination of formal and informal care for their children during the hours after school. Informal care refers to care provided by family members other than parents, such as grandparents, siblings and aunts, or that provided by friends, neighbours, babysitters or nannies. Formal care is provided by day care centres, before- and after-school care, family day care and occasional care. As is the case with early child care, children may have multiple arrangements involving a combination of care types. After-school care in Australia is part of out-of-school-hours care (OSHC), which includes before-school care, after-school care and vacation care. OSHC provides school-aged children with supervised and planned recreational activities in safe and caring environments. After-school care is generally provided from the time school finishes until 6:00 pm. Providers of after-school care include schools and/or their Parents and Citizens/ Friends organisations, local councils, church bodies such as Centacare, family day carers, long day centres, not-for-profit community groups such as the Police Citizens Youth Club (PCYC), and for-profit organisations such as Camp Australia.

The number of school-aged children participating in before- and after-school care programs has doubled from 6% in 1996 to 12% in 2005 (ABS, 2007). Sixteen
per cent of six- to eight-year-olds and 8.1% of nine- to 12-year-olds attend after- and/or before-school care (ABS, 2010). According to the Office of Early Childhood Education and Child Care, the average amount of time an Australian child spends in before- and after-school care is approximately 12.6 hours a week (DEEWR, 2011). Despite dismissal as a short filler between school and home, these hours in care should not be regarded as inconsequential, especially for children who also attend vacation care during school holidays. Over the course of the school years, the time spent in OSHC has the potential to make up a sizable portion of children’s lives and as such must influence their development.

Within developmental research, children’s behaviour is a widely used measure as it is readily observable and can be assessed with checklists. It is an important measure, as problem behaviour can be a risk factor in children’s development. Externalising behaviour including conduct problems, aggression, opposition, hyperactivity and delinquency is often regarded as the single best predictor of risk for future conduct disorder and antisocial behaviour (Bennett, Lipman, Racine & Offord, 1998). Studies have shown that disruptive behaviour in primary grades is a main predictor of academic difficulties and high school non-completion (Alexander, Entwisle, & Horsey, 1997; Ensminger, Lamkin & Jacobson, 1996; Rumberger, 1995; Vitaro, Brendgen, Larose & Tremblay, 2005; Vitaro, Larocque, Janosz & Tremblay, 2001). The association between early disruptive behaviours and later failure in school holds even when controlling for intellectual abilities and family socioeconomic status (Rumberger, 1995; Vitaro et al., 2001).

As early as kindergarten, children’s hyperactivity-inattention and, to a lesser degree, aggressiveness-oppisition can predict later school failure (Vitaro et al., 2005). Most students who do not complete school find it difficult to gain secure jobs and face a greater risk of exclusion in a society where active learning beyond schooling years is required (Lamb, Dwyer & Wyn, 2000). Limited education impacts on economic and social wellbeing throughout adult lives (Rumberger, 1987). More specifically, students who drop out of school are more likely to later engage in criminal behaviour (Thornberry, Moore & Christenson, 1985) and place extra strain on welfare programs for housing, health, employment and subsidised further education, costing governments millions of dollars (Catterall, 1986; Levin, 1972).

Problem behaviour occurs most frequently in boys aged eight to nine years and 12 to 15 years, as well as in students with special education needs and those from low-income families where ‘anti-social’ behaviour is common among the adult members (Ofsted, 2005). An early study found a 3:1 ratio of boys to girls in terms of frequency of problem behaviour (Wheldell & Merret, 1989). In a more recent review of classroom behaviour studies, Beaman and colleagues (2007) stated that boys in both primary and secondary school settings were consistently perceived as having more behaviour problems than girls. Australian research findings identified being male, living in a single-parent family or with neither parent, receiving punitive parenting, having problems with family in the previous six months, acting impulsively, and having reading and/or writing difficulties as predictors of children attacking other children (NSW Bureau of Crime Statistics and Research, 2005).

Several longitudinal studies examined behaviour trajectories through childhood and adolescence. These trajectory studies showed that girls had lower externalising behaviour scores than boys at all measurement times (Bongers, Koot, Van der Ende & Verhulst, 2003; Leve, Kim & Pears, 2005; Miner & Clarke-Stewart, 2008). In two studies that collected reports from both mothers and teachers, the latter rated boys as having significantly more externalising behaviour than girls, while mothers did not (Keiley, Bates, Dodge & Pettit, 2000; Miner & Clarke-Stewart, 2008). Keiley and colleagues suggested that the gender difference in the school setting, as reported by teachers, may have reflected a higher level of opportunity for boys to clash with demands for restraint. In terms of mothers’ reports, mothers may have regarded their children’s behaviour as a reflection of themselves or their parenting skills and therefore rated the children as having more desirable behaviour than was the case.

Parents and teachers are the two key informant groups of children’s behaviour. Both spend considerable time with children and can provide different perspectives of their behaviour. Teachers can offer valuable insights as they develop norms in relation to children’s development through their contact with multiple children (Saudino, Ronald & Plomin, 2005). They are able to observe children with their peers for long periods, allowing them to make comparisons between children (Abikoff, Courtney, Pelham & Koplewicz, 1993). Mothers, however, are the most frequent informants regarding children’s behaviour, both in clinical work and research. Alongside mothers’ higher participation rates in behavioural research, they are considered the primary caregivers and are assumed to most accurately observe children’s problems (Loeber, Green & Lahey, 1990; Phares, 1997).

Studies have revealed only modest associations between informant groups (i.e. between teachers and parent, and children and parents) in terms of reporting on children’s behaviour (Achenbach, McConaughy & Howell, 1987; Grietens et al., 2004; Offord et al., 1996). In part, their ratings are inconsistent with one another owing to the different settings in which they observe children. At school, children must comply with school rules and expectations, share attention from adults who are not their parents, and achieve certain academic
objectives (Dishion, French & Patterson, 1995). These rules and expectations may be very different from those children experience at home and, as such, elicit different behaviour. Hence, researchers and clinicians concur that information from different informant groups is not interchangeable (Stanger & Lewis, 1993) and that each group delivers a unique contribution, adding to the reliability of the clinical assessment (Merrell, 1999).

Unlike the field of early child care, comparatively few studies have examined after-school care (Vandell & Posner, 1999). Most research in after-school care has occurred since the 1980s and in the United States where considerable government and private funding has been allocated to after-school programs (ASPs), based on the common perception that these programs have considerable potential to benefit children, adolescents and their communities (Gottfredson, Cross & Soule, 2007). Findings from large meta-analyses of ASP studies suggested that youth participating in ASPs showed greater academic gains compared to non-participants (Durlak & Weissberg, 2007; Lauer et al., 2006; Redd, Cochrane, Hair & Moore, 2002). Program effectiveness, however, varied greatly across programs and outcomes. According to Granger’s (2008) meta-analysis, even though the average of effects across studies for academic outcomes was positive, the modal result was the null finding. In other words, the few positive effects were large enough to offset the more numerous null and negative effects.

**Mixed findings**

There have been mixed findings regarding children’s behaviour and ASP participation. While some research found that participation in ASPs reduced negative behaviours (Marshall et al., 1997; Posner & Vandell, 1994), other studies revealed no impact on behaviour (Baker & Witt, 1996; NICHD Early Child Care Research Network, 2004). Other findings indicated an increase in negative behaviours (Massachusetts 2020 and Boston Public Schools, 2004; Vandell & Corasaniti, 1988).

Two of the aforementioned meta-analyses of children’s outcomes associated with ASP attendance also investigated children’s behaviour. Durlak and Weissberg (2007) examined the impact of ASPs that aimed to promote children’s personal and social skills in addition to academic outcomes, and found that youth attendees demonstrated overall more positive feelings and attitudes and indicators of behavioural adjustment. Redd et al. (2002) found that some academic-oriented programs improved social and emotional outcomes for participants, but their effectiveness was mixed. The most recent meta-analysis showed little support for the claims that greater participation in ASPs was related to behavioural, socio-emotional or academic outcomes (Roth, Maloney & Brooks-Gunn, 2010).

An evaluation of the ASPs of 21st Century Community Learning Centres, which are patronised by approximately one-and-a-half million US children and adolescents (Afterschool Alliance, 2009), showed no improvements in children’s behaviour as a result of attendance (James-Burdumy et al., 2005). James-Burdumy and colleagues (2005) used an experimental design to assess the impact of the 21st Century program on elementary and middle school students. For elementary students, there was evidence of higher levels of behaviour problems among children attending the program compared with non-attendees in the control group. Nearly all the negative behaviour could be traced to boys and to students who had a higher level of disciplinary problems at baseline (James-Burdumy, Dynarski & Deke, 2006). James-Burdumy et al. (2006) proposed three hypotheses as to why students who attended after-school programs were more likely to misbehave during school: (1) students may be more fatigued because they spend more time in school, (2) students may be influenced negatively by peers they spend time with during the after-school program, and (3) students may misbehave more because the programs tolerated behaviour for which students would be disciplined in their regular classrooms (p. 7).

When considering the US literature, it is important to be aware of sample characteristics. Many of the ASPs are located in low-income neighbourhoods with large minority populations, and most of them target children who are considered at risk of one or more negative developmental outcomes (Redd et al., 2002). Studies have indicated that, in comparison with middle-income children, low-income children are more likely to benefit from after-school opportunities (Mahoney, Lord & Carryl, 2005; Miller, 2003). Their neighbourhoods tend to be less safe and they are at greater risk of academic failure, and so require additional time in educational activities to supplement school experiences (Lauer et al., 2006). Findings from US studies may not apply to the Australian context, given that OSHC does not seek to enhance academic achievement or offer academic remediation or enrichment beyond assistance with regular homework if children desire it. In Australia, OSHC is a service to parents to care for children until the end of the work day. The different intentions and clientele of ASPs and OSHC make them incompatible for comparison.

Research investigating the effects of after-school care in Australia has been limited to two studies (Elliot, 1998; Howie, 1996). Elliot examined children’s and families’ experiences with school-aged care in terms of their levels of satisfaction, children’s friendships and the effect on family relationships. While both children and parents were found to have positive experiences with after-school care, they perceived it as a necessary rather than an optional activity. Children who attended
after-school care had friends and participated in extra-curricular activities as did other children from similar suburban backgrounds. Nonetheless, after-school care lessened their opportunities to play with friends in their neighbourhood. Younger children were more satisfied with after-school care than were older children. The latter would have preferred more time at home to watch television and play with friends.

Howie (1996) compared developmental outcomes of children in parental care and those in after-school care. Children in parental care were further divided into two groups according to whether or not the mother was employed. Differences in children’s self-esteem, anxiety levels, sociometric status, overall academic achievement and life-skills were investigated. No differences were found among the groups, which suggested that in this Australian sample there were no detrimental outcomes from attending after-school care. However, Durkin (1996) argued that Howie’s (1996) sample may have been biased because only concerned parents participated in the study and may have had better parenting skills which countered any detrimental effects of after-school care. Howie’s study was based on Vandell and Corasaniti’s (1988) research, which compared children’s outcomes according to different care arrangements, including self-care, sitter care, maternal care and after-school care. Vandell and Corasaniti argued that parents may have chosen to send their children to after-school programs in the belief that their children needed extra supervision, suggesting that these children already exhibited adjustment problems.

How school-aged child care affects children’s development–behaviour in particular is largely unknown in an Australian context. Aside from the paucity of Australian research, differences in child care provision and regulations between the US and Australia make it difficult to generalise US findings to the Australian context. The following hypotheses were made based on the literature presented:

1. That there will be a difference in children’s behaviour scores according to gender (i.e. boys will have higher scores than girls).
2. That there will be a difference in children’s behaviour scores according to after-school care arrangement (i.e. children in full-time after-school care will have higher scores than children in parental care or a combination of parental care and after-school care).
3. That there will be differences between teachers’, after-school care coordinators’ and mothers’ ratings of children’s behaviour.

Method

Sample

Three samples consisting of teachers, mothers and OSHC coordinators were accessed from seven schools in middle to high SES areas in a regional city in Queensland. Most students in these schools were white. Children who identified themselves as Indigenous or spoke a language other than English at home accounted for less than five per cent of the student population.

Sample 1 comprised 31 Prep to Year 3 teachers who completed behaviour checklists for 693 children in their classes (41% of possible teachers). Of these teachers, 23 taught in Catholic schools (74%), five in independent schools (16%) and three in state schools (9%). Only three of the 31 teachers were male (9.7%). Teachers

| Table 1. Education level, gross family income and employment status of child’s mother |
|---------------------------------|-------------|-------|
| Education level                |   n   | per cent |
| Completed Year 10              |   96  | 10.9  |
| Completed Year 12              |  150  | 17.0  |
| Completed TAFE or college certificate |  291  | 33.0  |
| Competed university degree      |  276  | 31.3  |
| Completed post-graduate studies|   70  |  7.9  |
| Gross family income (per year) |         |       |
| Below $41,000                  |  114  | 13.0  |
| Between $41,000 and $92,000    |  415  | 47.4  |
| Above $92,000                  |  345  | 39.4  |
| Employment status              |         |       |
| Full-time employment           |  245  | 27.2  |
| Part-time employment           |  451  | 50.1  |
| Home duties                    |  204  | 22.7  |

Note: Discrepancies in total numbers for the different variables are due to missing data.
who had been working between one and five years accounted for approximately half of the sample (51%). Just over one-quarter had been teaching between six and 19 years and 23%, for more than 20 years. Of the teachers, 55% had children of their own. A total of 337 behaviour reports could be matched to parent reports.

In the second sample, mothers completed 893 behaviour checklists. It is possible that some of these mothers were the same if they had more than one child in Prep to Year 3. Children with intellectual disabilities or social/emotional disorders were not included in the study. Most of the participant children were in two-parent families (85.3%, n = 769), 8.8% were in single-parent families (n = 79) and 5.8% were in shared custody, blended families or other family arrangements (n = 55). Table 1 gives details of education levels, gross family income and employment status of the child’s mother.

Based on the Australian 2006 Census (ABS, 2006), the family income of mothers who participated in the study did not differ greatly from that of Australian mothers generally. However, there were differences in level of education and employment status. Mothers in the study sample had higher levels of education than did Australian women generally. Specifically, 39.2% of the mothers in the sample had university qualifications compared to only 15.4% of Australian women. Half of the mothers in the sample worked part time and just over one-quarter were employed full time. In contrast, 30% of Australian women aged between 20 and 44 years worked part time and 40% full time (ABS, 2006).

Sample 3 consisted of five OSHC coordinators who completed behaviour checklists for 230 children who attended after-school care every day or on a regular part-time basis. Five out of the seven OSHC coordinators from the sample schools returned the checklists. All five coordinators were female and had held their positions as coordinator for a period ranging from 18 months to six years (M = 3.9 years). Of the 230 reports, 146 could be matched to the teacher’s behaviour reports.

All OSHC services were located on the school grounds and were in some way attached to the school. Four of the services were managed by the school, two were managed by the Parents and Citizens Association and one was managed by the Queensland Lutheran Education Children’s Services. Each service provided its then current Quality Profile, awarded by the National Childcare Accreditation Council. Six of the seven services were accredited. The other service had been operating for two years and, at the time of data collection, had recently engaged in its first accreditation process. The profiles of all services showed the majority of quality areas as high or good quality.

**Procedure**

Eleven schools were approached to participate in the study. Two state, three Catholic and two independent schools agreed to participate. A parent survey was sent home with every child in Prep to Year 3. A post box was provided in every classroom for children to return the survey and free pizza or tuckshop lunch was offered as an incentive to the class who returned the most surveys. Overall, there was a 60% return rate. The mothers were asked for demographic details and their child’s after-school care arrangements and to complete the Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1997).

As a registered teacher, the researcher taught the classes while the regular teacher completed a SDQ for each child in the class who received full-time parental care, full-time after-school care or a combination of parental and after-school care. The majority of children fell into these categories. Birthdates were used to identify children.

After-school care coordinators were asked to complete SDQs for 50 children in Prep to Year 3; half attended after-school care full time and half attended on a regular part-time basis. In cases where there were fewer than 50 children, coordinators filled in a report for all children who regularly attended OSHC. Coordinators were given gift vouchers as an incentive for completing the behaviour reports.

**Instruments**

The SDQ (Goodman, 1997) was used to rate children’s behaviour. The SDQ, a one-page questionnaire that assesses the behaviour of 3–16-year-olds, has well-established validity and reliability. Respondents use a three-point Likert scale to answer 25 items, which are divided into emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, and prosocial behaviour. The first four scales are divided into emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, and prosocial behaviour. The first four scales are added together to generate a total difficulties score. Examples of the items include ‘generally liked by other children’, ‘often loses temper’, and ‘easily distracted and concentration wanders’. Scores have been broadly classified into three groups: normal, borderline and abnormal. For parent reports, scores of 0–13 are considered normal; 14–16 borderline; and 17–40 abnormal. Score bands are slightly higher for teachers. The SDQ is comparable to both the Child Behavior Checklist (CBCL) (Achenbach, 1991) and the Rutter (1967) questionnaire. The SDQ is shorter than both these instruments and equally able to measure the adjustment and psychopathology of children and adolescents (Goodman, 1997; Goodman & Scott, 1999).
Results

Survey response rate

Teacher behaviour scores were used to compare children according to the parent survey response rate. Mann-Whitney U tests revealed significant differences between the scores of children whose mothers returned the parent survey and those children whose mothers did not return the survey. Children whose mothers completed the survey had better behaviour scores ($Mdn = 4, n = 339$) compared to children whose mothers did not return the survey ($Mdn = 6, n = 341$), $z = -2.40, p = 0.02$.

After-school care arrangements

Teachers completed the SDQ for 693 children; 359 were female (51.8%) and 334 male (48.2%). The proportion of children from each year level was: 26.4% ($n = 183$) were in Prep; 21.2% ($n = 147$), in Year 1; 30.4% ($n = 211$), in Year 2; and 21.9% ($n = 152$), in Year 3. In terms of care arrangements, 475 children (68.5%) were in full-time parental care, 125 children (18.0%) received a combination of parental care and after-school care, and 93 children (13.4%) attended full-time after-school care.

A Kruskal-Wallis test indicated that, according to teacher reports, there were significant differences in behaviour scores between the three care groups of children $\chi^2(2, 693) = 31.41, p < 0.001$. Children who received exclusive parental care had the lowest scores. The mean ranks of the three groups of children are given in Table 2.

Table 2. Mean ranks of children's behaviour scores according to after-school care arrangements

<table>
<thead>
<tr>
<th></th>
<th>$n = 693$</th>
<th>Mean rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time parental care</td>
<td>475</td>
<td>320.76</td>
</tr>
<tr>
<td>Combination ASC and parental care</td>
<td>125</td>
<td>377.32</td>
</tr>
<tr>
<td>Full-time after-school care (ASC)</td>
<td>93</td>
<td>440.24</td>
</tr>
</tbody>
</table>

Using a Bonferonni adjustment of 0.02, post hoc analyses revealed a significant difference between the scores of children who attended full-time after-school care ($Mdn = 9, n = 93$) and those who received exclusive parental care ($Mdn = 4, n = 475$) $U = 4668, z = -2.49, p = 0.013, r = 0.17$. There was also a significant difference between the behaviour scores of children who attended full-time after-school care ($Mdn = 9, n = 93$) and those who received a combination of after-school and parental care ($Mdn = 6, n = 125$) $U = 14560.5, z = -5.22, p < 0.001, r = -0.22$. There was also a significant difference between the scores of children who received a combination of care ($Mdn = 6, n = 125$) and those who received exclusive parental care ($Mdn = 4, n = 475$) $U = 24752.5, z = -2.87, p = 0.004, r = 0.12$. The effect sizes for these differences were small.

Proportions of children within the normal, borderline and abnormal categories were comparable to population norms. According to Goodman (1997), approximately 10% of the population is expected to have abnormal behaviour and 10% to have borderline behaviour. Hence, 80% of the population is expected to have normal behaviour. In this sample, 11.5% of children were rated by teachers as having abnormal behaviour; 10.1%, as having borderline behaviour; and 78.4%, as having normal behaviour. A Chi-squared test for independence showed significant differences between the three care types and behaviour categories, $\chi^2(4, 693) = 25.93, p < 0.001$, Cramer’s $V = 0.14$. Full-time parental care was associated with the highest percentage of normal behaviour scores. A total of 82.7% of children who received full-time parental care were rated as having normal behaviour, whereas 74.4% who received a combination of parental and after-school care and 61.3% who attended full-time after-school care were rated as having normal behaviour. The effect size was small.

There was some evidence of gender differences in behaviour type and after-school care arrangement. The type of care girls received was significantly related to the behaviour categories, $\chi^2(4, 359) = 25.37, p < 0.001$, Cramer’s $V = 0.18$. Again, parental care was associated with the highest percentages of normal behaviour scores. A total of 86.5% of girls in parental care and 82.5% in a combination of care were rated as having normal scores compared to only 60% in full-time after-school care. The effect size was small. Results for boys approached significance. The percentage of boys who were rated as having normal behaviour scores was 78.6% for those in full-time parental care compared to 66.1% of those in a combination of care and 62.5% in full-time after-school care. Owing to the sample sizes, it was not possible to compare children’s behaviour scores according to the school or OSHC service they attended.

OSHC coordinators reported on 230 children; 52% were females ($n = 118$) and 48% were males ($n = 109$). The proportions of children from each year level were as follows: 22.7% ($n = 52$) were in Prep; 20.1% ($n = 46$), in Year 1; 27.9% ($n = 64$), in Year 2; and 29.3% ($n = 67$), in Year 3. In terms of care arrangements, 41.7% ($n = 96$) attended after-school care full time, while 58.3% ($n = 134$) attended after-school care part time.

A Mann-Whitney U test revealed significant differences between children’s behaviour scores according to care arrangement. Children who attended after-school care part time ($Mdn = 5.5, n = 134$) had lower behaviour scores than did children who attended full time ($Mdn = 0, 6, n = 96$), $U = 5218.5, z = -2.45, p = 0.014, r = -0.16$. The effect size was small.
Of these coordinators’ reports, 112 could be matched with teacher reports. For the matched teacher reports, no significant relationships were found between children’s behaviour scores and their after-school care arrangement, gender or year level. The correlation between coordinator and teacher reports for the SDQ was moderate, $r = 0.41$, $p < 0.001$.

The disproportionate nature of the children’s care arrangements meant the three categories used by teachers could not be employed in the parent sample. More than two-thirds of the children ($n = 598, 67.5\%$) received exclusive parental care, while only 42 children (4.7\%) attended full-time after-school care. The remaining children had a variety of care arrangements, including combinations of parental care and after-school care, sibling care, self-care, other formal care such as daycare centres and family day care, as well as informal care such as friends, neighbours and relatives. As such, analyses only compared parental care with non-parental care. A Mann-Whitney U test revealed a significant difference between behaviour scores of children receiving exclusive parental care and those receiving some non-parental care. Children in parental care ($Mdn = 6, n = 598$) had lower scores than those in non-parental care ($Mdn = 7, n = 287$), $U = 77702$, $z = –2.28$, $p < 0.001$, $r = –0.08$. The effect size was small.

**Gender**

While mothers reported no differences in children’s behaviour scores according to gender, differences were reported by classroom and matched teachers and OSHC coordinators. A Mann-Whitney U test showed that girls ($Mdn = 4, n = 359$) were rated by classroom teachers as having lower behaviour scores than boys ($Mdn = 6, n = 334$), $U = 49924$, $z = –3.82$, $p < 0.001$, $r = –0.15$. Similarly, matched teachers reported that girls ($Mdn = 3, n = 168$) had lower scores than boys ($Mdn = 5, n = 167$), $U = 10,567.5$, $z = –3.92$, $p < 0.001$, $r = –0.21$. Coordinators likewise reported that girls ($Mdn = 4, n = 118$) had lower scores than boys ($Mdn = 7, n = 109$), $U = 4226.5$, $z = –4.47$, $p < 0.001$, $r = –0.03$. All effects sizes were small.

**Year level**

Teachers, mothers and OSHC coordinators all reported behaviour score differences according to year level, with children in Year 1 having the highest scores. Initial analyses used Kruskal-Wallis tests. Post hoc tests used Bonferonni’s adjustment of 0.006. According to mothers’ reports, there were significant differences between children’s scores according to their year level, $\chi^2 (3, 887) = 8.91$, $p = 0.03$. Post hoc analyses showed significant differences between children in Year 1 ($Mdn = 7, n = 145$) and Year 2 ($Mdn = 6, n = 233$), $U = 13904$, $z = –2.80$, $p = 0.005$, $r = –0.14$. The effect size was small.

According to classroom teacher reports, there were also significant differences between children’s behaviour scores according to their year level, $\chi^2 (3, 693) = 15.63$, $p = 0.001$. Post hoc tests revealed significant differences between children in Year 1 ($Mdn = 6, n = 147$) and Year 2 ($Mdn = 3, n = 211$), $U = 12031$, $z = –3.62$, $p < 0.001$, $r = 0.19$; and between children in Year 2 ($Mdn = 3, n = 211$) and Year 3 ($Mdn = 6, n = 152$), $U = 13049$, $z = –3.04$, $p = 0.002$, $r = 0.16$. These effect sizes were all small.

Similarly, matched teachers reported differences between the behaviour scores of children in the different year levels $\chi^2 (3, 335) = 9.17$, $p = 0.027$. However, the differences were no longer significant after applying Bonferonni’s adjustment. Out-of-school-hours care coordinators also reported behaviour score differences according to year level $\chi^2 (3, 229) = 11.28$, $p = 0.01$. Post hoc tests revealed significant differences between children’s behaviour scores in Year 1 ($Mdn = 7.5, n = 46$) and in Year 3 ($Mdn = 5, n = 67$), $U = 999$, $z = –3.18$, $p = 0.001$, $r = 0.21$. The effect size was small.

**Discussion**

According to reports by parents, teachers and OSHC coordinators, children in full-time non-parental care had higher behaviour scores than did children who received parental care or a combination of parental and after-school care. To reiterate, higher behaviour scores on the SDQ indicate more behaviour problems. Classroom teachers rated children who attended full-time after-school care as having the highest scores as compared to those receiving exclusive parental care or a combination of care. There were also significant differences in behaviour scores between the children who received exclusive parental care and those who received a combination of care, with the former having lower scores.

Owing to the small numbers of children in non-parental care who returned the parent survey, only two categories were used to compare after-school care arrangements: parental care and non-parental care. Mothers and matched classroom teachers both rated children receiving non-parental care as having higher behaviour scores than did children in parental care. Similarly, OSHC coordinators rated children who attended full-time after-school care as having higher behaviour scores than did those children who attended after-school care part time.

When teacher scores were re-coded into normal, borderline and abnormal behaviour scores, as defined by the SDQ, full-time parental care accounted for the greatest number of children with normal behaviour scores, followed by a combination of care. When scores across care types were compared, gender
differences were found. For girls, parental care was associated with normal behaviour scores, as measured by the SDQ. Parental care, however, does not have to be full time. The proportion of girls with normal behaviour scores for full-time parental care was 86.5% and part-time parental care, 82.5% while full-time after-school care was 60%. In terms of normal behaviour scores, the difference between parental care, whether full-time or part-time, and full-time after-school care was significantly different. For boys, nearly 80% of those in full-time parental care had normal scores compared to 66% in part-time parental care and 63% in full-time after-school care. It is important to note, however, that differences between these male groups only approached significance. Additionally, it must be pointed out that, despite children attending full-time after-school care having higher behaviour scores, the scores of the majority of children still fall within the normal range.

Responses from OSHC coordinators during interviews and conversations revealed they were focused on children’s welfare and the provision of quality programs that promoted children’s development in a safe and supportive environment. Nonetheless, there are many plausible reasons why full-time after-school care is associated with higher levels of problem behaviour. Despite coordinators’ best efforts, it is a long day for children in OSHC after already having attended six hours of school. The day is even longer for those children who also attend before-school care. As identified by teachers and in the literature (James-Burdumy et al., 2006), fatigue may be the cause of behaviour problems. Furthermore, some children may find being part of a large multi-aged group stressful. Most OSHC centres are licensed for 50 or more students in the afternoons, with the larger centres catering for 70 to 100 children. The high child:adult ratio means coordinators and assistants are less able to give individual attention to children. While children can choose quiet activities, they are never really alone. They are forced to be social, regardless of whether or not they want to be. It is difficult for children to have any real quiet time which they may require after a day of school.

Additionally, there is little staff continuity in OSHC. Unless the children attend a very small service where only one or two staff members are employed, children are likely to encounter many different carers. OSHC staff members are only casually employed and very few other than the coordinator and assistant coordinator work every day. As such, it is difficult for children to build relationships with the staff. Also, children in group situations observe and learn behaviours from other children (James-Burdumy et al., 2006). These behaviours can be both positive and negative. This can be a problem for young children, who learn age-inappropriate behaviour from older children. While such issues may pose no problems for children who attend OSHC a couple of afternoons a week, they may become more pressing for children in attendance over long periods.

It is also possible that children who attend after-school care may have had different behaviour to begin with. As suggested by Vandell and Corasaniti (1988), parents of children who have behaviour problems or the tendency to develop them may purposely choose to send their children to after-school care knowing they will be properly supervised and have activities available to them. If parents deem their children to be well-behaved and responsible, they may feel more comfortable to ask friends or neighbours to mind their children after school or allow their children to come home alone. Alternatively, parents may be able to take their children back to workplaces where children can quietly amuse themselves until finishing time. These may not be options for parents of children whose behaviour is exuberant or unruly.

Correlations between reports of teachers and parents and those of teachers and coordinators support other research findings (Achenbach, McConaughy & Howell, 1987; Grietens et al., 2004). There was a medium correlation between teachers’ and parents’ reports. As discussed in the literature review, parents and teachers see children in different contexts and have different relationships with them, resulting in the two groups giving different behaviour scores. There was a stronger correlation between teachers’ and OSHC coordinators’ reports, although it was still only moderate. Again, this relationship was expected, as both teachers and coordinators see children in large groups when they must conform to group rules. Mothers rated their children’s behaviour better than the Australian norms and lower than the teachers. This may be, in part, because of sample biases where children who returned the surveys were rated as having significantly lower behaviour scores than those who did not return the survey.

Teachers and OSHC coordinators noted gender differences in children’s scores, while mothers did not. That teachers and coordinators recorded gender differences corresponds with evidence that suggests that boys display more problem behaviours than girls do (Beaman et al., 2007; NSW Bureau of Crime Statistics and Research, 2005; Ofsted, 2005). These gender findings echo results by Keiley et al. (2000) and Miner and Clark-Stewart (2008) where teachers rated boys as having more problem behaviours than did girls, while mothers did not.

Teachers, mothers and coordinators all reported year level differences in children’s behaviour scores. While the patterns in scores across the four year levels varied slightly, teachers, mothers and coordinators reported children in Year 1 as having higher scores
than children in other year levels. That children display the highest behaviour scores in Year 1 may be owing to changes in teaching methods and expectations of children from Prep to Year 1. In Queensland, the Prep curriculum advocates play- and inquiry-based learning. These emphases continue children’s play-based and exploratory experiences of kindergarten and child care. In Year 1, however, children are often expected to learn in more structured ways and more structured environments. It seems plausible that children may find this change challenging. However, for most children, this lapse in behaviour is not permanent, as both mothers and teachers reported Year 2 children as having the lowest behaviour scores. That teachers reported a difference between children’s scores in Year 2 and Year 3, with Year 3 children having higher scores, supports research that problem behaviour occurs most in boys between the ages of eight and nine years (Ofsted, 2005).

The main limitation of the study was that the data from the parent survey only allowed a comparison of parental care with non-parental care for after-school care arrangements. The number of children who used non-parental care compared to those who received exclusive parental care was very small, and further division into the different types of non-parental care was not possible. As a result, only a limited number of analyses could be performed. These analyses did not include multiple regressions where predictors of children’s behaviour were able to be investigated.

The findings from this study may be generalised only to other middle to high SES families with well-educated mothers. Research from the US suggests that children from low SES backgrounds may benefit more from after-school programs, as their parents may be unable to provide safe environments or educational and enriching activities for them. It is also likely that school-aged children’s behaviour is affected by early childcare experiences in addition to current after-school care experiences. The influence of early care experiences on later behaviour cannot be ruled out as significant.

While this study examined the effects of different care arrangements on children’s behaviour in a large Australian sample where the quality of care was regulated and typically of high quality, other research is required. Future studies need to consider different samples, as this study only investigated children from middle to high SES families. Subsequent research also needs to consider different care arrangements. In this study, only parental care, after-school care and a combination of the two were examined, yet many children experience other arrangements. Other developmental outcomes should also be examined in addition to behaviour including social relations, academic achievement, anxiety levels and self-esteem. The time after school is a considerable context for children’s development and should be regarded as such. In addition to a broader knowledge base about children’s development and school-aged care, this study has highlighted important implications for families making decisions regarding non-parental care.

References


Introduction

The purpose of this article is to introduce ‘social knowledge domains’ as a theoretical concept for understanding diversity, and its meanings among participants in Swedish, multicultural preschool settings. In Sweden, preschool is expected to be a place where children have opportunities to develop their understanding and care for other people. One basic task of the Swedish preschool (National Agency for Education, 2006) is described in the national curriculum for early childhood education as:

The internationalisation of Swedish society imposes high demands on the ability of people to live with and understand values in cultural diversity. The preschool is a social and cultural meeting place, which can reinforce this and prepare children for life in an increasingly internationalised community. Awareness of their own cultural heritage and participating in the culture of others, should contribute to children’s ability to understand and empathise with the circumstances and values of others (p. 5).

In this quotation, diversity is seen as something good, as a resource that enables children to broaden their insights to different cultures and habits. When exploring diversity as part of children’s shared social knowledge about their everyday life in a Swedish preschool, multiple aspects were investigated and considered. Encountering diversity involves experiences of a variety of external appearances, cultural traditions, social and linguistic norms and habits, and also special arrangements; for example, home-language teachers and special food.

This article draws on an ongoing theoretical conceptualisation of processes through which children’s ‘social knowledge domains’ are shaped and given meaning, in a certain place at a certain time. By focusing on diversity as shown by children in a Swedish multicultural preschool setting, we will develop an integrated theoretical model which includes contemporary child and childhood theories. Our particular interest is the presence of cultural determinants underlying diversity, at a structural as well as a practice level.

Children, childhood and diversity in educational settings

In Swedish educational research, previous studies on diversity have shown that when class, gender or
ethnicity are used as analytical concepts, the focus has been on the minority group, the different ‘other’, rather than on the group constituting the norm (Rubinstein Reich & Tallberg Broman, 2004). In line with these findings, research on practitioners’ discourses of diversity shows us how minority children and their families are positioned as ‘others’ (Pacini-Ketchabav & Schetcter, 2002); how practitioners in a British multicultural preschool, with the best of intentions, were found to build their activities on a Western image of the learning child as active and competent, thereby creating good learning conditions for the British children, while the Bangladeshi children, whose families favoured the image of the learning child as quiet and listening, showed difficulties in ‘becoming a pupil’ (Brooker, 2005). Such ‘… lack of opportunity or the inappropriateness of “acting what the dominant culture expects”’ (Barron, 2007, p. 751) has been shown to contribute to a certain ethnic identity among minority groups of preschool children. These results imply, as argued by Rhedding-Jones (2005), that diversity needs to be questioned: ‘… we need to make problematic our definitions of difference in relation to diversity … so that difference becomes usual and what becomes problematic is normalisation’ (p. 144) and we need to beware of our categorising of people into homogenous groups, as well as the power relations this brings into preschool settings.

There seems to be a lack of research showing how children give meaning to diversity in everyday situations. Rather, research has focused on possible outcomes as well as the transmission of perceived differences. An overview of the past 20 years shows that ‘… children’s perceptions of difference largely reflect and perpetuate the dominant racialised, gendered, sexualised, classed and body stereotypes and prejudices that prevail in the broader society …’ (Robinson & Díaz, 2006, p. 4). Moreover, as criticised by Robinson and Díaz, children’s prejudices are often regarded as passive reflections of adults’ values towards difference, rather than aspects of children’s own knowledge. Dominant discourses on childhood regard children as too young to engage in and really understand discriminatory practices or the meaning of power. It seems to us that these discourses are based on traditional theories of developmental psychology, neglecting children’s agency and children’s active participation in constructing their own knowledge about the social world. When taking the ‘new social studies of childhood’ into account, children’s active roles as co-constructors of social inequality and diversity are stressed. As shown in previous studies, preschoolers deal with and construct power relations (Löfdahl, 2006; Löfdahl & Hägglund, 2006a, 2006b, 2007) as well as create ‘otherness’, holding developing thoughts of racism (MacNaughton & Davis, 2001) in their everyday institutional life.

In the following section, we outline a theoretical approach that enables us to describe how children actively deal with, and give meaning to, diversity within an institutional setting.

**Children and childhood, an integrated theoretical perspective**

Contemporary child research calls for more integrated methods in order to enhance our understanding of children’s lives. A critique on developmental perspectives has spanned decades (Burman, 2008; Cannella, 1997; Cannella & Viruru, 2004) although, as argued by Aitiken, Lund and Kjørholt (2007), this critique is not enough, rather ‘… the frameworks for progress and development, for both young people and nations, must be replaced with something more fluid and politically open’ (p. 13), referring to our globalised world, where it is no longer enough to focus only on one aspect of children and childhood. Our theoretical model on ‘social knowledge domains’ is based on several integrated theoretical perspectives. We draw on theoretical models for children and childhood positions from childhood sociology, on children’s geography, on concepts of peer cultures and interpretive reproduction, and on social representation theory. These models show that social knowledge domains hold information about children’s positions, their places and their values and attitudes in the settings that we examined. They also consider structural and agency perspectives and the dialectics in between them.

In this article, we rely on talking with children and teachers and on observations of daily activities in their preschool in order to understand the cultural politics of childhood as ‘… both the social status to which children are assigned, as well as the influences children themselves might have over their position as children during childhood in any society’ (James & James, 2004, pp. 6–7). An integrated model of four varying perspectives on childhood is used. James and James (2004), by developing a model first presented by James, Jenks and Prout (1998), suggest four positions, offering a comprehensive theoretical conceptualisation of children and childhood. According to the authors, the model offers a way to ‘… conceptualise the dynamic and complex relation between childhood as a particular generational and cultural space, and children’s actions as the occupants of that space; that children are social members of the category “child” who, through their interactions and engagement with the adult world, help to form both the categorical identity of “child” with which they are ascribed and the generational space of “childhood” to which they belong; and that this relationship delineates the “how” of the socialisation process’ (James & James, 2004, p. 74). In other words, the model includes what is common for all children, as
well as what is specifically typical for local settings and conditions. A central trait in the model is the assumption that there is a mutual relationship between children and the environment—at the same time as culture forms the child, s/he also contributes to cultural and social change. Using a theoretical model where children and childhood are described in four different positions enables analyses from both structural—agency as well as global—and local standpoints. Taking the concept of ‘cultural determinants’ into consideration, our analyses touch upon the specific conceptions of childhood and diversity that prevail in Swedish society in general and in the Swedish preschool in particular, shaping culturally specific discourses. Our discussion identifies how these cultural determinants surround the children, shaping their childhood, and how the children themselves experience them. This gives an insight into how social ordering and control related to diversity are put into practice (James & James, 2004; Löfdahl & Hägglund, 2006a). Although relating to the positions of minority child, social structural child and socially constructed child, we will mainly refer to the tribal child position in our analyses. When viewing diversity from the tribal child position, we interpret this position as being socially constructed by children, who share this position and share the challenge to establish and maintain a meaningful daily existence.

Within the tribal child position our focus on the setting, the children and related events are inspired by theories of children’s geographies, which in recent years have been used together with contemporary ideas on childhood, informing and enhancing each other. Children’s geographies are of great importance, as they deal with relations embedded in material practices, how space/place and children are co-constructing each other (Gustafson, 2006; Holloway & Valentine, 2000; Massey, 1994). As stressed by Cele (2006), place-interactive methods offer good opportunities, in an uncomplicated way, to gather concrete and reliable information about children’s multi-faceted relations to their local environment. Our empirical data constitutes an illustration of how children’s different experiences of diversity are embedded in the setting, giving meaning to the setting, and as such contribute to these children’s shared social knowledge. Rather than assuming adult-arranged environments to influence children in a one-sided, positive manner, it is fruitful to ask, as argued by Jones (2000), to what extent children can form their own geographies within the dominant fabrics of adults’ geographies.

Similar ways of describing a kind of social agency are found in children’s peer culture and the specific concept of interpretive reproduction (Corsaro, 1985, 2005). Briefly, it is suggested by Corsaro that children create their own peer cultures in the preschool setting through interaction with each other, negotiating and sharing knowledge, and holding common norms and values about the social life in preschool. Interpretive reproduction refers to how the children interpret and recreate aspects of the surrounding culture in order to make it intelligible and manageable. In this study, the way diversity is interpreted among the children is in focus, as their shared understanding will be integrated with their peer culture and hence meanings of diversity will be embedded in the setting.

When dealing with children’s shared understandings we rely also on social representation theory (Moscovici, 1984, 2000). In our analyses, the outcomes of processes of interpretive reproduction are expected to form systems of social knowledge, common for a specific group of children who share their daily life at preschool. The social dimension of knowledge is emphasised as a central element in the theory. According to Flick (1998), the social in social representations is related to what is represented, to how these are constructed, and to their functions. Social representations thus concern shared rather than individual knowledge, they are constructed through social interaction rather than individual cognition, and their functions are described as ‘sustaining the mutual agreement inside social groups and their dissociation from outside …’ (Flick, 1998, p. 52). Social representations are described as forms of everyday knowledge, contributing to and supporting social identity among members in a group who share their everyday life. They serve to normalise and conventionalise communication and action in a group. For example, we might assume that diversity will appear in social representations of ‘what and how to play and who can play with whom’ as it is brought up in various situations in the preschool.

In our study, preschool children’s social representations of diversity were studied as social constructions of how to explain and handle differences in the shared daily life at preschool. We consider the preschool to be a place holding cultural determinants as ‘condensed aspects’ of societal structures and conditions with reference to diversity. We regard the children’s social representations of diversity to occur in the tribal child position, as a locally interpreted version of what may be identified as cultural determinants in the remaining three childhood positions (James & James, 2004).

**Diversity and children’s social knowledge**

**The empirical data**

Our data consists of field notes from children’s activities during one week at the beginning of the 2007 school year. We visited a Swedish multicultural preschool setting, making simultaneous observations and engaging in informal talks with children and teachers, ending up with a total of 30 hours of observations. The group consisted of 15 children (five boys and 10 girls).
girls) aged three–five, of whom nine had a language other than Swedish as their mother tongue. Three teachers worked full-time with the group, and almost every day one or more home-language teachers spent some hours instructing children in the seven different languages spoken by the children and their families. The preschool was located in an area of low socioeconomic status, described by the teachers as ‘an area with a great mix of needs’. The setting was characterised by a positive multicultural spirit, the teachers seemingly well aware of possible difficulties that might appear in the children’s social relationships in relation to culture and language. Besides the multicultural approach, we noticed that several traditional Swedish elements, such as visiting squirrels and hedgehogs, had been used as a playful component of the pedagogical activities.

This study connects to several other studies conducted by our research team on the Swedish preschool in general (Berginge, Löfdahl & Pérez Prieto, 2008; Skånfors, Löfdahl & Hägglund, 2009) and from the same preschool area (Löfdahl & Hägglund, 2006a, 2006b, 2007; Löfdahl & Pérez Prieto, 2009a; Löfdahl & Pérez Prieto, 2009b), which means that we have a rich amount of data (document studies, long-lasting ethnographic studies of children’s activities, interviews with school leaders and staff) over a period of four years that is used in this study to enrich our contextual understanding of the local cultural politics of childhood. Ethical considerations were addressed in accordance with guidelines within human and social science (Vetenskapsrådet, 2002). We are aware of the difficulties for non-Swedish-speaking parents and children in grasping our prepared information leaflets in Swedish, so the staff helped us to translate and explain to parents what was meant by giving consent to let us talk to their children. All but one child’s parents agreed to allow their children participate in the study.

Our observations did not focus on this child. Entrance to the children’s activities was requested in every situation, simply by the researcher asking if it was okay to join in and look at their play. Our own and others’ experiences (David, Edwards & Allered, 2001; Hurley & Underwood, 2002; Löfdahl, 2007; Skånfors, 2009) of difficulties among children in understanding the meaning of ‘informed consent’ were discussed among the researchers and the staff and this was handled by our presence being approved if the children seemed to agree. All names of children, teachers and places have been changed to protect the participants’ anonymity.

Our story about Bahar and Evrin

Bahar and Evrin are both five-year-old girls of foreign, but different, origin. Bahar represents a typical child in this preschool setting, showing difficulties in speaking and understanding Swedish, while Evrin, besides her home language, speaks Swedish perfectly and seems well-aware of Swedish preschool traditions. A cautious interpretation of Evrin’s cultural capital is that she is popular among the other children, among other things for her mastery of both the Swedish language and culture, and she has a position as ‘selected’ through her access to the home-language teacher. As for Bahar, her lack of Swedish cultural and linguistic competence constructs her—partly through her home-language lessons—as deviant, thereby giving her a less popular position. We observed Bahar and Evrin for one week as we regarded them as being involved in a course of events which illustrated ongoing constructions of diversity. Bahar’s continuous efforts to ‘be with’—though mostly rejected by her peers—were of particular interest in illustrating diversity as part of children’s social knowledge domains.

In our first observation, one morning soon after breakfast time, Bahar sat with her home-language teacher chatting, reading books and playing games. While Bahar was engaged in home-language instruction, the other girls of her age were playing together in smaller rooms in the setting. After finishing her language lesson, Bahar walked around in the setting pushing a doll’s pram. We noticed how other children observed her, although no-one interacted with her. During afternoon playtime, we noticed how Bahar was seeking access to Evrin’s play with a younger girl in another room. They did not want to let Bahar in, replying her request with ‘It’s just the two of us!’ However, one of the five-year-old boys got immediate access into Evrin’s play world.

The next day during breakfast, we noticed that Bahar repeatedly and in different ways tried to connect with some of the other girls—for example, by struggling to sit next to certain children or asking one of the other girls if she wanted to play with her after school—but she was rejected. During this situation Evrin and some of the other children left the table and went to the ‘drawing table’. Bahar was speaking to one of the teachers and was therefore left behind and, when she appeared at the drawing table, her chances of joining in seemed minimal. Bahar asked Evrin if she wanted to play with her, but Evrin answered that she was drawing and playing with other children. One of the other children then turned towards Bahar, and told her she was not allowed to decide about what they were doing.

Bahar: But I decide the play.
Evrin: No, teacher decides.

Bahar: No, the Phoenix does!

This utterance is interesting as Bahar referred to the Phoenix, which at that moment was part of the preschool’s pedagogical theme, and had been performed by the teachers in a drama play the previous day. This drama play was introduced by the teachers as
something exciting and a bit secret that was about to happen. Now, when Bahar tried to join Evrin’s play, she made use of the same strategy:

Bahar: *Come along with me, something exciting is going to happen in the playroom!*

Evrin ignored her totally, continuing a discussion about who she is supposed to play with after school, today, tomorrow and after three days. Bahar went into the playroom, but, as no-one followed her, she returned to the drawing table, suggesting Evrin was her older sister.

Evrin: *No, we are just drawing.*

Bahar: *Well, then you can play with me!*

Evrin (in a loud voice): *NO! I’ll continue to draw until outdoor playtime.*

The children changed activity and started to ‘bake’ with playdough. Bahar sat alone in a sofa behind them, pretending to breastfeed a doll. Evrin left for a second to offer a ‘piece of cake’ to one of us researchers, at the moment placed in the playroom,. She asked one of the other children to make sure no one touched her playdough. In Evrin’s short absence, one small girl took her place and Bahar grasped the chance and asked for a piece of playdough. One of the other children then said Bahar was not the one who decided and that she smelled like dirt.

It was circle time and all children ended their activities. During circle time the teachers pretended that a squirrel visits them and then escapes through the window. In the next situation Bahar was outside in the play yard. The boys seemed most interested in riding bicycles and the climbing frame, while the girls seemed most attracted by the swing. Some girls, among them Evrin, followed up the squirrel theme, playing a song and waving their tails like squirrels. Bahar tried to join them, asking frequently and suggesting different play situations previously played, though these did not seem to fit the squirrel theme. They took no notice of Bahar and finally she continued to play alone. After a while we noticed Bahar swinging together with some younger girls, aged two–three years. Lunchtime replaced outdoor play and the children went inside.

One morning we found several children, Evrin among them, sitting together around the drawing table. The situation broke up when Evrin’s home-language teacher appeared. Evrin and her teacher did some work (cut and paste) while sitting at the drawing table and chatting in their language. Evrin was listening and answering dutifully. This was problematic as the appearance of the home-language teacher also meant temporarily breaking an ongoing interaction between Evrin and a friend, who left the table. Talking with Evrin in a foreign language also meant excluding other children from the conversation. Then Bahar appeared, standing beside the table trying to join Evrin and her teacher. Evrin was a very popular child who many children seemed to want to play with and, in this situation, it appeared as if she was being guarded by some of the other girls, perhaps because of a fear of losing her to someone else if they left her out of sight. For example, one of the girls sat down opposite Evrin and started to speak with her in Swedish. This, however, annoyed the teacher, who asked her to stop and turn to her own teacher, but got the answer that she did not have one. Quite a troublesome situation appeared and continued for at least 30 minutes, where Evrin continued to be guarded by some of the girls, while Bahar simultaneously was trying to get their attention, perhaps knowing that while Evrin was busy, the other girls might be potential playmates. In spite of Bahar offering several new situations—for example, showing up with a doll’s pram, using dress-up clothes, changing clothes and bringing new props—repeatedly asking if someone wished to join her, the other girls did not show any interest in her and even rejected her. Instead, the girls continued to watch over, and sometimes disturb the language lesson for Evrin. The situation was interrupted when the teacher called for circle time. We will end our empirical illustration here, leaving the children while the mess continued with one child refusing to hold Bahar’s hand, arguing that she was sticky, and with Bahar refusing to participate in the activity by lying down behind the group.

**Diversity, a challenging view of paradoxes**

As mentioned in the introduction, the Swedish preschool curriculum stresses a basic assumption of diversity as contributing to positive social identities and as paving the way for children’s understanding of other cultures. This might be so, but our analyses challenge this assumption and question the view behind it, that the preschool setting is a fixed place within which little or no attention is paid to the significance of children’s participation in the activity by lying down behind the group.

The preschool setting is a fixed place within which little or no attention is paid to the significance of children's actions and interactions create meanings of diversity, alternative images appear. For example, as Swedish society displays a majority culture to which minority cultures have to adjust, it is likely that social and cultural differences of any kind are being integrated into children’s peer cultures as a ‘majority-minority’ ranking, thereby challenging and threatening the presumption of preschool as being inclusive and ‘idyllic’.

By using the theoretical model of children and childhood positions as outlined by James and James (2004), we assume that meanings of diversity are worked out in the tribal child position by the children in their everyday interactions. By identifying and discussing cultural determinants of diversity surrounding the tribal
child position as found in Data from this and previous, related studies (Berginge, Löfdahl & Perez Prieto, 2008; Löfdahl & Perez Prieto, 2009a, 2009b), we suggest an image of diversity where differences in a paradoxical way are both defused and maintained.

- Diversity from the minority child position means that children in general belong to a minority group in our society and that children with foreign origins constitute a minority group within the ‘normal’ group of Swedish children. We identify cultural determinants that support normalising and defusing processes at the same time as minority positions are maintained. On the one hand, differences between children are defused by referring to all children as a society’s resource for the future, when integration during childhood will bring about ‘good’ diversity. On the other hand, differences are maintained and made visible when arrangements such as education in their home language are organised.

- When looking at diversity from the social structural child position, we find cultural determinants maintain social and cultural differences. The Swedish preschool of today is a more homogenised and controlled institution than ever. How, when and what is to be learned is governed by central and local quality accountability, cultural determinants are identified in the curriculum, in planning and evaluation texts, and in web presentations. Taken together, the ‘good childhood’ is characterised by children being aware of their cultural heritage and able to empathise with others. Diversity as part of life in preschool is visualised and controlled. In this way differences are constantly brought to mind and maintained.

- From the socially constructed child position, diversity concerns how social, cultural and ethnic differences are dealt with in daily pedagogic practices. On the one hand Swedish children are encouraged to acquaint themselves with the ‘exotic and different’ by learning about habits and traditions from peers with foreign origins (e.g. enacted by mothers bringing national dishes to the preschool). On the other hand, children with immigrant backgrounds are supposed to assimilate into Swedish culture and gradually become Swedish. We identify the idea of ‘anyone can join in’ as one significant cultural determinant. It is paradoxical in its nature as it transmits meanings of defusing and maintaining differences at the same time. It stresses that peers, places and props will fit all children similarly, and, simultaneously, differences are seen and maintained by organising special language training for certain children or cultural-specific meetings/events.

The suggestions above on cultural determinants for diversity illustrate the complexity of diversity in preschool, brought to a head by the ambition to defuse differences at a structural level, while at a practice level differences are emphasised and maintained. This paradox has to be recognised and dealt with by the children within the tribal child position as will be discussed below.

We will never be able to know for sure the reasons for not letting Bahar join in, even if our theoretical perspective enables us to suggest the children’s actions and negotiations as illustrating their ongoing interpretive reproduction of diversity as a matter of both defusing and maintaining differences. What we are able to identify is that, in these children’s peer culture, the right to participate demands cultural and linguistic competence. As Bahar’s failings show, it is not enough to tempt others with play suggestions or props. Weakness/failing is constructed as an aspect of diversity; for example when Bahar is separated from the group during her home-language lesson (a maintaining-difference-activity). Even though this is a positive activity per se, it ends up with her failing to ‘be with’ the other children acting according to the idea of not letting her, but allowing others to, join the play. Diversity as failing is strengthened during circle time through traditional Swedish activities built on knowledge about songs and rhymes with reference to elements of nature in Sweden, for example, squirrels. This situation is aimed at letting all children participate and learn about a seemingly neutral theme (a defusing-difference-activity). Bahar’s language lesson placed her in a situation where she had to fight to create a position in the group and her excluded position was seen and strengthened due to her difficulties grasping Swedish language and culture. Already established relationships seem to be important in this peer culture, making ‘new’ entrances and relations difficult to initiate. This allows us to suggest threats as another aspect of diversity constructed by the children, illustrated by the situation when Evrin was separated from the group during her home-language training. Evrin’s friends had to ‘guard’ their relationships with Evrin, partly by not engaging in other relationships and thereby risking Evrin’s envy, partly by not letting anyone else engage in a relationship with Evrin. In this situation, already established relationships are threatened as a possible—although temporary—regrouping of the social order occurred. Taken together, although organised as a defusing-difference-activity, normal and neutral in this setting, the home-language training and the home-language teacher turned out to be a maintaining-difference-activity, loaded with explicit social meanings of diversity constructed and practised by the children.
Discussion

As we see it, the children in our study have constructed shared social knowledge related to diversity that holds social representations of weakness/failings and threats, something we assume will strengthen maintaining-difference-activities. We also assume that this will contribute to and support constructions of social identities in the group. This means that Bahar, owing to her limited Swedish language and cultural skills, is seen as someone weak and failing, while Evrin has been made popular, by actions and communications which strengthen her position such as the ‘guardian of action’. As social representations normalise and conventionalise interactions among the children, we might expect their social knowledge about diversity to remain and to have continuous significance for the preschool setting and its social life, at least as long as these children stay the same.

What is of particular interest in this study is how the home-language teachers serve as carriers of cultural determinants by making diversity explicit, through stressing differences the children necessarily have to deal with. In this preschool setting, the goodwill evident in creating equal opportunities for all children to master their language means that situations where differences are explicitly emphasised occur regularly, thereby forming a particular platform for the establishment of social knowledge domains related to diversity. Following our theoretical assumption about children as social actors, able to make use of their agency, it is possible to identify meanings of diversity in terms that are more elaborated and closer to the children’s interpretations than we were able to from the start. Our general conclusion is that our preschool setting is loaded with values and attitudes regarding diversity that differ from intentions formulated in the national curriculum.

Our analyses are based on observations of situations where diversity is spelt out as differences based on ethnic backgrounds. Other versions of diversity such as gender, class or race have not been on the agenda and we do not know whether similar patterns would appear if the focus had been directed towards these issues. However, we have seen that in Bahar’s preschool, diversity as a part of everyday life is constructed as aspects of weakness/failings and threats, and that it seems to be more important to stress the maintenance of differences than to diffuse them. We have also seen that when making sense of differences, this is closely related to social hierarchies, friendships and popularity, that is core issues in social life and social survival in the preschool setting. Evidently, there are cultural determinants present, indicating not only that cultural and social diversity makes a difference but also that it is necessary to agree about what difference it makes. This does not come as a surprise as we know that when children spend time together during longer periods as they do in preschool, they will form peer cultures that are unique in time and place, but with a common, distinctive feature in that they try to make daily life intelligible. From this perspective, diversity as a key for differentiating positions and status seems logical.

When linked with constructions of social identities, meanings of diversity such as weakness, failing and threats seem problematic. If what we have observed means that the realisation of learning and understanding positive values of cultural diversity is to be carried out in children’s peer cultures, one may raise the question whether, and how, the intended positive outcome of encounters between diverse cultures can be reached. Our research shows that positive aspects of diversity are not naturally created on their own when children interact with each other. Knowledge and awareness among teachers, not only about children’s peer cultures but also about cultural determinants of diversity at all levels, are necessary premises for working with differences as a positive, culturally integrative force rather than something that strengthens negatively loaded views on differences.

Such an approach needs assistance from research as it demands models and concepts allowing for complex but distinctive analyses of reality. By introducing the concept social knowledge domains we propose a tool for integrating the general and situated aspects, which constitute children’s social knowledge about diversity. Conclusions from our research so far indicate that concrete premises in the specific preschool setting, such as activities and schedules, spaces and structures of communication, form various contexts for making sense of diversity. Clusters of social knowledge about diversity and differences are likely to be formed and practised around certain habits and routines, such as home language and circle time, and also in connection with certain spaces or where specific persons are present. The dynamics involved when these domains of social knowledge are constructed include specific physical, social and cultural dimensions as they emerge in situations where cultural determinants of childhood and diversity encounter children’s collective agency. We think of social knowledge domains in preschool as the concept for identifying critical, significant situations and moments where fundamental knowledge about diversity and its social meanings are established among children—meanings that might have a bearing on lifelong ideas of being different.

References


Introduction
As recognition grows of the important role that early childhood early intervention services can play in addressing children’s diverse needs, there are increasing calls for ‘new forms of inter-professional work’ (Edwards, 2009, p. 34). These forms of work are based upon collaborative and cooperative approaches across and between professionals from different disciplinary backgrounds, such as allied health, early childhood education, and family support (Moore, 2005). Early intervention literature has identified some benefits of these approaches for families and children (Moore, 2005, 2008), and ways to support effective transdisciplinary teamwork (Blue-Banning, Summers, Frankland, Nelson & Beegle, 2004; Kurrajong Early Intervention Service, 2008). Some of this literature focuses upon the challenges posed to team effectiveness by perceptions of differences in professional ‘status’ among transdisciplinary team members, and also suggests this may have particular effects on early childhood-trained staff (Colmer, 2008). However, although early childhood-trained staff are increasingly playing a critical role in these teams, there has been very little focus on issues that may face early childhood-trained staff working in transdisciplinary teams, particularly ‘untrained’ staff. Likewise, there has been little attention given to the position of play within transdisciplinary teams, despite its centrality to early childhood early intervention.

In this paper we present select findings from a small descriptive research project exploring professionals’ experiences of transdisciplinary teamwork in a play-based early childhood early intervention program in Australia. While our study findings support some existing knowledge regarding effective transdisciplinary teamwork, we also indicate some new issues relating to professional status issues concerning early childhood staff, and the role of play itself in early childhood early intervention settings.

Throughout this article we have de-identified quotes, and refer to the site of our study as ‘the program’, in order to maintain confidentiality.
teamwork models (Malin & Morrow, 2008; Moore, 2008). These models range on a continuum from lowest to highest level of integration between disciplines and services, with transdisciplinary teamwork approaches considered the most 'integrated'. A key characteristic of transdisciplinary approaches is the ‘pooling’ and exchange of inter-professional knowledge and skills across ‘disciplinary boundaries to maximise communication, interaction, and cooperation among the members’ (McGonigel, Woodruff & Roszmann-Millican, 1994, p. 103). Some suggested benefits of ‘pooling’ expertise from and between diverse professionals include: (for professionals) creating new knowledge, understandings and ways of working, and (for families) providing a more holistic, coherent experience (Colmer, 2008; Moore, 2005, 2008).

A number of external, organisational and personal factors have also been identified as likely contributors to effective inter-professional teamwork (Press, Sumison & Wong, 2010). At the government and professional-education level these factors include having clear and consistent policies (Nichols & Juvansuu, 2008), and a coordinated approach to professional training that prepares professionals for working in inter-professional teams (Atwool, 2003). At an organisational level, important factors include a shared philosophy and clear vision of what it means to practice in an ‘inter-professional’ way, strong leadership and structures that support communication and shared understandings within and between organisations, and a commitment to adequate amounts of non-service delivery time for team relationship-building (Atwool, 2003; Drennan, Wagner & Rosenbaum, 2005; Siraj-Blatchford & Siraj-Blatchford, 2009; Whalley, 2006). At a personal level, it is important that team members have a clear understanding of their own and others’ professional expertise, the ability to clearly articulate that knowledge (Edwards, 2009), the capacity to be reflective and reflexive (Atwool, 2003), and a willingness to build and maintain relationships within the team (Pilkington & Malinowski, 2002).

At the same time, evaluations of the use of transdisciplinary approaches in early intervention settings have identified a number of challenges, including: teams having unclear definitions or lacking shared understandings of taken-for-granted terms, which can lead to uncertainty among professionals about what is expected, and how to facilitate a transdisciplinary approach (Blue-Banning et al., 2004; Kurrajong Early Intervention Service, 2008). One such concept is ‘play’, which is promoted as a valuable medium for early intervention, but has contested meanings and understandings between disciplines (see for example, Cheng & Johnson, 2010; Rodger & Ziviani, 1999). At a deeper level, uncertainty and fear relating to changes in status and hierarchies and differing levels of commitment to new ways of working, can also create instability and resistance within transdisciplinary teams (Colmer, 2008; Healy, Keese & Smith, 1989, cited in McGonigel et al., 1994).

Context

In Australia, transdisciplinary approaches are increasingly being used in play-based early interventions such as ‘supported playgroups’. Supported playgroups are thought to provide a friendly ‘soft entry point’ for families to access individual and social support, while also offering the opportunity for building families’ and children’s play skills and relationships (Johnston & Sullivan, 2004; Kim et al., 2003; Plowman, 2002). Supported playgroups often provide early childhood intervention to specific groups such as culturally and linguistically diverse (CALD) families, Indigenous families, families with mental health and/or disability issues (either the parent or the child), teenage and young parent families, and families who are socially isolated and/or disadvantaged (FaHCSIA, 2010; Kim et al., 2003). In contrast to community or parent-initiated playgroups, supported playgroup programs receive funding from sources such as the Australian Government, and are viewed as a financially and substantively effective medium for early childhood early intervention (Kim et al., 2003).

Rather than being initiated and facilitated by groups of parents or community groups, supported playgroups are usually initiated and facilitated by a paid coordinator and other professional staff (FaHCSIA, 2010). Early childhood educators (ECEs) are often included in these play-based early intervention teams, owing to their skills and expertise in relationship-building with families, using group and individual perspectives in relation to children and their development, and offering play experiences that are enjoyable and skill-building (Wong & Cumming, 2008). However, while the inclusion of ECEs in early intervention teams suggests that their skills and expertise are recognised, there is also some evidence that the status of ECEs within the hierarchy of professions involved in early intervention work remains relatively low (Colmer, 2008).

Background to the study

The balance of this paper presents material from a research project, whose purpose was to explore and document the roles and experiences of a selection of the professionals working in a play-based early childhood early intervention program in Australia. This program was first developed in 2004 by a not-for-profit children’s services organisation and the NSW Department of Community Services to provide a mobile supported playgroup, operated by a small
transdisciplinary team. The program's purpose was to provide a non-stigmatising, development-enhancing group-play experience to families living in a central-western Sydney local government area, who had concerns about their child's development. The program model was also designed to assist families to access information and advice about their child's development, along with assessment, diagnosis and therapy options (but, importantly, not to provide therapy itself). A transdisciplinary teamwork approach was considered an integral part of underpinning logic of the program, because of its emphasis on pooling the expertise of all staff to facilitate a seamless and coordinated experience for children and their families. Using best-practice models drawn from early intervention literature (such as those outlined above), the original team model was made up of two 'qualified' professionals—either/or an early childhood teacher, speech therapist, and/or an occupational therapist.

At the time of the study (2007), the program was operating via two-hour group sessions twice a week in local community venues. All resources were transported between sites in a specially modified van (hence 'mobile' playgroup). In order to provide effective support and strategies to families, a maximum of seven families attended per session in each location. Each team member was jointly responsible for planning the program, implementing practices, talking with and supporting parents, cleaning, unpacking and packing away the play session into the van, and taking part in reflection sessions and any follow-up of information or contacts for families. In addition, a 'play leader' (usually the early childhood-trained professional) was generally responsible for implementing program structures with families (such as organising and documenting goal-setting meetings and exit planning). A program coordinator (who did not attend play sessions) was responsible for accountability reporting and program administration and, along with organisational-level program managers, for professional supervision of the program-delivery team.

Methodology

The research project we describe was initiated by administrators of the play-based early childhood early intervention program in order to explore and document the roles and experiences of the transdisciplinary team. In our roles as embedded researchers in the children’s services organisation, we worked closely with the program coordinator and related program staff to develop a contextually-appropriate framework to guide the study design. This framework took into account three interconnecting contextual factors:

- collecting credible evidence (i.e. that was valid and reliable),
- in ways that were also compatible with program philosophies (family-centred and strengths-based approaches, for example), and
- that would have minimal impact upon service delivery, and upon the relatively ‘vulnerable’ (Liamputtong, 2007) families and children who attended the program.

As Creswell (2003) and Willis (2007) suggest, qualitative methods allow scope for flexible, sensitive application by researchers, while still balanced with a commitment to ensuring accurate representation of observations and participant responses. Taking these contextual and methodological factors into account, a qualitative study design was initiated, based on data collection via: participant observation, recordings of reflective practice sessions and interviews with program-delivery staff. Details of the application of each method are provided below. Using these three methods allowed us to access multiple sources of data from multiple perspectives. For example, we positioned ourselves as participant observers in play and reflective practice sessions, and then in a more formal, structured position as 'interviewers' in the one-on-one discussions with staff. Having multiple sources of data provided opportunities for accurate representation of the program and of the experiences of the program-delivery team, whilst also providing opportunities for data comparison and triangulation.

Participants

In response to a written invitation to participate, two current and two previous team members volunteered to be interviewed in relation to their work in the play-based program. The cohort was comprised of: a degree-qualified occupational therapist with around three years experience; a teachers’ college-trained early childhood teacher with more than 20 years experience; a degree-qualified speech therapist with around three years experience; and a degree-qualified early childhood teacher with additional qualifications in social work, with more than 10 years experience. All participants were female, and had completed their qualifications in Australia. The participants represented diverse cultural backgrounds and ranged in age from early 20s to 50s.

Data collection methods

Participant observation

Following organisational ethics approval, and with the written permission of families and staff attending, the researchers attended a full term of sessions (10 weeks) at one of the playgroup sites. As well as observing the work of the practitioners in their interactions with children and families, we used our skills in early
childhood practice and strengths-based approaches to participate extensively in the operation of the group sessions. Our activities included unpacking and setting up resources alongside team members, as well as interacting with children and families. During this work we made simple notes on a small notepad, and then wrote up these observations subsequently.

By immersing ourselves in the experience of being part of the team as embedded researchers (Wong, 2009), the participant observation approach enabled us to closely study the processes, relationships, and context of the program from an ‘insider perspective’ (Jorgensen, 1989). Using this approach meant that we were able to develop rich, empathic observations, while also in some part repaying staff and families’ openness and willingness to share their thoughts with our own direct participation in the group. Further, working respectfully and sensitively with families and children alongside team members, rather than as distanced observers or evaluators, meant that the research was conducted in a manner consistent with the program’s strengths-based, family-centred approach (Cumming & Wong, 2008).

Reflective practice sessions

With a strong focus on family interaction rather than team discussion during play sessions, weekly reflective practice sessions were a key factor in fostering effective communication within the program-delivery team. During each hour-long session (conducted whenever possible immediately after each play session), the team discussed each child using standardised reflection prompts, as well as considering how the group operated as a whole. The team would also plan for the following week (for example, prioritising contact with a particular family with whom a goal-setting or review meeting was due), which the play leader would recall with each team member ahead of families’ arrival at the next play session. We attended, observed and tape-recorded four of these reflective practice sessions during the 10-week duration of the study. As the first two sessions were transcribed and textual analysis was undertaken, data saturation rapidly occurred. As no contradictory evidence was evident in the second two sessions these were not transcribed.

Interviews

Data was collected via semi-structured one-on-one interviews, in order to focus upon the particular experiences of team members, and to delve deeper into particular areas and themes that had emerged from participant observation and reflective practice sessions. Questions focused upon participants’ experiences in the team, their perceptions of their own and others’ professional identities, what guided their approach, and what philosophies they brought to their work. Interview transcripts were approved by interviewees before analysis, and in some cases material was removed or added by interviewees. The final approved transcripts were used as the basis for analysis, and quotes from these transcripts form the main substantiation for our findings and discussion below.

Analysis

Our data analysis strategy needed to take into account the largely exploratory and descriptive nature of the study, and the broad focus upon the experiences and roles of the team. For this reason, we adopted a methodology based upon simplified principles of grounded theory (Miles & Huberman, 2004), working line-by-line through textual data from interviews, transcripts of reflective practice sessions and observations, coding each line descriptively, and then grouping codes into a smaller number of thematic categories that represented the combined content of the data. We then interpreted these categories in light of our literature review, highlighting areas of convergence with existing literature, as well as new findings in our data. Selected findings are presented in this paper—full details of study findings can be found in our report (Cumming & Wong, 2008).

Findings

1. Value of common guiding philosophies and approaches

Material derived from interviews confirmed the value of an inter-professional team sharing a common guiding philosophy and commitment to working respectfully with families and children (Drennan, et al., 2005; Siraj-Blatchford & Siraj-Blatchford, 2009). As one team member noted:

... it’s like you share a common goal in a way for the child and the family, whatever it might be ... because we have that overlapping philosophy about the respect for the child as a person on their own, it just really helps to know that you’re working towards the same things a lot of the time.

There was also evidence of a consistent, strong commitment to strengths-based and family-centred approaches, two core philosophies guiding the play-based program:

A lot of these families feel helpless, and leave a lot of their trust in professionals, and a lot of them feel like they just have to wait to be told. So empowering, a lot of empowering of the families to feel confident that they know their child, they’re the expert, they’re the expert of their child and they’re the expert of how their family can run.
Importantly, strengths-based and family-centred approaches were also supported at the organisational level through program guidelines, recruitment practices and induction programs, organisational culture, and ongoing professional training.

2. The importance of reflective practice

Our second finding relates to the role of reflective practice within the team. Reflective practice sessions enabled the team to focus on how they were conducting their work, both individually and as a group, as well as providing them with opportunities to reflect on what transdisciplinary work meant in practice. One of the key values of reflective practice for the team lay in its ability to facilitate a multi-faceted view of the child:

I only see it from one angle, like one little mirror on the disco ball, but with everybody else’s information coming in, I walk away with a much bigger picture … half the time I can’t talk to every family or observe every child, so if I am talking to [one] parent, I miss out on so much … and I guess that’s why we do reflective practice.

Open and frank discussion amongst the team, and an accepted culture of questioning assumptions, were also acknowledged as key factors in developing transdisciplinary understandings:

We were constantly asking each other in the team ‘did you notice that?’; ‘what did you think about that?’ Having a time to reflect really helps to internalise everything, to gain that understanding of what it is that we’re doing specifically.

Good leadership and facilitation appeared to be crucial to the success of reflective practice within the team. During our observations of reflective practice sessions, the team’s play leader demonstrated a consistent strengths-based approach to leading reflective practice, and the ability to help others structure and focus their reflections to the group. The play leader also often verbalised not only her reactions and experiences of the group, but also her thought process (for example, by using phrases such as ‘it teaches me that …’) to show how she was taking information and using it to inform her practice, or her understanding of a family.

3. Challenges to implementing transdisciplinary teamwork approaches

Findings from interviews, participant observations and reflective practice sessions suggested that team members understood that a transdisciplinary approach to inter-professional working was about: ‘having different skills that we use together’, and that this approach was valuable because ‘you can learn from anyone, no matter who it is’.

At the same time, however, as is evident in the following two quotes, team members continually identified primarily with their own discipline (i.e. speech therapy/early childhood, etc.) rather than as early intervention professionals who were drawing upon the ‘pooled’ inter-professional expertise of the team:

The early childhood practitioner vs. the therapist is about having the skills at looking at the big picture of the environment vs. the individual. It’s holistic versus targeted to their individual interests … It was also important to know when families wanted to talk about play, or talk specifically to a speechie [speech therapist], and when was the right time to introduce the speechie to parents, and to cross disciplines.

It’s always good to have different practitioners so parents can have the points of view directly … We all have different perspectives, we focus on language, or we focus on building postures and sitting …

Team members were also uneasy and not confident about applying each other’s strategies when they themselves did not have the requisite background knowledge to substantiate it:

Multidisciplinary relationships are relatively easy, but transdisciplinary is much harder. … because you can never know as much about another field as you do about your own. … Being transdisciplinary is about … whatever discipline you are, if the speechie recommends a strategy we all do it, and vice versa. It’s hard when you’re talking to parents about a strategy, or modelling it, I would prefer [the OT] or [the early childhood teacher] to do it [if it was their strategy] because they know.

Similarly, team members were concerned that their strategies would be applied inappropriately if not presented by the originating team member—‘There’s also the problem of trusting that if you relay information to someone else, that they can convey it accurately and that’s not always the case’.

4. Professional hierarchies within the team

Our fourth finding concerns the ways that, regardless of their apparent respect for transdisciplinary models and for each other’s expertise, team members positioned themselves and each other according to a hierarchy preferring ‘scientific’ knowledge. As the following quote suggests, the speech and occupational therapist were clearly viewed as having a higher degree of ‘expert’ credibility, both by their colleagues and by families:
For families with children with ongoing high support needs or a disability it’s very much about diagnosis. The speech therapist gives the team credibility to give valuable information that they will believe. The speechie backs up and supports the play leader and there is a professional understanding about each other, but being a therapist means you have more credibility because you can diagnose. Our credibility as early childhood practitioners is less because we can’t diagnose. The strategies might be the same, but the speechie has the credibility of being able to assess a child. It was so important to have the speechie because she could give them [parents] real things to do that were valuable to them.

Interview material from therapy-trained team members also suggested that they found it challenging to cede the power afforded by the expert status that they had been trained to assume:

As a therapist … just figuring out what my role is has been a challenge, and where I can use my skills as a therapist to fit into this setting. I used to say ‘I know there’s a role for the OT, I just don’t know what it is’. ‘I know there’s something I can give to this program, but I don’t know what that is, other than just playing, or talking to these families’.

…it was hard because it was a new model and no-one else was doing it that way so we weren’t sure about it. You’re also unsure whether you’re giving therapy or giving strategies for families to use until they see someone … [and] it’s hard to inform parents without saying your profession.

It was the untrained staff, however, who were the most marginalised. In the program a ‘play assistant’ was sometimes employed to work alongside other ‘professionals’. This role was variously filled by students of social work, early childhood or occupational therapy. Whilst all team members acknowledged the valuable support provided by the play assistant, their lack of ‘professional’ status resulted in conflicting expectations of their role:

I don’t want to downplay or make the role seem less important because they’re not a therapist or a teacher, but parents need to know that the assistant isn’t these things. They may give experience from their own children, and that’s just as valuable, but while they might seem confident and meet the needs of parents, they may not have the knowledge from studying at Uni and clinical experience, to know where they were getting the information from.

5. Contentious meanings of ‘play’

Finally, our study identified contentious rather than uniform meanings and status ascribed to ‘play’ among team members. Therapy-trained team members perceived that there were different perspectives on play, and what it means for children to ‘learn through play’, based on disciplinary knowledge:

[the ECT] might have noticed that the child is playing, but there’s something not quite right with the way they’re playing—I might look at it in a different way—what is it about their play that is dysfunctional? Is it, not just are they playing by themselves, or are they playing with others, but is there anything physically or cognitively going on which makes them unable to?"

Therapists saw the observation of play as useful for reflecting a child’s current development, and useful as a tool for therapy to develop specific developmental tasks. It could still be fun and child-directed; however, its main purpose was as a medium through which an observed deficit could be addressed or a specific skill acquired. Data from interviews with the therapy-trained team members also suggested that they did not consider participating as a co-player with children part of their ‘professional’ role:

… a lot of the time we were … just doing what we thought was play, and it was hard sometimes to figure out what it was that we were doing as a professional …

Early childhood-trained team members on the other hand, whilst also discussing the value of learning about children’s abilities by observing their play, looked at the children’s interests, strengths and needs, and used this information to better facilitate activities to engage the whole child. This meant creating experiences to facilitate and extend children’s abilities, without directing children to play in certain ways to fix a problem, or to do activities that allowed children to practice certain skills:

[A therapist can understand] every part of an assessment, I can understand it overall, but then she can look at it and pinpoint exactly what we need to focus on … She could rattle off a series of activities of things they could be doing at home to focus on this. Now I tend to think up how we could have a play experience, and there’s a role for both …

The contentious role and value of ‘play’ within the team was even more complicated when undertaken by the play assistant:

It’s good for [the play assistant] to be there to develop and keep play going while therapists/teachers are busy with parent explanations/issues and modelling techniques. It’s tricky. You need someone who is happy with that role, not needing to be something bigger than the role is set out to be, or avoiding to clean up because ‘I’m in a transdisciplinary role, so I have an equal right to
be talking to parents like therapists’. Some things just need to get done during the daily running of the group, and if therapists/teachers are discussing complex issues with parents, you need to know that if the assistant is free that they can take care of what the children are doing etc.

It’s good to have the assistant there to see things that I’m not able to see, the assistant’s the one down there playing, and with the children …

Play facilitated by ‘the assistant’ was therefore relegated to the floor whilst adults conducted ‘important conversations’ above. Play is also downplayed as unskilled, and presented as a something that ‘children do’, rather than a meaningful core element of the early intervention setting.

Discussion

Existing literature suggests that team effectiveness in early intervention is supported by having clear, shared understandings of program purpose, and sound philosophical framing (Atwood, 2003; Whalley, 2006). This is especially the case for transdisciplinary models, where professional knowledge and expertise are ostensibly pooled and utilised by all team members. However, our study suggests that, even when a team has a strong shared understanding of the purpose of their program and its philosophical approaches (such as family-centred and strengths-based approaches), they may still lack common understandings of key concepts underlying the program structure. In the case of the program we have reported upon here, we found that, while play is the key medium for the early intervention work of the team, the value and meaning of play differed depending on the disciplinary training of individual team members. Further, there was a different status attributed to play depending on who was playing. If a child was playing alone, with a parent or a non-professionally trained team member, or where there was no ‘obvious’ goal to it, it was often labelled ‘just’ play, or ‘only’ playing. These previously unrecognised tensions relating to this aspect of early childhood early intervention is significant, as it underpins issues of effective ‘intervention’ as well as effective teamwork.

Seeing team members’ knowledge as a resource to be shared has also been identified as an important attribute of an effective transdisciplinary team. This perspective enables professional expertise to be shared for the benefit of children and their families, and broadens the knowledge and repertoire of skills of all team members (Drennan et al., 2005). Proponents of transdisciplinary models argue that being in a transdisciplinary team does not mean professionals have to be ‘jack of all trades’ but rather to be able to effectively draw on the expertise of others. Edwards (2009, p. 38) notes, for instance, that inter-professional work is not about moving towards ‘hybrid practice’ but rather ‘developing the capacity to work with the expertise that others offer’. In our study we found that, while team members appeared to understand the concept of transdisciplinary teamwork, they demonstrated more difficulty in translating these understandings into practice. For example, while team members considered it relatively easy to share a particular strategy with other team members (often because of common elements between their disciplines that made information transfer easier), it was much harder for them to impart the practical wisdom (Goodfellow, 2003) required to apply a strategy effectively. This ‘wisdom’ relies not only upon content knowledge, but upon instinct, timing, and experience of when a strategy will be most useful within the deeply contextual situation of each child and their family.

Therefore, for teams to realise the full benefits of a transdisciplinary team model, opportunities are required for practitioners to explore and develop understandings of these nuanced aspects of each other’s different disciplinary practices and strategies, and not only their content knowledge.

While there was some evidence of inter-professional respect between team members in our study, there were evident tensions between individual, discipline-specific identities, and inter-professional team identities. In particular, therapists’ desire to hold on to their professional credibility and status appeared to lead to difficulties in mediating their ‘expert’ status within the team. These types of tensions made it very difficult to fully actualise a truly transdisciplinary model. Our findings suggest that if professional hierarchies preferring ‘scientifically’ trained disciplines are left unchallenged, the skills and knowledge of early childhood and/or social work-trained team members may be (or remain) marginalised. This may in turn contribute to a more individually focused therapeutic approach overriding the group-focused, play-based approach espoused by early childhood early intervention models such as in the program discussed here.

An important finding of our study, which has implications for inter-disciplinary work in early childhood more broadly, was the identification of the marginalisation of untrained staff within a transdisciplinary team model. Transdisciplinary models advocate for role release between professionals who, whilst likely to have different clinical experience and/or knowledge bases, are typically assumed to have university-level education. Within early childhood services, however, there are large numbers of untrained or minimally trained staff who play a significant role in the care and education of children. Consideration of the ‘place’ of these staff has thus far been absent from the literature examining transdisciplinary teams. However, this is a key concern that will need to be addressed by
those in early childhood services who wish to work in collaborative or integrated ways.

**Limitations of the study**

As our study is small and relatively short-term, its findings may not be broadly generalisable. However, rich reflexive detail (in interview material particularly), provides an in-depth account of the experience of transdisciplinary teamwork, and highlights some otherwise undocumented challenges, with implications for planning and service delivery in early childhood early intervention services.

**Conclusion**

Transdisciplinary approaches to early childhood early intervention have been widely promoted as 'best practice', but, to be effective, these inter-professional models require much more than combining practitioners from 'suitable', multiple professions (Colmer, 2008). This study, although limited in scope, provides important insights into the challenges of negotiating a transdisciplinary approach in a play-based early childhood early intervention program, particularly in supported playgroup programs which have an increasingly important role in early childhood early intervention.

In particular, our study reiterates the need for staff from diverse disciplinary, professional and experiential backgrounds to receive support in order to facilitate collaborative, collegial approaches to common goals, and the understandings that support these processes. A clearly articulated philosophy, common purpose and theoretical underpinning for the intervention program needs to be matched with a clear understanding of the transdisciplinary approach, and what this means in practice in the particular setting—for all involved. For these factors to be in place, organisations need to provide the time and support for effective professional reflection that explores taken-for-granted assumptions, including open and robust discussion about how power operates in the team. In particular, program coordinators or managers need to address status hierarchies, and make visible the ways that power based upon status can marginalise members of the team and their (disciplinary) expertise. Finally, and along with early childhood practitioners, program coordinators need to understand and advocate for early childhood education practices, and match clear understandings about the different disciplinary views on the value of play with a commitment to play as a child’s right, and early childhood early intervention spaces as learning rather than therapeutic settings.

**Acknowledgements**

We thank the participants and the program-delivery team for their willingness to take part in our study, along with Professor Jennifer Sumson, Dr Joy Goodfellow and Kay Turner for their advice and assistance in preparing this paper.

**References**


Creative technologies as a conduit for learning in the early years

Susan McDonald
Jennifer Howell
Australian Catholic University

This paper describes the use of robotics in an Early Years classroom as a tool to aid the development of technological skills in a creative environment rich with literacy and numeracy opportunities. The pilot project described illustrates how a three-phase process can result in: (1) the development of emergent literacy and numeracy, and (2) the development of digital literacy and digital access for Early Years learners. The pilot study was conducted in a combined Prep-Year 1 class over a six-week period, during which students were introduced to and engaged in the creation of robots and simple machines via the use of LEGO WeDo©. The pilot was designed around three distinct phases: modelling, exploring, and evaluating. These phases provided scaffolding for the students to engage with the technology and for the class teacher to develop her own skills. This use of WeDo© is unique to Australia, unique to Early Years, and marries hands-on, fine-motor development with 21st century learning. The outcomes of the project astounded and delighted the teacher, the principal and the researchers.

Introduction

Currently in Australian education systems there is a focus on Early Years curricula and literacy and numeracy standards. Early Years programs have been the subject of research and reformulated policy documents in recent years, resulting in differences in many schools across Australia, some of which, in the case of Queensland, have established Preparatory (the ‘Prep’ year is the first year of formal schooling; children are aged five years) programs based on varied instructional paradigms. Many children are entering these formal schooling programs with an apparent lack of ‘school readiness’ and below-expected literacy and numeracy skills. The problem is increased by the multicultural nature of Australian society which results in many Prep students coming from backgrounds where Standard Australian English (SAE) is not the language spoken at home. Contextualising these issues within the current technological information-based society of Australia and plans for future development, the ramifications for teachers of children in the Early Years of schooling are great. This project focused on three key areas: (1) the development of emergent literacy and numeracy in Early Years learners, (2) the use of Robotics with Early Years learners, and (3) the development of Science, Technology, Engineering and Mathematics (STEM) understandings using creative technologies.

Background

The use of technology in Early Years literacy and numeracy programs has a growing body of research supporting it (Brooker, 2003; Chantel, 2003, 2005; Judge, Puckett & Bell, 2006; Kankaanranta & Kangassalo, 2003; Leung, 2003; Sheridan & Pramling Samuelsson, 2003). These studies have shown that Early Years learners have few difficulties operating hardware and are able to follow simple, tailor-made software programs. Technology has a pervasive influence in modern life and children have a vast array of learning experiences, often with technology, before they start school (Brooker 2003). This exposure to technology at a young age facilitates a familiarity and confidence in these children. Interactions with their family and with technology combine to affect their literacy development (Chantel, 2003; Judge et al., 2006). Computers and associated technologies help Early Years learners to develop fine motor skills, alphabet recognition, pre-mathematical skills, concept learning, cognitive development, self-esteem, social skills, and school-readiness skills (Brooker, 2003; Chantel, 2003; Judge et al., 2006; Kankaanranta & Kangassalo, 2003; Leung, 2003; Sheridan & Pramling Samuelsson, 2003). It would be logical to conclude that Early Years learners who engage with technology develop better learning
outcomes, in particular literacy and numeracy skills, than their peers who do not (Chantel, 2003).

An important aspect associated with technology for Early Years learners is the concept of ‘play’. In this context ‘play’ does not refer to random, unstructured engagement; rather it describes creative, experimental, and purposeful activity with which effective Early Years teachers can mediate to ensure that genuine learning occurs. Software programs and hardware have been designed to be engaging and motivating to use, enabling learning to occur within the context of play (Brooker, 2003; Chantel, 2005).

The value of technology within Early Years programs is clearly beneficial to emergent and, indeed, developing literacy and numeracy. As the global world economy, with its characteristic emphasis on digitality, has an impact upon Australia and the education system, the extent of the potential exclusion for students from diverse cultural and ethnic backgrounds is clear. Computers and software have been reported as being well-suited to the learning styles of Early Years students, regardless of cultural or ethnic background (Duggan, 2009; Dyson, 2002). The strengths of Indigenous learners proposed by Hughes, More and Williams (2004) readily apply to children in the Early Years in general. They include learning through:

- observation
- visual-spatial skills
- imagery
- contexts
- holistic approaches.

These learning traits can be strengths when applied to the use of creative technologies. The pilot project described in this paper was designed to use a creative technology application in the form of the LEGO Robotics program WeDo® which seeks to develop the technological abilities of young learners. LEGO WeDo®, launched in June 2009, is a variation of their existing robotics programs, Mindstorms® and NXT®, and was designed to target Early Years learners. As it is a relatively new program, to date it has yet to be used in an Early Years learning environment and was designed for learners aged seven years and above. ‘Creative’ technology in the context of this paper refers to computer-based programs and equipment that are not pre-prepared or constructed. They allow students to design, build and program with as little or as much support as is needed, thereby requiring some conceptual and procedural understandings, rather than simply engaging with the manufacturer’s thinking.

### Project

The project described in this paper was a pilot for an extended project proposed for 2012. The nature of this pilot project was therefore: restricted to one school site, one classroom, and over a short period. The purpose of the pilot was twofold: (i) to trial the phase model for the teaching and learning of the LEGO WeDo® robotics software in an Early Years context, and (ii) to develop valid and authentic data collection methods and means for analysis of the data. Primarily this pilot was based on a micro-ethnographic case study approach, and it is envisaged that the extended project in 2012 will adopt a Grounded Theory research design.

The participating school was a P–7 Catholic primary school, situated in an inner city (within 10km of the Brisbane CBD) urban location. The school population had a high proportion of Indigenous and language background other than English (LBOTE) students (with some very recent arrivals to the country, including refugees), and the classes were multi-age. To date, the use of technology had been limited to commercially produced software for literacy and mathematics (which took the form of ‘games’), basic word-processing, and the creation of PowerPoint presentations. The targeted class was P–1 with 13 children (five in Prep and eight in Year 1).

### Method

The pilot was undertaken in three distinct phases: (1) modelling, (2) exploring, and (3) evaluating. The intention of these three phases was to reflect best practice for Early Years students—watching, listening, and doing. The modelling phase took place over two sessions, each of one-hour duration, in two successive weeks in Semester 2, 2010. During this phase, the researchers guided the students through the construction stages of a pre-determined robot. The students worked in small groups, and this was most effective when each child was assigned to a specific task on the day (such as, laptop operator and programmer, LEGO piece finder, and LEGO piece assembler). Particular attention was given to the oral instructional language, STEM terminology, and the mathematical language used. Laminated A3 charts with pictures of robot parts and terminology were brought to the classes, overtly referred to, and displayed on the front wall of the classroom for the period of the project. After the robots were constructed, the researchers demonstrated how the programming was accomplished using a click-drag process from a provided menu of icons. By the end of the modelling phase, the students were able to follow the steps on the group laptop, moving forwards and backwards as required by the group, without having to wait for the researchers to lead the process. Students were also modifying aspects of the programming in order to change motor speed, direction or sound.
The exploring phase took place over three weeks, one day per week for 60 minutes. In each session, the students worked in their groups, constructing and programming a robot of their choice. The researchers and class teacher encouraged and questioned the students but did not explicitly contribute to the construction of the robots. At the completion of each session, the students demonstrated their robots to the other groups, and spoke briefly about how they made it and what were some of the challenges.

The final phase occurred over an extended session of 90 minutes. In this phase students were shown a robot they had not seen or made previously. They were questioned about the components of the robot and asked to predict the kind of movement and sound it might make. The robot was then activated and the students were able to self-check their predictions. In this phase, the students were also invited to fill out a simple survey and to do a ‘What do we know?’ assessment. While the students were doing this, supervised by the teacher assistant, the researchers interviewed the class teacher.

**Data collection**

Data was collected across the phases of the pilot and involved: researcher observations (field notes), video and still-digital recordings (of students at work and during the reflections at the end of sessions, and the teacher interview), student surveys (Appendix 1), student assessments (Appendix 2), and teacher interviews (Appendix 3). The video recordings and field notes were transcribed (including gestures) and coded to describe the nature of the student learning related to the three phases of the pilot. The reflection sessions and the evaluation phase were video-recorded, with special attention given to the children’s literacy and numeracy development. The student survey was presented to the children in simple language and was read aloud to them by their class teacher assistant. The students indicated their opinions and attitudes to each statement by colouring in either ☑, ☐ or ☐ next to the statement. The meaning of each symbol was discussed with the children. This provided some data about their engagement with the robotics. The interview with the class teacher was video-recorded and transcribed verbatim. The purpose of this interview was to evaluate the phases of the program as a methodology, as well as to determine modifications for the extended project based on the experience of the pilot.

**Findings**

The impact of the pilot project was very positive in a number of areas: (i) student engagement, (ii) the development of literacy and numeracy skills, and (iii) the development of interpersonal skills. Table 1 shows the responses for the student survey which was completed at the end of the pilot. The data clearly indicates a positive attitude towards the robotics experience. Interestingly, the one score in the ‘negative’ response column was from the same child, one who had been disciplined repeatedly by his class teacher.

**Table 1: Student survey responses (n = 13)**

<table>
<thead>
<tr>
<th>Number</th>
<th>Statement</th>
<th>☑</th>
<th>☐</th>
<th>☐</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Working with LEGO kits</td>
<td>12</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Working in a group</td>
<td>11</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Using a laptop computer</td>
<td>12</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Choosing our own robot to make</td>
<td>11</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Doing more work with LEGO robotics</td>
<td>12</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>Helping children in other classes to use LEGO robotics</td>
<td>10</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Student engagement was also determined by reviewing the video footage, still photos, the researchers’ observations, and the class teacher’s feedback and observations:

> I was just amazed … some have gone out and bought it … Made their parents go and buy LEGO. We’ve asked anyone like the bigger kids in the school if they have any old LEGO … No, it really is surprising (Class teacher: extract from interview transcript, question 1).

The students were all more than able to work with the robotics for the whole designated session of one hour, and frequently extended the time to complete a modification or to look at another group’s work.

The development of literacy and numeracy skills was evidenced by the students’ responses to the assessment and also by the class teacher’s reflections during the interview. Table 2 shows the assessment data. The poorer scoring items seemed to be more about the difficulty the students had with isometric spatial recognition of the components of the shape rather than knowledge of colours or the ability to count.

**Figure 1. Engaged and cooperating**

**Figure 2. Persistent and focused**
Table 2: Student assessment ($n = 13$)

<table>
<thead>
<tr>
<th>Item</th>
<th>No. correct</th>
<th>No. incorrect</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12</td>
<td>1 (no response)</td>
</tr>
<tr>
<td>2</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>6a</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>6b</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>6c</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>7</td>
<td>5</td>
<td>8</td>
</tr>
</tbody>
</table>

The class teacher shared her thoughts during the interview in relation to literacy and numeracy skills:

Oral language and the vocab has been really really good because … we push the oral language but the maths language, the positional talk, even up and down … some of the children didn’t even say that in their everyday speech … so it has really made them more aware that there are other words to use other than ‘thing’ and they can describe things more accurately or better describe them (Class teacher: extract from interview transcript, question 2).

When we were doing the one the other week you had to … one of the pieces had eight little round bits … so we were counting by having a look at the one on the screen, how many round bits? Let’s count them in twos, and then find the right one. I think once you get into it, it just expands once you’ve actually got your hands in there, because it’s the red one, and it’s the white one, and it’s the one with 10 on it, not the one with 4 on it. It’s the one with the slope … which way does the slope go? Towards the outside or towards the inside? (Class teacher: extract from interview transcript, question 6).

The class teacher also used the robotics experience as a context for her focused English teaching. Figure 3 shows a writing activity she worked on with the students.

While the development of interpersonal skills was not an expected outcome of the project, it certainly became clear that this was an outcome which was highly prized by the class teacher:

I think it reinforces things like the social-emotional with the sharing … which is hard for anyone at this age but particularly for children who come from homes where it’s not a priority to make them share … so it really reinforces the waiting for turn (Class teacher: extract from interview transcript, question 2).

Conclusion

The selection of the LEGO WeDo® application as opposed to other software programs readily available for this pilot was based on a number of reasons: the link to the LEGO materials, the creative aspect of the programming (rather than engaging with a pre-programmed application), and the non-reliance upon conventional literacy skills to program the robots. There appears to be an extraordinary opportunity to use visual and digital literacies to bridge the gap between Indigenous, LBOTE, and non-Indigenous literacy and numeracy standards. This seems eminently preferable to a deficit approach where students from diverse backgrounds are remediated in literacy and numeracy owing to insufficient experience before school enrolment. Bridging this gap may be the first step towards the development of digital literacy and digital access for all Early Years learners.

References


**Appendix 1. LEGO WeDo® student survey 2010**

Please colour in the face that best shows how you feel about each statement that your teacher will read out loud.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Face 1</th>
<th>Face 2</th>
<th>Face 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working with the LEGO kits</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>Working in a group</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>Using a laptop computer</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>Choosing our own robot to make</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>Doing more work with LEGO robotics</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>Helping children in other classes to use the LEGO robotics</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
</tbody>
</table>

**Teacher use:**
Please indicate whether the respondent is in Prep or Year 1. (Circle one).

**Appendix 2: Student assessment**

**What do we know?**

1. Our first robot was called …
   - The Kicker
   - The Spotter

2. Our second robot was called The Go-Around. We made an animal called a …
   - Bird
   - Cat

3. What is the name of this wheel?
   - Cog Wheel
   - Dog Wheel

4. What is this?
   - Motor
   - Machine

5. What does this mean?
   - Play
   - Stop

6 (a). How many colours are there on the Kicker? _____
6 (b). How many green pieces? _____
6 (c). How many yellow pieces? _____

7. What is the name of this piece?
   - Craft
   - Shaft

8. My favourite robot so far is …
   - The Kicker
   - The Go-Around
Appendix 3: Teacher interview questions, LEGO project 2010

1. Were you surprised by your students’ engagement with LEGO WeDo©? (Probe for reasons)
2. What, if anything, do you think your students learned from participating in the project?
3. Did the project provide learning opportunities for you?
4. Do you think it was suitable/appropriate for the age group?
5. Did the boxes of LEGO have any effect? For example, do you think it was a crucial preparation step?
6. Do you think LEGO Robotics can be tied to the curriculum?
7. Given that this was a pilot project, do you have any specific advice for us when we expand the study? For example, should it be tied to a unit of work? Base it around a theme?
8. What do you think of the technical demands on students? Was the laptop too difficult to use? Were the concepts too hard? Should we try to explain the concepts before or after the LEGO workshop?
9. Do you think an in-service for both yourself and the teacher aide prior to commencement would have helped in any way?
10. Would you be interested in participating in an extended project within the next two years?
How do immigrant parents support preschoolers’ bilingual heritage language development in a role-play context?

Liang Li
Monash University

THE RESEARCH REPORTED HERE is part of an overall study drawing upon a Vygotskian cultural–historical approach to explore Chinese-Australian families’ pedagogy in supporting children’s bilingual heritage language development. Imagination is a psychological process for the child, where the development of speech is linked to the development of imagination as a higher cultural function (Vygotsky, 1987a). This study gives insight to the links between imagination in play and language development through play pedagogy at home. In the larger study, from which this paper draws its data, the methods of data generation included video interviews and observations with three families. The focus was on interactions that contributed towards language development in the home context. Drawing on Vygotsky’s (1987a, 2004b) theory of imagination in children’s play, Fleer’s (2010) dialectical model of play, and Kravtsova’s (2009) subject positioning theory, this paper specifically investigates parents’ interactive support of children’s bilingual heritage language development in role-play. The paper analyses the play experience of a four-year-old girl, Lin, and her father in a park, in order to discuss the importance of imagination in adults’ instructions within the child’s zone of proximal language development through play. This provides the foreground for approaching language development within a dialectical process of collective and individual imagining in play. It is argued that Lin’s father uses play as a pedagogical tool to support Lin’s bilingual heritage language development.

Introduction

In Australia many Chinese families send their preschool-aged children to learn Mandarin at weekend Chinese schools in the expectation that their children master Mandarin as a heritage language in the predominantly English-speaking community. Therefore family involvement in bilingual development may be considered as an important factor (Esch-Harding & Riley, 2003; McCollum & Russo, 1993). How can immigrant parents contribute to their children’s heritage language development in the home context? This is the challenge faced by immigrant parents.

There has been a great increase in research on bilingual and multilingual development in the past 20 years. Much work has been done on the linguistic perspectives of children’s bilingual development, the majority of which has focused on bilingual language development in school and after-school class contexts (Kohnert, Kan, & Conboy, 2010; Laurent & Martinot, 2009; Nicoladis, 2006; Seidenberg & McClIyiind, 1989; Wang, Perfetti & Cheng, 2009; Wang, Perfetti & Liu, 2005). However, there are very few studies focusing on how the family as a social unit supports their children lingually, especially for children’s heritage language development (Esch-Harding & Riley, 2003). This paper draws upon Vygotsky’s cultural–historical theory to examine how parents involve themselves in children’s play activities to support their Mandarin language. It begins with a review of related cultural–historical concepts, followed by the study design and the findings.

Cultural-historical theoretical framework

Vygotsky’s cultural–historical theory of human development highlights the importance of social interaction in culturally specific contexts in children’s language development (Vygotsky, 1986). This contributes to understanding the social interaction between Chinese immigrant families and their children during everyday activities in the Australian community. A Vygotskian cultural–historical approach has been applied to this study in order to determine the ways Chinese–Australian families support their
preschoolers’ Mandarin development at home. As a part of a larger study, this paper specifically focuses on parental interactive support for children’s Mandarin development within role-play. Specifically, how do parents utilise play as a pedagogical tool to support their children’s language development? This paper draws upon Vygotsky’s concepts of play, imagination and the zone of proximal development (ZPD) to understand parents’ contributions to their children’s bilingual heritage language development during play.

**The dialectical relations between imagination and reality**

When interpreting Vygotsky’s concepts of creativity and imagination in childhood, it is important to acknowledge the dialectical relation between imagination and reality. Vygotsky (2004b) argues that imagination is associated with reality, suggesting that drawing an exact line between the two is not plausible. He asserts that ‘everything the imagination creates is always based on elements taken from reality’ (p. 13), and is therefore dependent on a person’s past experience (Fleer, 2010). A child’s play is not simply an echo of what he/she has experienced, but a creative reworking of what he/she saw and heard in reality (Vygotsky, 2004b). The real world thus informs their role-play, influencing the objects children play with and the social roles they imitate. When Elkonin (1999) discusses the significance of play, he too confirms that ‘play is an activity in which children assume the role of adults and model the relationships entered into by adults in their real lives, especially as they go about their basic social and work functions’ (p. 61). Children’s past experiences form the origin of their imagination in play; the richer the experiences, the richer the material they can imagine in their play (Vygotsky, 2004b). Adults’ experiences are much richer than a child’s, thus adults’ imaginings are much richer. Therefore, by engaging in children’s play, adults bring their experience to the imagined situation, which may enhance the play experience and support the development of the children’s imagination and thinking. Fleer (2010) calls this collective imagining in play. In play children connect with the collective knowledge that has been generated over time while collectively creating imaginary situations with adults to make new meaning of their play.

Smolucha (1989) outlines Vygotsky’s basic ideas regarding the development of imagination, in that ‘creative imagination develops from children’s activity into a higher mental function that can be consciously regulated through inner speech’ (p. 2). That is, imagination can facilitate connections between word and object with meaning as the internal mediator. Thus, children use the meaning of the word to mediate their thinking in order to create imaginative situations in play. In joint play, children are able to experience language use, imitate adults’ words and actions, and understand new concepts by negotiating with adults. As Vygotsky writes ‘... every higher mental function ... was formerly a social relation of two people’ (Vygotsky, 1997, p. 105). Consequently, children may divorce the meaning of the object (and its functions) from the object itself, moving away from reality and creating imaginary situations (See Figure 1).

From the Vygotskian perspective, children’s joint play can also be seen as ‘the forms of imagination that are directed toward reality’ (Vygotsky, 1987a, p. 349). Collective imagining enables children to move away from reality, and develop shared consciousness and awareness and an understanding of the imagined situation, which is the foundation for individual imagining. Consequently, individual imagining allows children to move towards reality (Fleer, 2010). In this way, the crystallised imagination becomes the reality, which returns ‘as a new active force with the potential to alter that reality’; a reality that conforms to their own needs and desires (Vygotsky, 2004b, p. 21). This is the production of the imagination. In joint play, in collective imagining with adults, children imitate adults’ words and actions and are able to produce individual imagining of what they have experienced. As a result, they not only develop their imagination, but also generate understanding of new concepts and alter their feelings and perceptions of the surrounding environment. This is the complete cycle followed by the creative operation of the imagination’ (Vygotsky, 2004b, p. 21) as shown in the following Figure 1.

![Figure 1: Collective and individual imagining (Adapted from Fleer, 2010, p. 140)](image)

In this study, Vygotsky’s concept of the ZPD and Kravtsova’s subject positioning theory are applied to investigate how parents participate in children’s imaginings in play and the ways parents support their children’s language development in play.
The Zone of proximal development (ZPD) in play

The concept of the ZPD was first introduced into the social science world by Vygotsky (1987a) and is understood as ‘what the child is able to do in collaboration (with adults or more able others) today he will be able to do independently tomorrow’ (Vygotsky, 1987a, p. 211). The importance of the ZPD is that children and adults/more capable peers work together to complete tasks children are unable to do individually (Holzman, 2010). With regard to this study, the instructive process is completed through the children’s collaboration with adults. Vygotsky’s focus on the concept of the ZPD is not related to all kinds of learning, but towards the child’s full development from instruction and in relation to certain maturing developmental functions (Chaiklin, 2003; Kravtsova, 2009). By working together with adults, a qualitative change and transformation takes place within the child’s ZPD (Vygotsky, 2004a). In joint play, the quality of change is a collective form of children and adults’ imagining together. Thus, adults’ instruction has effective functions only when it takes place in the children’s ZPD, and occurs during the process of collective imagining in joint play.

Imitation in play

Why do children make a qualitative change from the ZPD to their zone of actual development? The answer requires a new understanding of imitation. Imitation does not mean just mindlessly copying actions but reflects the limits of the ZPD. It reveals ‘some possibility of moving from what I can do to what I cannot do’ (Vygotsky, 1987b, p. 209). Additionally, imitation exists because the child’s level of development is still not enough for them to perform independently, yet is sufficient for them to understand how to use others’ assistance to support their own performance. Imitation does not allow the child to work independently, but to be able to work in collaboration with adults or with more knowledgeable peers. Holzman (2009, 2010) uses Vygotsky’s ZPD to explain that imitation is necessary for creativity. In joint play, imitating adults’ words and actions defines a child’s ZPD, and their language development is a result of collective imagining and imitation. The relation between children’s imitation and adults’ instruction is dialectic; both influence each other in relation to children’s ZPD in play. Without understanding children’s imitation in play, adults’ instruction would be a kind of empty talk. Without understanding adults’ instruction, children’s imitation does not work effectively to develop their potential. As this paper focuses on adults’ interactive instructions in preschoolers’ play, it is necessary to examine how children engage in imitation when playing with adults.

Likewise, by understanding a child’s imitation within the ZPD, the adult needs to understand and choose what kind of assistance would be effective to child’s development (Henderson, Many, Wellborn & Ward, 2002).

Kravtsova’s (2009) subject positioning theory

The extent of help children need is related to the scope of the ZPD, which refers to the extent of collaboration and the form of communication from adults (Li, in press). Kravtsova (2009) says children are identified as having ‘larger’ or ‘smaller’ ZPD, and, in order to make adult help truly effective, proposes to divide adults’ participation into different functions, associated with the scope of the ZPD. She states that ‘the level of the adult’s help is determined by the logic “independent” position, “equal” position, “above” position, “under” position and the “greater we” position’ (p. 22). When children who have learning problems show a ‘smaller’ ZPD than their peers in play, adults can put these children in the position of ‘under’ or ‘greater we’. The ‘greater we’ position should be outside/beyond the borders of the ZPD, which is called the zone of potential development by Kravtsova. For example, a younger child sits on an adult’s knee while older children participate in a task, as the child’s developmental level is insufficient to join the event and complete the task. The child in this communication is at the ‘greater we’ position. He [She] would be able to observe others’ engagement and get a sense of the activities. Likewise, when children who learn more easily have a ‘larger’ ZPD than their peers, adults may help them from an ‘independent’ or ‘equal’ position of children. In respect of pedagogical practice, in this study Kravtsova’s subject positioning theory directs the analysis of strategies parents can apply when they play with preschoolers. This paper focuses on how parents join preschoolers’ play in order to support their language development, and theorises that this support is effective when it is located within their zone of proximal language development.

Study design

The overall study we have drawn upon explores the ways families are involved in their children’s development of Mandarin as a bilingual heritage language in everyday life. This paper focuses on how parents contribute to children’s Mandarin development in a play context. This cultural-historical research was built upon Hedegaard’s (2008) dialectical-interactive methodology. Hedegaard (2008) also makes an argument that the researcher is situated within the activity as a partner with the participants while examining children’s development in everyday activities. Hedegaard proposes that in this way it is possible to examine how children themselves contribute to the interactions with both adults and other peers within the family community and other educational settings.

In the study I position myself as being in the same context as the participants’ activities, which is different from traditional research. Traditional psychological research mainly takes a ‘fly on the wall’ approach, where the researcher is situated outside the research context.
In this way, I am able to examine how parents contribute to interactions with children in language-learning activities.

Sample

The data referred to here relates to Lin’s family, comprising four-year-old Lin, her one-and-a-half-year-old sister Meimei, and her parents. The parents are from Taiwan and immigrated to Melbourne nearly six years ago, where Lin was born. From age two, Lin attended a childcare centre between 8am and 5pm four days a week. The childcare centre is her English-language environment. According to her parents, she is very comfortable with her English communication. Since they worry about Lin’s Mandarin, they attempt to speak Mandarin to her most of the time at home and to speak English only occasionally. The parents believe the home is their daughter’s main Mandarin-speaking setting. Lin also attends a Chinese school program for three hours every Saturday morning.

Data generation

Data for the overall study was generated over a nine-month period with three Chinese–Australian families through video observations, videotaped interviews, and photographs taken by the participants and the researcher. I videotaped the focus children at home, playing and participating in everyday families activities at five different times, as well as observing at weekend Chinese school twice. In addition, parents took over 200 photos and five hours of video of their children’s activities at home over the period of the research. These photos/videos were taken in the natural home context, focusing on activities the parents believed to be important for their child’s bilingual development.

Data analysis

The data analysis draws on the work of Hedegaard (2008) and Fleer (2008). This study identifies categories such as imagination in play, imitation, and the subject positions in the play activity. From the data collected on Lin in the larger study, photos were printed for the first interview and videos were transcribed and generated into video clips in terms of the research questions, themes, and cultural-historical concepts such as role-play, dinner-time, and storytelling. This paper is based on one video clip involving Lin’s play with her father in a park after dinner. Our study seeks to examine the development of imagination in their play, Lin’s imitation in their play interaction, and her father’s interactive support through play dialogue.

Findings: an example of play practices at home

The following vignette shows a father’s interaction with his daughter in a play context which contributed to Lin’s Mandarin as bilingual heritage language development. As her father mentioned in the first interview, Lin was very interested in role-play, and he believed this kind of play would help Lin develop her Mandarin. In the larger study, five examples of Lin and her parents in interactive sequences show them engaged in role-play, including supermarket, restaurant, and ‘mother and babies’ play. This paper focuses on only part of Lin’s play with her father. While their conversation was mainly in Chinese, italics indicate words spoken in English. Bold means the new Chinese words Lin was learning.

Li’s play vignette at the park

When visiting Lin’s family during the third observation period, a play situation between Lin and her father occurred naturally. After dinner, Lin, her father, her sister and her grandpa walked to the park near their house. When they arrived Lin immediately walked towards the climbing wall near the slide. According to her father, this is her favourite play place. She initially put some tanbark on the bench and engaged in restaurant role-play with her father. Only a segment of their play is transcribed and interpreted below. Because this is a study of children’s language development, it is important to expand upon their language communication in the transcript. The transcript refers to images in help visualise what is happening. These images appear below. Please refer to the images as directed.

Image 1.

Image 2.
Video observation protocol

Refer to Image 1

Lin started to play under the slide area. She put some tanbark on the small bench.

Father: What are you doing?

Lin: Making a soup. (She continued putting more tanbark on the bench.)

Father: What are you doing? (Her father squatted down by the bench to talk to her.)

Lin: Doing some cooking. (做cooking)

Father: Oh. You are cooking. What are you cooking? (Her father put his hands under his jaw, as if interested in her activity.)

Lin: What did you want?

Father: What did you have?

Lin: I have a lot of things.

Father: Like ...

Lin: There is chocolate, ice cream and lily, and lollipop, and lots of yummy things like yummy chewy ... like yummy yummy yummy chewy ice creams.

Father: Ice cream and chocolate are all sweet. And lollipop, I don’t like this one.

Lin: How about some fresh one?

Father: What do you have?

Lin: I have juice and fresh ones, and all different kinds of juice.

Father: Okay. I want some juice. 我要喝果汁。...

Father: Okay. You have some bread. I want a sandwich and bread. 你有面包啊。我想要三明治和面包。(Lin put some tanbark on the bench.)

Lin: You have play here. You can eat it if you sit closer. 好。这是给你的碗。你要坐这里，就可以吃。...

Father: What about my juice? 那我的果汁呢？

Lin: Your juice will be ready soon. I need to put this ... inside. 你的果汁快要好，就放这个…插在里面。

Interpretation

Lin initiated the play.

Her father responded to her performance.

Lin was very comfortable with her English. Her play started to use English.

‘Play’ is a pronounced incorrectly in Mandarin—she tried to pronounce ‘bowl’, but what she said was ‘play’ in Chinese. Play and bowl have similar sound with different tones in Chinese.
(She pretended to put the straw into the cup.)

Father: That is a straw in the juice. 果汁放的是吸管 ... 
Lin: After I put ... after 我弄 ... 这个 (She put some sticks on the bench. 
She tried to think of the right Chinese word.)

Father: What is it? 这是什么? 
Lin: This is fire. 这是个火。 
Father: This is a stove. 是个火炉啊。 
Lin: Stove. 火炉 ... 
Father: How much is it? 那要多少钱呢? 
Lin: You first give me money. 嗯，嗯...你给我钱先。 
Father: How much? 多少钱呢? 
(Lin picked up some tanbark to show her father.) 
Lin: This is money. 这个钱。 
Father: How much is it? I will buy a sandwich and juice. 要多少钱？我要跟你买三明治和果汁，要多少钱？ 
Lin: One dollar. 要一块钱。 
Father: One dollar. Here you are. 嗯，要一块钱啊，好，给你一块钱。 
(Lin’s father pretended to give her one dollar. Lin pretended to take it.) 
Lin: Thank you. 谢谢！...

Refer to Image 2

Father: What do you want to cook? 要煮什么东西? 
Lin: Do you want to cook some vegetables? 你想煮菜吗? 
Father: What kind of vegetables? 这是什么菜? 
Lin: Vegetables can be eaten. 这是可以吃的。... 
Father: Fry, Fry, Fry. Put in some oil. 煎，煎，煎。放油。 
(He pretended to add some oil and fry it.) 
Lin: Okay. I can add some oil. 好了，我会放油。
(She turned back to her cabinet and found the oil.) 
Lin: Here is the oil. 油在这里。(She pretended to add some oil like her father did.) ... 

Father: What about salt? 那有没有盐呢? 
Lin: Oh. Here is the salt. 哦，在这里。 
(She pretended to add some salt to the vegetables.) ... 
Father: Where is the meat? 肉在哪里? 
Lin: It should be here. 这里。(She looked for it.) 
Father: Oh. This is the meat. 肉在这里啊。 
Her father picked up some tanbark from her cabinet. 
Lin: It is rice. 这是饭。 
Father: Oh, It is rice. I chose wrongly. I chose wrongly. 哦，这是饭，拿错了，拿错了。 

Her father introduced the new Chinese word ‘straw’ by taking the ‘above’ position. 
Lin used ‘after’ in English to replace the Chinese word. 
He took an ‘under’ position by asking her ‘what is it?’ in order to understand what she was imagining. 
He took ‘above’ position to tell her the new Chinese word ‘stove’. Lin imitated her father’s word and got a sense of ‘stove’. 

This is the wrong grammatical use in Chinese. She translated it grammatically from English to Chinese. This is a syntactical structure problem. 
Her father took the ‘above’ position to explain ‘How much’ in Chinese. 

Her father took the ‘above’ position to introduce Chinese cooking steps such as ‘put in some oil’, and ‘add some salt’ to their imagined play situation. 
Her father and Lin are positioned as ‘equal’. They negotiate ‘where is the meat?’.
Discussion

The dialectical process of imagination in Lin’s play

In the beginning of the play interaction, Lin initially took on the role of a ‘restaurant owner’ and began to speak to a customer (her father). She imitated a chef’s actions, which demonstrated her motive and desire to cook in a restaurant. This confirms Elkonin’s (2005) argument that children have the desire and motives to act like adults, as shown through their interest in imitating real relationships through play.

However, where did her imagining of a ‘restaurant owner’ come from? According to her parents’ response in the interview, she enjoyed observing and cooking with them at home and had experienced many restaurant environments. Thus her role as a ‘restaurant owner’ reflects her observations from everyday life and demonstrates that her imaginary situation was from real life. Furthermore, because of Lin’s imagined play, her father was given the opportunity to respond to her actions consciously and collaboratively. She could experience the historical knowledge of cooking with her father’s support. Fleer (2010) argues that imagination helps make children’s previous experiences and motives visible to adults, who are then able to make a connection between the context and concepts in the play. In Lin’s restaurant play, she started to use tanbark as a substitute object for soup, sandwiches and juice, which enabled her father to respond to her imaginary situation and introduce new things to the play by using a series of questions that broadened her cooking experience. As well, Lin and her father collectively imagined a Chinese cooking experience. For instance, when they started cooking together, Lin’s father explored new concepts such as vegetables, oil, salt and meat, and introduced cooking methods by asking if Lin wanted to fry or barbecue the meat, which extended their imaginative space. In their play, the tanbark became vegetables, meat, and rice, which echoes Vygotsky’s argument that imagination is a process directly connected with making meaning.
Lin’s imitation in joint play

According to this play experience, it can be ascertained that English was the language Lin was most comfortable with. When she was not able to use Mandarin to express her ideas, she would use English. For example, at the beginning of the play, she preferred to speak English, and only when her father spoke to her in Mandarin did she attempt to communicate in Mandarin. This reflects a family rule whereby Lin needs to respond in English when her parents speak to her in English. She also used some English words to complete her Mandarin sentences, such as ‘fire’, ‘mix’ and ‘after’. Another point noted was that Lin only used very simple Chinese sentences or phrases. It can be seen that her father not only supported her Mandarin development but also actively extended her vocabulary, and thus her learning and development.

Similarly, during the play, Lin imitated her father’s Chinese words and actions. When her father asked ‘Where is the meat?’, she answered in Chinese ‘meat, meat’, not simply copying the word, but controlling her behaviour by looking for meat in her restaurant. Lin’s imitation not only contributed to her performance in play, which was determined by her ZPD, but also the potential for intellectual and language development.

It can be seen that Lin was able to further expand her understanding of ‘restaurant owners’ and explore her cooking skills at the play. This is congruent with Vygotsky’s (1987b) argument that imitation demonstrates some possibility of the child being able to accept instruction not for what he/she can do independently, but for what he/she cannot do yet. In Lin’s case, her father’s interactive support within her ZPD depended on her potential to imitate. Through her imitation, her father could effectively support her imagination in play and contribute to her Mandarin development in the Chinese cooking field. Her father’s interactive support within her ZPD was very important to the development of Lin’s imagination and ability to make sense of cooking steps, as shown by this play experience.

Lin’s father’s interactive support

First of all, Lin’s father placed himself in the position of ‘equal’ to Lin, introducing new cooking concepts. He asked the question ‘Where is the meat?’ which helped Lin to expand her thinking and express her ideas in the play. This indicates that there was negotiation in their play when they shared their understanding of Chinese cooking. Again, when Lin’s father asked whether they needed to fry meat or barbecue it, he was in the ‘equal’ position to negotiate with Lin on how to cook. Furthermore, when her father picked up some tanbark, pretending it was meat, Lin responded with ‘It is rice’, demonstrating that negotiation of the play was initiated. The ‘equal’ position between them is also reflected through her father’s waiting, listening and responding to Lin’s ideas; he explored the imaginary situation with Lin rather than giving direct instruction. This is a very important strategy in developing children’s language.

Lin’s father also took the ‘above’ position in their play when he asked in Mandarin how much the sandwich and juice were, as Lin could not understand the concept of ‘how much’ in Mandarin. Her father continued explaining this question in Mandarin with ‘How much is it? I will buy a sandwich and juice’, and used explanatory talk to help Lin understand the question in Mandarin in a buying and selling situation. Consequently, Lin could respond: ‘One dollar’. Lee and Smagorinsky (2000) agree with Steiner and Meehan’s argues that ‘imagination and thinking is a complementary relationship in which social groups are involved in the process of constructing new knowledge by internalising some aspect of collaborators’ knowledge’ (p. 8). Within Lin and her father’s collective imagination, Lin engaged in the process of constructing new knowledge of Chinese cooking by internalising her father’s words and actions in play. In addition, Lin’s father also put himself in the ‘above’ position each time he mentioned new concepts such as ‘oil’, ‘salt’, and ‘put the lid on’. Lin unconsciously imitated what her father said, and therefore made sense of the cooking steps that promoted her individual imagining. This matches with Vygotsky’s argument that ‘the child knows words only to the extent that they are given to him [sic] by the people around him’ (Vygotsky, 1998, p. 111).

Furthermore, when Lin’s father asked Lin ‘What is it (fire)?’ and ‘What else do we need to cook?’ he positioned himself in the ‘under’ position. At this moment, Lin had initiated the play and had the power to decide what she imagined, while her father did not know what she was pretending to do. This provided Lin with a chance to imagine and share her ideas, and gave her father the chance to extend the imaginary situation. Lin attempted to respond in Chinese, and as a result enhanced her Chinese vocabulary and practised her Chinese grammar.
Finally, Lin’s sister was also involved in the latter part of the play. Their father invited Meimei to join them: ‘Meimei come here. Meimei, come. Meimei, come, play too.’ She imitated her sister’s action and put some tanbark on the bench, although Lin explained to her that ‘No. This is a bowl’. Although she could not engage in such a complicated play situation, Meimei still observed the play. Her father, observing that she could not participate in such a rich play event, explained to her: ‘Your sister will cook the vegetables soon’. It was evident that Meimei was outside/beyond the borders of her ZPD and in the position of the ‘greater we’, while she tried to make sense of this play situation.

To summarise, in this example of Lin’s play with her father at the park they collectively and imaginatively explored Chinese cooking. Lin’s father consciously created different positions for himself to communicate with Lin in terms of her Chinese language abilities and developmental level (See Figure 2). He took an ‘above’ position to introduce Chinese cooking knowledge, an ‘equal’ position to negotiate how to cook, and an ‘under’ position to question what Lin had decided to cook. Therefore, the way he communicated with Lin shows his communicative strategies used in subject positioning. The position her father took depended on how he asked the questions and how Lin responded. This paper aims to show that the ways adults communicate with children makes a difference to children’s thinking and language development in play. Lin’s father considered play as a pedagogical tool to support her bilingual language development. Lin imitated her father’s actions and language use, internalised cooking knowledge, and practised her Chinese language vocabulary and grammar. Moreover, as a consequence of Lin and her father’s collective imagination in the play activity, they moved towards reality, as Lin made sense of Chinese cooking and developed her Mandarin language capabilities. This is the dynamic process of the dialectical relationship of imagination and reality.

**Figure 2. Father’s interactive support in joint play**

**Conclusion**

This paper investigates how a parent was involved in his child’s play activity in order to support her bilingual language development in the home. The analysis example provides a new direction for researching parent–child interaction in relation to their language development, and, by using Vygotsky’s (2004) work on the dialectic relations between imagination and reality and Fleer’s (2010) dialectic model of imagination in play, new ideas about language development were possible. In home contexts, parents are in a position to draw upon their native language to assist their children’s bilingual heritage language development in Australian society.

By applying Kravtsova’s (2009) subject positioning theory to this study, it was possible to note the strategies used by Lin’s father. As an active participant in the jointly constructed play, he could apply strategies such as negotiating and questioning in order to encourage Lin’s exploration of new concepts and meaning-making in Chinese cooking, which further enhanced her Mandarin development and thinking. The findings bring new insights to how parents can support children’s home language development in play contexts through the utilisation of pedagogical tools.

This study also contributes to the understanding of subject positioning theory and has extended these strategies to family pedagogy. The paper examines how subject positioning theory provides instructive strategies that adults may apply in joint play to develop children’s language skills. It aims to assist parents’ understanding that the ways of communicating with children are determined by their knowledge of their child’s development, and that it can make significant differences to their child’s development.

**Acknowledgements**

The author expresses the sincere gratitude to supervisor, Professor Marilyn Fleer for her expert support towards the writing of this paper. The author gratefully acknowledges Lin and her family as enthusiastic participants in the study. Also acknowledged with thanks is the reviewers of the paper for their support and comments.

**References**


Interrogating the spiritual as constructed in Belonging, Being and Becoming: The Early Years Learning Framework for Australia

Jan Grajczonek
Australian Catholic University

AUSTRALIA'S FIRST DOCUMENT TO articulate a national approach to learning for young children in care, Belonging, Being and Becoming: The Early Years Learning Framework for Australia (DEEWR, 2009) makes several references to the spiritual aspects of children’s learning and their lives. It also assigns early childhood educators particular roles associated with that spiritual aspect. These are significant inclusions that deserve closer attention. What is the nature of the spiritual aspects of children’s lives and learning, and further, what is the nature of educators’ roles in responding to these spiritual aspects? This paper reports on research that interrogates how the Early Years Learning Framework refers to children’s spirituality.

Introduction

In 2009 the Australian Government published the landmark document, Belonging, Being and Becoming: The Early Years Learning Framework for Australia (DEEWR, 2009). Although not the first of its kind (several states and territories have produced similar curriculum statements), the Early Years Learning Framework makes a significant contribution to the early years sector in articulating a consistent approach to young children's learning for all Australians. One aspect of that significance is the document’s explicit reference to the spiritual dimension of children’s lives, learning, and diverse contexts. The reference to children’s spirituality is an important one as, for the first time at the Australian Federal Government level, an official educational document acknowledges the spiritual dimension of children’s lives, learning, and cognitive aspects. The document also assigns responsibilities to early childhood educators related to this spiritual dimension. However, the document’s assigned characteristics to children’s spirituality are general in nature, lacking many of the key features associated with the notion of spirituality. Further, the nature of educators’ responses is also referred to generally rather than specifically, thus making their pedagogical responses unclear and ambiguous. This paper analyses the Belonging, Being and Becoming: The Early Years Learning Framework for Australia (DEEWR, 2009) document to determine how it constructs children’s spirituality and educators’ responses and what such constructions might imply for educators’ roles.

Literature review

The notion of the spiritual dimension of humanity has occupied people’s attention for centuries, but this attention has been mostly linked with religion and religiosity. It is only in relatively more recent times that the notion of spirituality as a distinct dimension of the human person outside of a religious context has been investigated (Hardy, 1965; O’Murchu, 1997; Robinson, 1977; Tacey, 2000). Intentional research into children’s spirituality is an even more recent phenomenon, with the earliest studies being conducted by Robert Coles in 1990. The areas of the literature regarding spirituality particularly relevant to this paper include: (i) the concept of spirituality, (ii) young children’s spirituality, and (iii) nurturing young children’s spiritual development.
The concept of spirituality

The concepts of spirituality and spiritual development have received considerable attention in research and scholarly writing. Such scholarship suggests that rather than being finitely defined, spirituality tends to be described in terms of its attributes and characteristics (Harris, 2007; Roecklhepartain, King, Wagener & Benson, 2006; Tacey, 2004). However, the literature generally agrees that spirituality is innate to all humans and is said to arise from our deepest humanity (O’Murchu, 1997; Tacey, 2004). Key characteristics of spirituality include: a person’s relationship or connectedness to themselves, others, the environment, and for some to God or an Ultimate; a sense of wholeness or becoming whole; a quest for meaning and purpose; a sense of value; an appreciation of the wonder and beauty of nature as well as of the nature of human accomplishment; a sense of mystery and transcendence; and moral sensitivity (Adams, 2009; Eaude, 2003; Robinson, 1977; Rossiter, 2010a, 2010b; Sagberg, 2008; Tacey, 2000).

It is important that a clear distinction is made between spirituality and religiosity. While it is accepted that spirituality is universal to all humans and related to religiosity, it is crucial to acknowledge that a person can be spiritual without being religious (de Souza, 2009; Rossiter, 2010b; Tacey, 2000). Rossiter’s (2010b, p. 7) two descriptions of spirituality and religiosity offer some insight into this confusion as they clearly differentiate between the two.

The spiritual is the natural dimension to life that includes: thinking and feelings about transcendence; ideas about a creator or creative force in the cosmos; human values; sense of meaning and purpose in life; love and care for self and others; sense of stewardship for the earth and its flora and fauna; the aesthetic. Spirituality is the way in which a spiritual/moral dimension enters into, or is implied in, the thinking and behaviour of individuals.

Rossiter (2010b, p. 7) sees religiosity as, ‘a measure of one’s religious behaviour such as attendance at church/mosque, frequency of prayer, engagement in a local community of faith’, while for Ryan (2007) religiosity can most simply be described as religious spirituality, or spirituality which finds expression through religion. Some make the distinction between ‘secular spirituality’ and ‘religious spirituality’ in terms of their overall aims or goals. Meehan (2002, p. 292), for example, argues that “‘Secular spirituality’” seeks to find meaning and purpose in universal human experience rather than religious experience per se’.

These are important distinctions to make as, when used synonymously, the richness and uniqueness of each, the ‘spiritual’ and ‘religious’, are lost. Further, it is essential to acknowledge that a person’s spirituality can be shaped by either religious and/or secular factors.

Young children’s spirituality

The earliest research exploring people’s spiritual and/or religious experiences came out of Alister Hardy’s (1965) research which was continued by Edward Robinson (1977) who found that people’s spiritual or religious experiences most often occurred in childhood and that such experiences were ordinary and commonplace. Research which focused more intentionally on young children’s spirituality was initiated by Robert Coles (1990), whose study, conducted with children themselves, led him to conclude that children are interested in the meaning of life, understand life as a journey, and are able to ask questions of ultimate meaning. Further significant insights into young children’s spiritual development came out of David Hay and Rebecca Nye’s (1998, 2006) research which led them to suggest that each child possesses his/her own ‘personal spiritual signature’. Essential to this personal spiritual signature is children’s ‘relational consciousness’ (Nye, 1998). It is important to differentiate between the social and spiritual aspects of children’s relationships: while the social aspect is concerned with the skills required to facilitate children’s friendships, the spiritual aspect is at a deeper significant level wherein relationships are ‘considered in the context of how the child finds their place in the world which in turn shapes their identity’ (Adams, 2009, p. 116). Linked to this ‘relational consciousness’ is children’s identity and sense of belonging as they come to know themselves in relationship with others as well as find their place in the world and with others (Adams, 2009; Adams, Hyde, & Woolley, 2008; Coles, 1990). Myers (1997) emphasises children’s relationships with significant adults, claiming that their development as whole human beings is dependent upon their relationships with people who love, listen, respond to and guide them.

Important aspects of young children’s spiritual lives include their search to find significance in the many experiences, both joyful and painful, they encounter (Eaude, 2009; Hay & Nye, 1998, 2006; McCreery, 1994). Indeed, Eaude (2009) claims that characteristics essential to children’s happiness, physical wellbeing and mental health include their search which is related to their sense of identity, meaning and connectedness. Other aspects of children’s spirituality are their sense of mystery, transcendence, awe and wonder (Hart, 2003, 2006; Hay & Nye, 2006), imagination (Fowler, 1981; Nye & Hay, 1996; Priestley, 1981), wisdom and knowing (Hart, 2003, 2006). In addition, the Office for Standards in Education (OFSTED) (2004, as cited in Ruddock & Cameron (Sean) 2010, p. 29) in the United Kingdom suggests that children who are developing spiritually would be likely to exhibit ‘a readiness to challenge all that would constrain the human spirit: for example, poverty of aspiration, lack of self-confidence and belief, moral neutrality or indifference, force,
fanaticism, aggression, greed, injustice, narrowness of vision, self-interest, sexism, racism and other forms of discrimination’.

Some argue that it is essential to give children the chance to explore, to search, and to reflect on all aspects of their spirituality so as to reinforce their resilience and sense of agency, and that when such opportunities are provided children will flourish (Crompton, 1998; Eaude, 2009). In other words, to nurture children’s spirituality is an essential aspect of their education.

Nurturing young children’s spirituality

The intentional nurturing of young children’s spirituality is argued to be of the highest importance, with some claiming that, if it is not nurtured, children’s spirituality and capacity for the spiritual will fade and be lost (Crompton, 1998). Educators’ reluctance to implement an education that seeks to nurture young children’s spirituality might arise from their perception of such education as being within the realm of the extraordinary. However, this misconception, earlier discounted by Robinson (1977), has again been rejected by Eaude (2009, p. 191), who suggests that children’s spirituality, although ‘inherently mysterious … it is not just about extra-ordinary or exotic experience’; and ‘is often—and most obviously for young children—manifested, and enhanced, within everyday experience’. Scholarly literature is replete with teaching and learning strategies that intentionally nurture the spiritual aspects of children’s lives and their learning. An important factor is the classroom environment, which must be open and sensitive to the spiritual (Adams, 2009). From the research conducted by Hay and Nye (1998, 2006), Hay (1998) claims that spiritual education is the reverse of indoctrination and suggests that teachers nurturing children’s spirituality have four major responsibilities: (i) helping children to keep an open mind; (ii) exploring ways of seeing; (iii) encouraging personal awareness; and (iv) becoming personally aware of social and political dimensions of spirituality.

Educators’ roles are significant at the planning stage of a curriculum that seeks to nurture children’s spirituality, and they are urged to not only attend to the cognitive domain but also to both the affective (the felt sense) and spiritual domains (de Souza, 2004; Hyde, 2006) by providing time and silence for inner reflection, for creative, imaginative and intuitive responses, and for transformed action (de Souza & Hyde, 2007, p. 100).

Hart’s (2003) research into children’s spiritual development led him to design what he calls the ‘Ten Sources of Power and Perspective’ which include: ‘Know thyself’; ‘To thine own self be true’; ‘What am I here to Give?’; ‘What am I here to Learn?’; ‘Finding my Voice’; ‘Mastering Myself’; ‘Seeing our Future’; ‘Where am I Now?’; ‘Hearing the Inner Voice’; and ‘Listen with Your Heart’ (Each step is detailed on pp. 171–209). Five ideas for ‘putting the spirit into practice’ have been articulated clearly by Thomas and Lockwood (2009), who suggest: practise the value of being; connecting and relating; routines and ritual; connecting with the natural world; and cultivating compassion. Baumgartner and Buchanan’s (2010) approach to spirituality includes three elements to be intentionally nurtured within children: their sense of belonging; their respect for self and others; and their awareness and appreciation of the unknown.

In summary then, when early childhood educators’ pedagogies include approaches, strategies and activities that pay attention to characteristics of children’s spirituality, including: their imagination and creativity; their senses of wonder and awe, mystery, identity and belonging; of connectedness to themselves, others and to nature; of security and serenity; their participation in, and contribution to, community and to the wellbeing of family, friends and community members (Adams, 2009; Adams et al., 2008; Baumgartner & Buchanan, 2010; Hyde, 2008; Yust, 2003), they would be considering the spiritual aspects of both children’s lives and their learning.

The study being reported in this paper builds upon and extends research conducted thus far into young children’s spirituality, paying particular attention to the document Belonging, Being and Becoming: The Early Years Learning Framework for Australia (DEEWR, 2009).

Present study

The Early Years Learning Framework document explicitly refers to the spiritual aspect of children’s lives and considers its role in children’s learning and wellbeing. It does this in particular ways. Educators have been assigned roles in the consideration of children’s spiritual aspects of their lives in terms of their learning. They are familiar with the usual aspects of children’s lives, including their cognitive, physical, cultural, social, emotional, personal, linguistic and creative aspects, but not so familiar with the ‘spiritual’ being included in this list. This marks a significant shift in perception of the nature of the human person from the normally secular perspective. Educators traditionally have been directed to be concerned with children’s physical, cognitive, social, personal and emotional development. Now, for the first time, they are called on to also consider children’s spirituality, but to what extent is not made clear.

The specific questions guiding this research are:

- How are children and educators constructed in terms of the concept of ‘spiritual’? That is, what specific ‘spiritual’ attributes/characteristics are assigned to children and educators in the Belonging, Being and Becoming: Early Years Learning Framework document?
Methodology

In the main body of *The Early Years Learning Framework* document several references are made to children’s spirituality and diversity as well as to educators’ roles in relation to these areas. Extracts that explicitly refer to these were selected and analysed using Membership Categorisation Analysis (Baker, 2004; Freebody, 2003; Sacks, 1992). Membership Categorisation Analysis affords insights into how knowledge is organised and constructed in interaction and/or texts (ten Have, 2004) in terms of Categories and the Category Bound Activities which include characteristics, attributes, rights, obligations and so on (Baker, 2004; Freebody, 2003), assigned to those categories by speakers and/or writers (Sacks, 1992). By analysing relevant sections of text from the document, a closer examination of how spirituality and related notions are constructed in the document is made available (Freebody, 2003).

Findings and discussion

The analysis begins with the document’s glossary (p. 48) where the spiritual is described thus: ‘Spiritual: refers to a range of human experiences including a sense of awe and wonder, and an exploration of being and knowing.’ In this definition precise attributes and/or characteristics for the word *spiritual* are not made available. Initially spiritual is referred to as a ‘range of human experiences’ and this description is then followed by one example of those experiences, ‘a sense of wonder and awe’. This one example is then expanded to include ‘an exploration of being and knowing’. The extensive research into the area of spirituality, some of which is outlined in this paper’s literature review provides descriptions of many human experiences and aspects of the spiritual. In contrast, the definition for ‘spiritual’ provided in the document is limited.

In the main body of the document those sections that refer explicitly to children’s spirituality and diversity as well as to educators are examined in order of their placement. The first insight to note is that children are described in terms of spirituality a total of five times and educators are linked to the notion of ‘spiritual’ a total of three times.

The first references focus on how children are described in terms of their diverse backgrounds as they appear in the ‘Vision Statement for Children’s Learning’ (p. 7) of the document:

*Fundamental to the Framework is a view of children’s lives as characterised by belonging, being and becoming. From before birth children are connected to family, community, culture and place. Their earliest development and learning takes place through these relationships, particularly within families, who are children’s first and most influential educators ...*

**BELONGING**

*Experiencing belonging—knowing where and with whom you belong—is integral to human existence. Children belong first to a family, a cultural group, a neighbourhood and a wider community (p. 7).*

Children’s diverse contexts, in terms of their connections to family, community, culture and place, and the significance of family as children’s first educators are acknowledged. Other aspects of children’s diversity, such as spiritual or religious diversity, are not made available.

‘Children’s Learning’ (p. 9) refers to the spiritual aspects of their learning:

**CHILDREN’S LEARNING**

*The diversity in family life means that children experience belonging, being and becoming in many different ways. They bring their diverse experiences, perspectives, expectations, knowledge and skills to their learning.*

Children’s learning is dynamic, complex and holistic. Physical, social, emotional, personal, spiritual, creative, cognitive and linguistic aspects of learning are all intricately interwoven and interrelated (p. 9).

Children’s diversity is acknowledged in terms of their family backgrounds wherein they experience belonging, being and becoming in different ways, as well as defined in terms of their experiences, perspectives, expectations, knowledge and skills. Children’s learning is described as ‘dynamic, complex and holistic’, and, in addition to physical, social, emotional, personal, creative, cognitive, and linguistic aspects of their learning, a spiritual aspect is also attributed. The inclusion of the spiritual attribute explicitly acknowledges that, for learning to be holistic, a spiritual aspect must be included, and further, this spiritual aspect is ‘intricately interwoven and interrelated’ with other aspects of their learning.

The attributes assigned to educators in ‘Early Childhood Pedagogy’ (p. 11) have significance for early childhood educators in terms of the intersection of children’s beliefs and values with their own.

**Early Childhood Pedagogy**

*Educators’ professional judgements are central to their active role in facilitating children’s learning. In making professional judgements, they weave together their:*  

- awareness of how their beliefs and values impact on children’s learning personal styles ... (p. 11).
The reference to educators’ own beliefs and values is helpful to note, as some educators’ values and beliefs may have been shaped by their own religious traditions. It is important to bear in mind that early childhood settings are open to all, and children enrolled in them represent a diverse range of beliefs and values which may be informed by particular spiritual and/or religious traditions. In this regard, educators occupy a delicate position that includes: (i) being authentic to their own values and beliefs; and (ii) being respectful of young children’s own beliefs and values.

‘Respect for diversity’ (p. 13):
There are many ways of living, being and of knowing. Children are born belonging to a culture, which is not only influenced by traditional practices, heritage and ancestral knowledge, but also by the experiences, values and beliefs of individual families and communities. Respecting diversity means within the curriculum valuing and reflecting the practices, values and beliefs of families. Educators honour the histories, cultures, languages, traditions, child rearing practices and lifestyle choices of families. They value children’s different capacities and abilities and respect differences in families’ home lives.

Educators recognise that diversity contributes to the richness of our society and provides a valid evidence base about ways of knowing. For Australia it also includes promoting greater understanding of Aboriginal and Torres Strait Islander ways of knowing and being.

When early childhood educators respect the diversity of families and communities, and the aspirations they hold for children, they are able to foster children’s motivation to learn and reinforce their sense of themselves as competent learners. They make curriculum decisions that uphold all children’s rights to have their cultures, identities, abilities and strengths acknowledged and valued, and respond to the complexity of children’s and families’ lives.

Educators think critically about opportunities and dilemmas that can arise from diversity and take action to redress unfairness. They provide opportunities to learn about similarities and difference and about interdependence and how we can learn to live together.

Children are born into a culture that includes traditional practices, heritage and ancestral knowledge, as well as experiences, values and beliefs of individual families and communities. However, these are not aligned with religion. Attributes including their cultures, identities, abilities and strengths are assigned to children’s contexts. Children’s diversity is not constructed in terms of their spirituality or religion.

Educators’ roles included particular responsibilities to ensure the curriculum reflects families’ diversities, explicitly noting those of Aboriginal and Torres Strait Islanders.

The next explicit reference to children’s spirituality is in ‘Holistic approaches’:

Holistic approaches

Holistic approaches to teaching and learning recognise the connectedness of mind, body and spirit. When early childhood educators take a holistic approach they pay attention to children’s physical, personal, social, emotional and spiritual wellbeing as well as cognitive aspects of learning (p. 14).

A key insight highlighted is that a child’s spirit must be considered along with the body and mind in holistic approaches to teaching and learning.

Also, a child’s spiritual wellbeing is an important aspect which needs attention. While there is no ambiguity regarding the significance of the spiritual aspects of children’s learning which educators must consider, the paragraph is silent about the nature of this spiritual aspect and how educators might be able to achieve such holistic approaches.

‘Cultural competence’ (p. 16) offers further insights into children’s diverse lives:

Cultural competence

Educators who are culturally competent respect multiple cultural ways of knowing, seeing and living, celebrate the benefits of diversity and have an ability to understand and honour differences. This is evident in everyday practice when educators demonstrate an ongoing commitment to developing their own cultural competence in a two way process with families and communities.

Educators view culture and the context of family as central to children’s sense of being and belonging, and to success in lifelong learning. Educators also seek to promote children’s cultural competence.

Cultural competence is much more than awareness of cultural differences. It is the ability to understand, communicate with, and effectively interact with people across cultures. Cultural competence encompasses:

- being aware of one’s own world view
- developing positive attitudes towards cultural differences
- gaining knowledge of different cultural practices and world views
- developing skills for communication and interaction across cultures (p. 16).
Educators are explicitly required to be culturally competent which in turn requires a respect for diversity and an understanding and honouring of differences. The specific attributes of cultural competence include an understanding of world views and cultural practices. What is not acknowledged is that world views and cultural practices can also emerge from, and be shaped by, families’ religious traditions.

Another attribute assigned to children throughout this document is their sense of identity, and it is explicitly acknowledged that their belonging, being and becoming are integral parts of that identity, as described in ‘Outcome 1: Children have a strong sense of identity’ (p. 20):

**Outcome 1: Children have a strong sense of identity**

Belonging, being and becoming are integral parts of identity.

In early childhood settings children develop a sense of belonging when they feel accepted, develop attachments and trust those that care for them. As children are developing their sense of identity, they explore different aspects of it (physical, social, emotional, spiritual, cognitive), through their play and their relationships.

The concept of being reminds educators to focus on children in the here and now, and of the importance of children’s right to be a child and experience the joy of childhood. Being involves children developing an awareness of their social and cultural heritage, of gender and their significance in their world (p. 20).

Along with physical, social, emotional and cognitive aspects, the spiritual aspect is also explicitly assigned to children’s identity. In their interrogation of ‘belonging’ in the document, Sumson and Wong (2011) acknowledged the spiritual dimension of belonging, but found that no explicit reference had been made to it. However, it can be argued that by implication a spiritual aspect has been assigned to children’s belonging, as well as to their being and becoming, given that the document explicitly states that ‘Belonging, being and becoming are integral parts of identity’.

Children’s diverse backgrounds and contexts are acknowledged in only two areas: social and cultural. There is no explicit inclusion of other forms of diversity, such as spiritual or religious heritage.

Various aspects of the outcome are elaborated and include a description of evidence which might indicate children’s development of confident self-identities (p. 20):

**Children develop knowledgeable and confident self identities.**

This is evident, for example, when children:

- feel recognised and respected for who they are
- share aspects of their culture with the other children and educators
- use their home language to construct meaning
- develop strong foundations in both the culture and language/s of their family and of the broader community without compromising their cultural identities
- develop their social and cultural heritage through engagement with Elders and community members
- reach out and communicate for comfort, assistance and companionship
- celebrate and share their contributions and achievements with others (p. 23).

A specific reference is made to children’s own awareness of the impact of their personal beliefs and values, but the document is silent on how these beliefs and values are acknowledged in early years settings. Several references are made to children’s cultures, social and cultural heritage, as well as to their cultural identities. While these have the greatest significance for children’s identities, a number of children’s world views, personal beliefs and values also come out of their religious traditions. Again, there is no reference to either religious or spiritual diversity, or to how both these aspects of children’s lives also shape their personal beliefs and values. If educators are to fully understand children’s identities, it is important that they are aware of all aspects of diversity, including religious diversity.

Outcome 3 focuses on children’s sense of wellbeing which is acknowledged as including a spiritual aspect:

**Outcome 3: Children have a strong sense of wellbeing**

Children’s wellbeing can be affected by all their experiences within and outside of their early childhood settings. To support children’s learning, it is essential that educators attend to children’s wellbeing by providing warm, trusting relationships, predictable and safe environments, affirmation and respect for all aspects of their physical, emotional, social, cognitive, linguistic, creative and spiritual being. By acknowledging each child’s cultural and social identity, and responding sensitively to their emotional states, educators build children’s confidence, sense of wellbeing and willingness to engage in learning (p. 30).
In the list outlining how educators can promote children's learning the following example is given: ‘when they welcome children and families sharing aspects of their culture and spiritual lives’ (DEEWR, 2009) provides a general description/definition for ‘spiritual’, but this definition is limited in terms of the extensive literature available. Within the main body of the document, ‘spiritual’ is acknowledged as an attribute of children’s being, identity, wellbeing, and learning. It is intricately interwoven with other aspects of children’s learning, including the physical, social, emotional, personal, creative, cognitive and linguistic aspects. Educators are called on to recognise the connectedness of children’s mind, body and spirit, and to implement holistic approaches to teaching and learning that consider all three. They are to pay attention to the spiritual aspects of children’s wellbeing as well as to their physical, social, personal and emotional aspects of wellbeing.

The document also acknowledges that children’s lives are shaped by family, community, culture and place. Several attributes are assigned to culture, including: traditional practices, heritage and ancestral knowledge, experiences, values and beliefs.

The spiritual aspects of their home lives are also acknowledged. Educators are required to be culturally competent and to understand and honour difference in terms of families’ histories, cultures, languages traditions and the like, and are called on to ensure the curriculum both values and reflects diversity.

While the document Belonging, Being and Becoming: The Early Years Learning Framework for Australia (DEEWR, 2009) has made the above inclusions, it is worthwhile to also note what it has not explicitly articulated. The EYLF document remains silent about the actual nature of children’s spirituality, the spiritual aspects of their learning, the nature of beliefs and values, and the nature of what shapes and influences beliefs and values. It does not explicitly acknowledge religious diversity or that such diversity shapes some children’s world views and cultural practices. This omission is surprising given Australia’s increasing religiously diverse society. More than ever, it is important to understand and honour the Other, not only in terms of their cultural diversity but also in terms of their religious diversity.

### Implications for educators

The explicit inclusion of the spiritual dimension of young children’s learning and lives is important as it acknowledges that it is an aspect of who they are, their identity, their being, and in turn their becoming. This is a worthy addition but one that might cause educators some angst and trepidation, depending on their levels of familiarity with children’s spirituality and their knowledge of how to consider it in their holistic approaches to teaching and learning.

It is important that voice be given to that which is silent. In the first instance, a clear and comprehensive description of spirituality requires articulation. Following on from this is the need for professional development to first inform educators’ knowledge and appreciation of the nature of young children’s spirituality and, second, articulate appropriate pedagogies that would enable them to attend to the spiritual aspects of children’s learning and lives.

Developing educators’ knowledge and competence in nurturing young children’s spirituality is essential so as to ensure that it does not fade or become lost (Crompton, 1998). Many advocate that nurturing children’s spiritual development enables them to come to a deeper understanding and appreciation of themselves as whole persons (Hay & Nye, 2006; Liddy, 2007; Myers, 1997; Nye & Hay, 1996). When those features of spirituality such as relationship, connectedness, imagination, wonder and awe, search for meaning, identity and so on, are intentionally nurtured in young children (Grajczonek, 2010) the spiritual aspects of their lives and learning are being attended to along with their intellectual, physical, social, emotional and cultural aspects. Such intentional attention to the spiritual dimension of children’s lives would afford a holistic approach to learning.

Other key aspects of the document are its several references to children’s diversity in terms of their culture, as well as of their values and beliefs arising from that culture. However, values and beliefs can also be shaped by people’s religions, and it is important to acknowledge this aspect.
Conclusion

The Early Years Learning Framework document’s explicit inclusion of the spiritual is undoubtedly significant. It is a forward step to have this important aspect of children’s lives both acknowledged and advocated in a national document of this calibre. Such acknowledgement enables all educators to take a much more holistic approach, not only to children’s learning but also to their belonging, being and becoming. However, the opportunities which emerge from this acknowledgment also have the potential to hinder educators, because so much has been left unsaid and unqualified regarding the nature of both the spiritual as well as educators’ responses. The implications for educators are intricate and complex and will require extensive, intentional professional development and support if they are to be realised.

References


**Introduction**

Arts education requires highly skilled teachers (Andrews, 2004). Pre-service teacher training helps beginning early childhood teachers to gain skills to enhance their confidence and capability in teaching the arts. When teachers feel more capable with skills, their personal beliefs about their own capabilities increase (Bandura, 1997).

In 2005, a National Review of Australian Music Education (DEST, 2005) raised a number of questions about the training teachers receive in music. The review highlighted a decline in the number of hours devoted to generalist primary pre-service education courses (DEST, 2005), suggesting pre-service teachers did not have adequate time to enhance their teaching skills in music. In 2008, a ‘Review of Visual Education’ (visual arts), highlighted that most primary students received less than 40 minutes of visual arts education per week, while in some states one-quarter or more of respondent schools reported that visual arts education was not provided to all students in that school (Australian Government, 2008). The Review suggested that poor teacher education led to poor visual arts delivery in classrooms.

In a recent study of 201 beginning teachers in Queensland, Garvis (2010) found that many beginning teachers had low teacher self-efficacy for each of the arts compared to that for maths and English. Many of the beginning teachers suggested they did not have access to arts training during their teacher education or practical experience in a classroom.

Findings from these Australian studies highlight the absence of status and support for the arts in most initial teacher education programs, calling for improvement in pre-service teacher training and ongoing professional learning.

This study examines the impact of contextual features during practical experience on beginning early childhood teachers’ self-efficacy and suggests how these may shape perceptions of confidence and competence. Building on previous findings of lower teacher self-efficacy for the arts among beginning early childhood teachers (Garvis & Pendergast, 2010), this study provides information about ‘why’ teacher self-efficacy is low. In particular, the study looks at the influences of supervising teachers.

**Beliefs about young children and the arts**

There is a common belief that teachers should not interfere with young children’s creative art. The belief suggests children are best left unhindered in their arts experiences.
development. Richards (2007) challenges this view, arguing that learning in the arts is a social, cultural and historical act. In this view, early childhood professionals recognise the social and interactive nature of children’s arts experiences. Pramling Samuelsson et al. (2009, p. 133) suggest children are creative and masters of play, but in order to become aware of distinctions, variation and invariance of the phenomena of the arts, children must be challenged by the teacher in order to clarify and develop their thought. The goal for early years teachers is to help children develop domain-intrinsic knowledge about the arts, rather than merely using the arts as a means for developing art-extrinsic knowing (Pramling Samuelsson et al. 2009). For this to occur, early years teachers need to understand what is suitable domain-intrinsic knowledge in the early years and also how can this be developed with young children. As with other subject areas such as literacy and numeracy, early years teachers are also responsible for developing children’s knowledge and skills in the arts.

Theoretical connections

Self-efficacy has a profound influence on personal endeavours and engagement within arts education (Garvis, 2010). A teacher’s self-efficacy beliefs will determine the level to which the teacher will engage with arts in the classroom. Teacher self-efficacy for the arts is created through social influences and feedback, particularly from others deemed significant (Garvis, 2010). It develops over time and through personal and vicarious experiences (Bandura, 1986). Self-efficacy is responsible for the motivation and the actual amount of effort an individual will bring to the task of teaching the arts.

Bandura (1997) suggests that the higher the sense of self-efficacy, the greater the perseverence and the higher the chance of the pursued activity being performed successfully. Teachers with higher self-efficacy were likely to put more effort into planning and teaching, to have higher expectations, and to find strategies that would help students learn (Bandura, 1997). Moreover, beliefs appear to be influenced by confidence (Tosun, 2000), the level of content knowledge for a subject (Borko & Putnam, 1995; Muigs & Reynolds, 2001) and support (Ashton & Webb, 1986). According to Bandura (1997), there are four sources that create and influence teacher self-efficacy: mastery experiences, vicarious experience (modelling), verbal persuasion and emotional arousal. Mastery experience is considered the strongest source of efficacy (Bandura, 1997). When the performance in teaching arts education is perceived a success, self-efficacy is raised. When the performance in teaching arts education is perceived a failure, self-efficacy beliefs are lowered. The level of emotional arousal (either excitement or anxiety) adds to the feeling of mastering a task or feeling incompetent. Vicarious experiences are associated with the modelling of the task by another. When the observer can identify the skill with the modeller, the observer’s self-efficacy is enhanced. It is important that teaching the arts is modelled for beginning teachers. The final source, verbal persuasion, may be a talk on the task being performed, as in feedback from a supervising teacher. The potency of verbal persuasion depends on the credibility, trustworthiness and expertise of the persuader (Bandura, 1997).

Teacher self-efficacy research within the arts has shown similar results. Previous research by Temmerman (1997) and Bartel and Cameron (2002) has shown that a perceived lack of competency to teach the specific knowledge and skills required in music was a significant internal factor affecting teachers’ perceptions of their musical ability. Furthermore, in a comparison between New Zealand and Canadian generalist teacher self-efficacy towards music, levels of competence and self-efficacy clearly affected curriculum (Bartel, Cameron, Wiggins & Wiggins, 2004), with few teachers able to show an understanding of students’ musical thinking. Teachers were unable to make judgements ‘about the value or importance of the consequences of an action’ (Bartel et al., 2004, p. 88). These results suggest teacher self-efficacy has a strong influence on teaching the arts in early childhood classrooms.

Focus of study

This study focuses on beginning early childhood teachers’ perceptions of their teacher education practical experiences in the arts and the impact of these experiences on their teacher self-efficacy.

Method

Twenty-one beginning early childhood teachers participated in the study. All were female, aged between 21 and 45+ years, and located throughout Queensland, Australia. Ethical approval was gained for this project, and convenience sampling was used to select participants. Respondents were contacted via advertisement of the project through professional teacher organisations (three early childhood organisations were contacted) and also emailing school administrations across Queensland. Out of 78 emails sent, 21 teachers responded (a response rate of 27%). This convenience sampling method does not purport to produce findings that are generalisable across the entire population. However, it does provide an insight into a sample of early childhood educators that will be useful in developing further research in this area.
The beginning early childhood teachers were recent graduates from a teacher education institution and within the first three years of their careers. They taught in private and public schools. The survey collected demographic information about them, and they were also asked to measure their level of teacher self-efficacy for the arts (using the Teachers’ Sense of Efficacy Scale by Tschanne-Moran and Woolfolk Hoy, 2001) and to answer open-ended questions on their arts experiences while on practical experience. The Teachers’ Sense of Efficacy Scale comprised 24 questions. Each question consisted of a nine-point Likert scale.

In the open-ended questions, participants were asked to list positive and negative experiences they could remember from their teacher training and classroom practice. During the latter, the pre-service teacher observes the supervising teacher and also begins to engage in teaching and planning the children’s learning. In Queensland, for pre-service teachers to be eligible for teacher registration, they must spend at least 100 days in a classroom with a registered teacher.

Quantitative analysis was used to determine the current level of teacher self-efficacy of the participants. Results from this part of the study have already been published in the literature. English (6.81) and maths (6.81) produced the highest mean for teacher self-efficacy, followed by visual arts (4.86), music (4.39), dance (4.21) and drama (4.19). Media (3.98) had the lowest mean for teacher self-efficacy (Garvis & Pendergast, 2011).

This paper reports on qualitative data from the survey, providing information about the contextual features that result in the low levels of teacher self-efficacy for the arts. Content analysis of the data showed key themes that were common across beginning early childhood teachers’ perceptions of practical experience during teacher education. Content analysis was seen as ‘a research technique for making replicable and valid inferences from texts to the context of their use’ (Krippendorff, 2004, p. 18). Our study found three key factors to have influenced beginning early childhood teachers’ self-efficacy for the arts: the supervising teacher’s practice, the supervising teacher’s feedback, and the profile of the arts in the early childhood classroom.

**Results**

**Demographics**

Respondents were located in city (43%), suburban (47%) and rural (10%) settings. The range of teaching experience was from two years to 37 years as an early childhood teacher. Respondents taught in pre-preparatory (5%), preparatory (33%), Year 1 (33%), Year 2 (14.5%) and Year 3 (14.5%). They held various qualifications that enabled them to become registered early childhood teachers. Qualifications included a Bachelor of Education (Primary) degree (61%), Graduate Diploma (Primary) (14%), Bachelor of Education (Early Childhood) degree (10%), Graduate Diploma of Early Childhood (10%), and a Diploma of Teaching in Early Childhood (5%).

**Three key themes**

Beginning early childhood teachers generally focused on negative experiences that had occurred during practical experience in teacher training. These experiences were shaped by either supervising teachers’ practice (modelling) or supervising teachers’ feedback (verbal persuasion). Beginning early childhood teachers also talked about the lower profile of arts as a subject in the early years classroom. Less time was devoted to the arts compared to other subject areas (contextual influences). Each key theme is discussed below.

**Supervising teacher practice**

Experiences described by beginning early childhood teachers showed a clear lack of arts understanding by supervising teachers. This suggests that supervising teachers did not model suitable arts education practice to their pre-service teacher.

One beginning early childhood teacher wrote of a negative experience while at a kindergarten with her supervising teacher:

> One of the saddest moments of my prac teaching was when I was studying my Grad Diploma and I was at a well-regarded C & K kindergarten. I was there for two weeks and basically the same activities were set out. I questioned the director as to why some children were not getting involved in the art activities and she told me that ‘this lot are not very creative!’ This went against all my beliefs about early childhood education and I felt very sorry for those children (Beginning Teacher, 16).

Another beginning teacher also commented on the lack of arts activities they actually saw while on practical experience:

> I did little arts work on Prac. If I did it was Art and the activities were always related to the unit I was teaching at the time. Very restricted though (Beginning Teacher, 1).

Limited or no modelling of arts teaching appeared common (16 out of 21 teachers) among the beginning early childhood teachers who were surveyed:

> I never saw it used on any teaching prac (Beginning Teacher, 4).

> Many of my prac teachers did not do the arts (Beginning Teacher, 7).
Supervising teacher feedback

Some beginning early childhood teachers wrote about negative comments from their supervising teacher regarding the teaching of arts education. They felt that the supervising teacher did not value the arts and made them constantly reassess the teaching of the arts within early childhood classrooms.

One beginning teacher wrote of a negative experience with a Year 1/2 class. This beginning teacher was not happy with the way arts education was taught or framed within the school and did not appreciate the negative feedback about noise during her practical experience:

On my first prac at a public state school I was involved in art groups that consisted of all of things that I had avoided in my work in early childhood centres. Stencilled outlines of horses that children had to collage over, bubble blowing painting … where was the freedom of expression in that? When doing a maths lesson in subtraction for a Year 1/2 class I sang ‘Ten green bottles’ with the class. The children sang along happily but my supervising teacher told me to keep the noise down so as not to disturb the children next door (Beginning Teacher, 15).

Another beginning early childhood teacher also spoke of the negativity from a supervising teacher when they tried to teach the arts themselves:

My teacher thought the arts weren’t as important. When I started teaching them, I got in trouble (Beginning Teacher, 11).

Subject profile

Beginning early childhood teachers wrote about a constant struggle between the profile of arts and the profile of other subjects, such as literacy and numeracy, within schools. They suggested this had an impact on their current beliefs towards the arts and may have affected their future practice if a school was not dedicated to quality arts education.

One beginning teacher talked about the arts often being overlooked in schooling, with greater emphasis placed on literacy and numeracy. The teacher felt that, while literacy and numeracy were important, the arts in early childhood were just as important. Others suggested that some teachers de-intellectualised the arts, making it more of a ‘fun’ subject than an academic subject. Comments included:

This is a massive generalisation; however, I think that the arts, especially in the junior school setting but in middle/senior as well, tend to be overlooked in terms of importance (e.g. visual art is a ‘fun’ subject). While literacy and numeracy are of course extremely important I believe that the arts need to be given a bit more of a fair go. I think a lot of people often forget how important the tools that we learn and use in the arts classroom are, especially in relation to a great deal of tertiary study areas and eventually the workforce (Beginning Teacher, 10).

I do think it’s disappointing that it doesn’t get the chance to be more prominent in the classroom. These days behaviour problems are much worse than when I was in school and I think that, if these kids could use different arts to express themselves more, then maybe it would lessen the disruption a degree? (Beginning Teacher, 3).

Many teachers allow students to develop this ‘bludge’ mentality by not valuing the arts themselves. It is a difficult battle to reform students’ opinions (Beginning Teacher, 8).

I don’t think teachers that have been around a long time see the benefit of it or have the training or ability to implement it. They just teach reading, writing and maths (Beginning Teacher, 2).

What is clear from these comments is the negative profile of arts education in the early childhood classroom. Beginning teachers said they were aware of teachers having to make curriculum decisions about subject areas, and that other areas such as literacy and numeracy were given more time within the current educational agendas. While the majority of teachers suggested that the arts were important for children, they did not have time or the mastery experience to teach the arts. It is unknown if the supervising teachers understood the importance of developing domain-intrinsic knowledge about the arts. The beginning teachers suggested that the supervising teachers had stronger mastery experience of literacy and numeracy. These observations from early childhood beginning teachers were made during their practical experience, so it is unclear as to what extent their negative experiences may have impacted on their arts teaching practice.

Final thoughts

The above results provide an interesting starting point for analysis in the investigation of beginning early childhood teachers’ perceptions of their pre-service teacher education. Even though this study is limited by the small sample size of 21 participants, it provides a snapshot of beginning early years teachers. The findings provide an initial answer to ‘why’ they demonstrated lower teacher self-efficacy for the arts. It appears that practical experience with the arts during teacher training contributes to a teacher’s self-efficacy. Without positive experiences created through the proposed sources of efficacy (mastery experience, vicarious experience, verbal persuasion, and emotional arousal), beginning early childhood teachers may feel they have little capability when teaching the arts in their
own classroom. Long term, these experiences may contribute to lower teacher self-efficacy for the arts, creating a cyclical problem of failure for arts education in early childhood.

Teachers’ educators are key players in helping provide positive sources of self-efficacy for the arts. It is important for them to help future teachers understand the power and richness of the arts. Based on the data collected, it is reasonable to believe that the supervising teachers had a strong impact on the future teaching practice of the beginning early childhood teachers.

The idea of ‘teacher as learner’ is important as a way forward for improving the teaching of arts education. If a supervising teacher’s self-efficacy for the arts is low, how can they be expected to model and critique suitable arts practice in the classroom? Their lack of teaching in the arts will then affect the beginning teacher they are supervising. As Bandura (1997) suggests, giving teachers a sense of efficacy is critical if they are going to even attempt the task. We must look at supporting pre-service early childhood teachers and supervising teachers through ongoing professional arts learning.

Current practices in arts education courses within early childhood teacher education must be reviewed if teachers are expected to learn skills they can use in the classroom. Closer links must be made with supervising teachers. Arts experiences should be relevant to the needs of pre-service teachers, enabling them to develop the knowledge and skills to teach the arts within their early childhood classrooms.

More research is needed to help support the professional learning of arts education. Such research would provide teacher educators, schools and policymakers with evidence of crucial periods where beginning early childhood teachers require greater support. Successful professional arts learning programs could also be explored with supervising teachers.

References


Participate with Australia’s premier online community for early childhood educators and professionals

Network with professionals in the early childhood sector

Join and support ECA’s social mission to improve the lives of Australian children and parents

Keep up to date with news, developments and events in the early childhood field

Exclusive access to ECA specials on quality-assured early childhood resources

www.facebook.com/earlychildhoodaustralia