AJEC

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Editorial

EARLY CHILDHOOD AUSTRALIA, through its Australian Journal of Early Childhood, is dedicated to the promotion and support of best practice in early childhood education. They do this through the dissemination of research findings and the critical appraisal of concepts, theories, policies, programs and resources that underpin and/or have the potential to impact upon the field, favourably or otherwise. This issue of AJEC illustrates this endeavour, bringing together an eclectic collection of articles that extend our ways of thinking about, and practicing, early childhood education.

The paper by Alcock, Cullen and St George explores young children’s literacy learning through rhythm, music, humour and play. Their study reveals the interplay of aesthetic, emotional, social and cognitive dimensions of communication with the musike in young children’s communication. It also illustrates how word-powerplays and rule-making in communicative/music events provide a communicative space for children to become active and empowered learners.

Ashton, Woodrow, Johnston, Wangmann, Singh and James’ article addresses the relationships between early childhood services, families and schools—and their capacity for enhancing children’s cognitive development. Drawing on the work of Vygotsky, the authors argue for collaborative dialogue regarding values, philosophies and experiences between early childhood services and schools in order to appropriately scaffold children’s cognition at this important time of transition.

Ferrier and Skouteris continue the theme of cognitive development by exploring adult cognitions, relationships and interactions, and their bearing on infant learning. In essence, infant development was found to be positively affected by playful parent-infant interactions. While intuition would indicate that enhancing parent-infant interactions should be a key focus of intervention, the authors propose that changing parent views about playfulness may be a more effective strategy.

In their investigation of physical activity programs in long day care and family day care settings, Lawlis, Mikhailovich and Morrison draw our attention to the ‘obesity epidemic’. They found a dearth of resources aimed at child care and family day care that, were they available, could help to address this important issue. Indeed, their review found only one resource targeting child care and family day care services, even though they are well-positioned to impact positively in fostering active and healthy lifestyles.

Little and Wyver also address children’s health, focusing on risk minimisation in outdoor environments. They ask: Does avoiding the risks reduce the benefits? In their sights is the increasingly risk-averse culture we seem to be developing into. They petition for risk management rather than risk elimination, as the latter would seem to overly limit children’s participation in stimulating and challenging outdoor learning that can promote optimal health and wellbeing. As a researcher whose own area is closely tied to outdoor learning—from the perspective of environmental/sustainability education—I fully support these authors’ viewpoint.

In their paper focusing on children birth to three, Macfarlane and Cartmel challenge pedagogical approaches based on sequential stages with identifiable milestones. As an alternative, they propose an ‘agentive’ view that positions children as key contributors in their own learning. Furthermore, they argue that the ‘ability to exhibit agency is tied to the development of resilience’. Their conception of children as having agency, and their new model of practice based on this concept, offers a provocative argument for rethinking how parents and carers might engage with the very young.

The final paper is by Singer, who makes the case for greater attention to be given to the development of children’s musical intelligence in early childhood education. She makes clear links between brain research, language learning and musical experiences in early childhood, and tantalises us with reference to the ‘Mozart Effect’. No, listening to Mozart won’t make your child smarter, but parents and carers can do a powerful lot of good for their children through the provision of quality musical experiences.

Finally, this issue closes with two book reviews. Connor discusses a 2007 title about young bilingual learners, while Slee reviews the third edition of Porter’s text on young children’s behaviour. Read these reviews to find out why both books are highly rated. In summary, this is an interesting, varied set of papers and reviews on topics of interest to generalist early childhood educators. Furthermore, there are gems for those with specific early childhood research and practice interests. I recommend this issue to you.

Julie Davis
Queensland University of Technology
Word-play and *musike*

Young children learning literacies while communicating playfully

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THIS PAPER EXPLORES YOUNG children's rhythmic, musical, humorous and playful communication in the context of empowering themselves to create meaningful curriculum during teacher-controlled routine morning-tea times in an early childhood education centre. The data, presented as 'events', formed part of an interpretive qualitative study exploring young children’s experience of humour and playfulness in their communication. The ethnographic-inspired research methods included the researcher as a participant observer. Cultural–historical activity theory (CHAT) framed the methodology, and mediated activity was the unit of analysis. CHAT illuminated the tensions, contradictions and power patterns inherent in communicative activity. This paper illustrates how young children’s rhythmic musicality serves both communicative and enjoyable functions, and argues that rhythm also forms the basis for young children’s developing verbal communication and early literacy learning. The ‘events’ make visible literacy as social practice (Hamilton, 1999).

**Introduction**

THE ANCIENT GREEK word for music, *musike*, includes rhythm, movement, poetry, dance, drama and all the temporal arts. ‘Music, language, dance, chant, poetry and pretend play all have a partly common origin’ (Molino, 2001, p. 173). All are modalities for making meaning. They are languages involving representation, movement and interpersonal communication.

This paper explores an expanded understanding of language development and early literacy that emphasises the rhythmic nature of *musike*. It explores children’s communicative and rhythmic play with words, sounds, music and movement. Rhythm is a basic component of both musical language and verbal language (Trevarthen, 2002), and this paper suggests that rhythm is also a basic element in young children’s literacy behaviour. Non-verbal, verbal and musical aspects of communication are integrated as children create both (emotional) sense and (cognitive) meaning from words (Vygotsky, 1986). From a Vygotskian social-interactionist perspective, words carry both personal sense and social meaning. Words, with tone and rhythm, connect individuals as social beings. Some of the implications of this expanded view of literacy learning for teachers of young children are discussed.

**Cultural–historical activity theory (CHAT)**

Cultural–historical activity theory (CHAT) provided both the methodology and the paradigm for the wider study of children’s communicative playfulness which this paper draws on (Alcock, 2006). Chaiklin (2001) has defined CHAT, which he prefers to call ‘cultural historical psychology’, as ‘the study of the development of psychological functions through social participation in societally-organised practices’ (p. 21). Essentially this means that individual learning and development is social and cultural.

CHAT, which has its origins in Vygotsky’s (1978) sociocultural theory of psychological development, emphasises systems of interaction. Therefore, rather than focusing on individual children, this research examined the relationships of children being playful together, with a specific focus on the artefacts which mediated these relationships. Mediating artefacts include both material and non-material representations of tools, signs and symbols (Wartofsky, 1979). Such a broad definition may include gestures, posture, gaze, sounds and words as mediating artefacts transmitting signals, and thereby connecting people. The rules, roles and community of children are other mediating components of the CHAT system (Engestrom, 1999).
The CHAT framework for analysis makes explicit how artefact mediation combines with other components of activity to form activity systems that dynamically connect, intersect and cross over time and space in a multiplicity of ever-expanding interconnected activity systems (Engestrom, 1999). Analysis involves looking for tensions and contradictions in these mediated relationships and identifying the motivating aims of the activity system. A CHAT perspective can illuminate how the tensions and contradictions in these mediated relationships motivate the ongoing communicative activity, referred to as ‘Discourses’ by Gee (1996, p. viii).

Discourses … include much more than language … [They] are ways of behaving, interacting, valuing, thinking, believing, speaking and often reading and writing that are accepted as instantiation of particular roles by specific groups of people, whether families of a certain sort, women or men of a certain sort (or early childhood institutions of various sorts).

In contrast to ‘Discourse’, ‘discourses’ as described by Gee (1996, p. 127) are ‘connected stretches of language that make sense, like conversations, stories … and so forth. So “discourse” is part of “Discourse” – “Discourse” is always more than just language.’

Rhythm, musicality and narrative in children’s communication

A sense of narrative, or discourse (Gee, 1996), is integral to music. Just as words construct verbal narratives, so can music construct musical narratives using pitch, tone and rhythm to convey the storyline. Like discourse, narrative construction is both a primal way of making meaning and sense of the world, and a basis for literacy learning (Bruner, 1986; Nelson, 1996; Wells, 1999).

Musical rhythms, chants and gestures mediate children’s communication and connectedness with each other and the world (Dissanayake, 2001; Trevarthen, 2002). Movement, music, sounds, words and gestures characterise young children’s social playfulness. From a CHAT perspective music, movement and words are symbolic artefacts that mediate communication. Music, rhythm and movement expressed in sounds and words mediate and connect children communicatively.

Young children use many languages in their playful communication. The use of purposeful gestures in the communication of pre-verbal children has been referred to as ‘proto language’ by Halliday (1993, p. 96). It includes gesture, posture, rhythm and sound, and forms the basis for more sophisticated and complex dialogical language development. Unlike words, proto language ‘cannot create information, and it cannot construct discourse’ (Halliday, 1993, p. 96). However, pre-verbal proto language is also integral to verbal communication. Words do not stand alone. Rather, the rhythm and movement associated with proto language add sense to words. They contribute to the Discourses (Gee, 1996) children construct as they play with both the sense and the meanings of words, and develop shared and generalised understandings of words and narratives that reflect the wider cultural, historical and social contexts of communication.

Early literacy and multiple literacies

Discourses of early literacy learning occur socially while children are engaged in everyday practices and routines. Literacy is learned via the sorts of social practices children are immersed in from birth onwards (Barratt-Pugh & Rohl, 2000; Makin, Jones Diaz & McLachlan, 2007). Literacy includes the use of socioculturally constructed symbol systems to represent and communicate values, ideas and feelings.

These communicative symbol systems are diverse and numerous; they include all the temporal and expressive arts and other languages. Kress (1997) refers to the diversity of communicative symbol systems as providing complementary ‘modes’ for creating meaning. In a similar vein, the New London Group (Cope & Kalantzis, 2000, cited by Martello, 2007) have identified five literacy symbol systems, called elements, for making meaning. The five literacy elements are linguistic meaning, visual meaning, audio meaning, gestural meaning and spatial meaning. Multi-modal literacies consist of combinations of these elements.

From this multi-modal communicative perspective, learning to be literate involves much more than narrow print-based understandings of literacy (see Anning, 2003; Gee, 1996; Lankshear & Knobel, 2003; New, 2001). It involves learning multi-modal literacies (Kress, 1997; Makin et al., 2007; Martello, 2007). This multi-modal perspective of literacy learning is also reflected in the growing literature which explores links between oral and print-based literacies (Dickinson & Neuman, 2006; Neuman & Dickinson, 2001).

Aside from multiple literacies, literature also stresses the importance of relationships between children, and between children and their teacher–caregivers for literacy learning (Ostrosky, Gaffney & Thomas, 2006; Pianta, 2006). An emphasis on relationships reinforces the importance of children having a sense of belonging as a pre-condition for engaged learning. While phonemic awareness and developing vocabularies are important in early literacy learning (Rohl, 2000), it is the emotional climate and nature of the relationships in the early childhood setting that impact most strongly on children’s early literacy learning (Ostrosky, et al., 2006; Pianta, 2006). Dickinson, McCabe and Essex (2006), referring to progress in literacy learning, state that ‘in such settings, children have the potential to make remarkable progress if they are taught by energetic and sensitive teachers who understand language, as well as cognitive, and emotional development’ (p. 23). Part of being an outstanding teacher is having the capacity to use
musical rhythms, chants and gestures to mediate these literacy learning practices.

Literature also highlights the significance of sounds, rhymes and narratives for subsequent print-based literacy learning (Hamer & Adams, 2003). Referring to Rohl’s review of research (2000), Hamer and Adams (2003) point out that ‘the most accurate predictor of achievement in reading is an explicit awareness of the sound structure in language’ (p. 102). Biemiller (2006) emphasises the strong link between vocabulary development and later literacy development. The ability to read-for-meaning requires knowledge of word meanings. Such knowledge is gained through word usage. It follows that early oral language which includes extensive practice and play with word sounds and meanings contributes to later literacy. This awareness of the future benefits of word-play and other early literacy activities need not distract from valuing such activities for themselves. All the literacies, including music, visual arts and print-based languages, are symbol systems that express aspects of our identities and cultures, and as such are valuable in and for themselves (Makin & Whiteman, 2007). This paper specifically investigates young children’s rhythmic and playful communicative literacies in an early childhood centre setting.

Method

The overarching research question for the wider study, of which this paper is a part, asked: ‘How do young children experience humour and playfulness in their communication?’ This paper specifically explores the role of word-play and musike in young children’s playful communication.

The design of this study was inspired by the naturalistic and ecological field work methods of ethnographic research (Chambers, 2000; Tedlock, 2000). Three early childhood centres were involved in the wider study. This paper presents data from two centres: Northbridge, which the researcher visited on 25 occasions for a total of 50 hours spread over a year, and Southbridge, visited on 12 occasions over six months.

Ethical consent for conducting the research was obtained from a university human ethics committee. Signed consent for data-gathering was obtained from all staff, and from parents on behalf of their children. Where appropriate, children also gave verbal consent to being observed. For example, the researcher usually asked four-year-olds if it was okay to video them, while also ensuring that she did not interrupt children’s play. The researcher was viewed as a friendly adult visitor by teachers, parents and children. She was not a regular teacher and took a passive reactive (Corsaro, 1985) participant observer role, engaging with children when they invited her, and on their terms.

Tools used for gathering and generating data consisted primarily of participant observation, mediated by technological tools including a small video camera, a laptop computer and occasionally an audio-cassette recorder. Note-taking alone was inadequate for capturing the complexity and spontaneity of playful interactions. The video camera was used to record body language as much as conversations. This reliance on technological tools was congruent with the researcher’s developing awareness of the prevalence of multi-modal literacies in communication. These children were used to staff videoing them, so they were relaxed with the equipment and the transparent methodology. Children were also given opportunities to play with the video camera and laptop computer.

The original typed field notes, which included the video transcript notes, were divided into four columns: one for date, time, place and so on; another for ‘objective’ observations; the next for interpretation; and the fourth listed the material mediating artefacts. This list of material artefacts was important in using a CHAT model which prioritises artefact mediation.

The research observations of children playfully communicating were interpreted within narrative frameworks (Clandinin & Connolly, 2000; Ochs & Capps, 2001; Polkinghorne, 1988) called ‘events’ in this study. Bruner (1986) views narrative as meaning-making—as the experiential means by which we develop knowledge and understanding of the world and our place in it. He contrasts narrative ways of understanding with ‘paradigmatic’ ways of knowing (p. 26). Narrative is basically social. Stories are created socially.

The resultant events were further analysed using concepts associated with CHAT (Cole, 1996; Engestrom, 1999; Leont’ev, 1978; Vygotsky, 1978, 1986; Wertsch, 1998). This involved analysing how artefacts mediated relationships among various components of the event (Wartofsky, 1979). The researcher further interrogated these event narratives by exploring what and how tensions and contradictions emerged in these relationships and motivated the activity as a system. The three random events presented in this paper illuminate the pervasiveness of children’s literacy practices.

Background context

The first two of the events presented here come from Northbridge early childhood centre. Northbridge was an all-day, mixed-age (6 months to 5 years) early childhood centre. Northbridge was structurally a ‘good quality’ centre, meaning that the staff were all qualified and the centre had above average adult–child ratios, with a small group size of up to 23 children and between five and six staff on duty at all times. These qualities of ratios, group size and staff qualifications were important reasons for selecting Northbridge centre. Combined with group
stability, they contributed to fairly secure relationships between children, staff and parents, allowing the centre to function as another ‘home’ or ‘public family’ for the children, thus enhancing the ecological validity (Bronfenbrenner, 1979) of the research observations.

The third event in this paper comes from Southbridge centre which, in contrast to Northbridge, was a sessional centre where most of the 30 children were four years old. Southbridge was also a ‘good quality’ centre, as all three teachers were qualified, and parent involvement during sessions contributed to the centre’s public ‘home-like’ ethos.

Mixed-age eating together times were regular routines at mid-morning, midday and mid-afternoon times in Northbridge centre. The first two events presented here involve two morning tea times. These times consisted of children sitting around tables, eating and drinking together. The round tables seemed to physically connect the children in these teacher-controlled arrangements. The following episodes reveal that talking, chanting, singing, gaze, posture and other systems of communication strengthened the connections among the children.

Event 1: Chanting rhyming words with actions

The following song script is teacher-initiated and largely predetermined. However, the children add variation and complicate the script as, together, they attempt to create sense and meaning (Vygotsky, 1986) from the chanted words.

Fifteen three–four-year-old children sit, moving, jiggling while waiting, at two round tables—two teachers at one and one at the other. The researcher sits on a child-sized chair nearby, camcorder in hand, directed mainly at the table with two teachers. Four of the seven children are older, articulate, near-four-year-olds. Teacher Ali is in charge:

Teacher Ali: ‘Okay.’ [She begins the familiar, teacher-led, group chant that involves the children joining in and doing the body actions]

Teacher Ali: ‘I can hear my hands go x x x.’ [3 times clapping sounds]

‘I can hear my tongue go x x x.’ [3 times tongue-clicking sounds]

‘But I can’t hear my shoulders go x x x.’ [silent shoulder-shrugging]

Olaf: ‘I can.’ (4 years, 9 months)

Tom: ‘I can hear my shoulders go.’ (4 years, 1 month)

[Teacher Ali ignores these comments and continues with more lines]:

‘I can hear my teeth go x x x.’ [teeth-biting sound]

‘But I can’t hear my hair go x x x.’ [head-nodding movement]

Olaf: ‘I can hear my head going.’

Tom: ‘I can, I can hear my brains going.’

The two teachers laugh, and Teacher Ali continues the chant:

‘I can hear my feet go x x x.’ [they stamp feet]

‘I can hear my nose go x x x.’ [snorting, breathing-in sounds]

‘But I can’t hear my eyes go x x x.’ [blinking eyelids]

Three children (Tom, Olaf and Cheryl [3 years, 7 months]) in unison:

‘I can’, ‘I can’, ‘I can.’

Anna, the oldest (4 years, 11 months), disagrees: ‘I can’t’, almost siding with the teacher. Young Sally (2 years, 3 months), seated between Tom and Olaf smiles, seeming to agree that she too can hear her silent self. For a few minutes Tom continues shaking his head, shrugging his shoulders and listening to his own silent movements.

Power and togetherness

The musically rhythmic chant and sung rhyme connected children and teachers as a group (Freeman, 2001; Trevarthen, 2002). Communication was mediated by words and expressed in body language. Children ‘spun off’ each other, contributing feelings and thoughts. Together they influenced each other and created a shared consciousness. Initially only Olaf and Tom ‘heard’ their shoulders shrugging, but in the next round Cheryl also ‘heard’ and ‘felt’ her eyes blinking.

Almost in a reversal of roles and power, the teachers laughed at the humorous way the children had interpreted the meaning and rules of the words. The younger children watched and imitated the older children as they listened intently to the feelings of their internal body movements and sounds; concentration was visible in the tight facial expressions that showed them thinking about the meanings of the words they chanted and feeling the movement of their bodies as they listened.

This developmental process whereby children learn about word meanings from initially sensing the feelings of word sounds has been described by Vygotsky (1934, 1986):

*The relation between thought and word is a living process; thought is born through words. A word devoid of thought is a dead thing … the connection between thought and word … emerges in the course of development, and itself evolves* (p. 255).

Olaf, Tom and Cheryl asserted considerable peer group agency in thinking about the meaning and feeling of the
words (Corsaro, 1985, 1997). Together they disagreed with the intended meaning of the words of the rhyme. They seemed to mix hearing and thinking with feeling. By disagreeing with the meaning of the song they challenged the accepted rules of the teacher-determined status quo, a brave initiative for relatively powerless children. Yet they did this without antagonism or divisiveness so that the group togetherness was not threatened. The teachers laughed, showing appreciation and enjoyment of the children's thinking and feeling-based questioning.

Such layers of meanings and relationships all added to the mosaic of group cohesiveness. Contradictions—expressed, for example, in the children challenging the word meanings by comparing their feelings—illuminated both the power balance and developmental differences in word usage between teachers and children, and between children and children. Most of the younger children felt the sense in the words, while the oldest child, Anna, like the teachers, thought about word meaning. These contradictions in children's understandings of meaning and feeling made explicit, with words, how contradictions motivated the continued playful involvement of both children and teachers in the activity. However, the communication involved more than word sense and meanings. It included the proto-linguistic rhythmic movements that seemed to physically connect the group. Less visible, but no less important, layers of historical and cultural conditions around the eating-together activity also contributed to the group communication styles and cohesiveness. These conditions included power-perpetuating rituals around the etiquette of eating together, such as waiting to be served, turn-taking and table manners. Children were learning the Discourses, including the tacit theories around reciting rhymes and eating together in an early childhood institution.

The following event involves children playing with the form and function of words as objects without teacher involvement. Words are wonderfully transformative playthings, or toys, as explained by Cazden (1973).

Event 2: Aesthetic word-play

Eight children (aged 2 years to 4 years, 8 months) and one teacher sit at a round table. A bowl of fruit is being passed slowly around the table. The three older children are semi-seated next to each other and across the table from the teacher and the fruit. They move a lot, messily in time and in tune, with each other. Chairs, mugs and feet scrape surfaces and the atmosphere is busy and noisy. Tom (4 years, 3 months) stands in front of his chair, rolling his empty water mug on the table. His body moves with the mug, never still. Zizi (4 years, 8 months) and Peta (3 years, 10 months) rock their chairs precariously.

Looking at the teacher, Tom spontaneously begins to sing-chant:

Tom: ‘Please pass the wee-wees.’

He gets no response and repeats the chant. As he still gets no response, he changes the chant:

‘Please pass the trai-ain.’

Zizi rejoins: ‘Please pass the trai-ain.’

The teacher had earlier made train noises while gently pushing the plate around the table.

Zizi: ‘Please pass the fru-uit.’

Tom: ‘Please pass the fru-uit.’

Zizi: ‘Please pass the lollipop.’

Tom: ‘Please pass the banana pop.’ [sound unclear]

Zizi: ‘Please pass the orange pop.’

Peta: ‘Please pass the ice-block’ …

Tom and Peta: ‘Please pass the ice-block’ … [in unison]

Tom: ‘Please pass the pop-pop.’

Musike mediating word-play

These children improvised collaboratively and playfully, and in the process they practiced early literacy skills while creating a cognitively complex rhyming narrative. Physically constrained by chairs and tables, the children's bodies, imaginations, voices and the only available objects (mugs, chairs, table) mediated their playful communication as they improvised this chanting rhyme. The rhyme tells a story on several levels. The melodic chanted tone with its repetitive rhythm conveyed feelings of chaotic repetition, representative of many ritualistic eating-together times in early childhood centres. The to-and-fro playfulness in their chanting seemed to connect children as if the words were extensions of their bodies. The rhyming words were, in a sense, connected to their bodies as being food names.

The children used the language of musike to communicate and represent their ideas and feelings. They chanted and moved musically, dramatically and poetically. Like actors, they performed playfully for themselves, for each other and for an audience. They listened and looked at each other while moving and chanting rhythmic poetry. The word-play combined real fruit objects with rhyming food words. The imagined and exaggerated word associations were all with playful party food; lollipops and more pops. Varga (2000) has also noted over-the-top wild exaggerations as a feature in young children's play with words. As in a well-formed narrative, this event concluded positively, with pleasurable party-like images of lollies and ice blocks.

The improvised narrative chanting connected the children as together they created rules around the
rhyme and form of the chanting. The meanings of the chanted words ranged from subversively challenging the rules of social etiquette by referring to bodily functions as ‘wee-wees’ (talk of urination was taboo in the morning tea context), to accepting the importance of saying ‘please’ with ‘pass’. Corsaro (1997) has referred to this process of children re-creating culture by assertively resisting adults’ rules and authority as ‘interpretive reproduction’ whereby ‘… children create and participate in their own unique peer cultures by creatively taking or appropriating information from the adult world to address their own peer concerns’ (p. 18). These children played creatively with words and the rules of etiquette. The initially subversive word-play helped create the tension that motivated their continued play with rhyming food words.

In this and other events (Alcock, 2006), playfulness seemed to free up thinking, enabling these children to practice and improvise within a joint zone of proximal development (Vygotsky, 1978), transforming words and meanings while creating new rhymes. From a sociocultural perspective the repetitive rhyming word-play, like repetitive pretend play, facilitated the internalisation process whereby children develop and internalise understandings through imitation and repetition (El’konin, 2000). Words are thus re-created anew. The children in this event were practicing, improvising and creatively learning about the structures (including phonics, rhyme, rhythm and form), the functions and the aesthetics of language in communication. They were both transforming and reproducing words as culture (Engestrom, 1999).

The following event involves children using words with rhythm to co-construct narratives and some dialogue from their monologues.

**Event 3: Incongruity in tricks and magic**

**Background:**
Southbridge, outside, sunny morning. Researcher sits on steps near the sandpit. Sandy (4 years, 2 months) and Flo (4 years, 3 months) come over, sit down beside her and initiate a conversation.

Sandy: ‘We’re doing tricky tricks.’
Researcher: ‘What sort of tricks?’
Sandy: ‘Lots, I’ve got a roly-poly slide at my house.’
Flo: ‘And I’ve got a [unclear] slide at my house.’
Sandy: ‘We were doing tricks at the tricky house; it’s invisible. We go in there and shut the door and then it’s invisible, it’s a fold-up one.’
Researcher: ‘A fold-up house?’
Flo: ‘No, a tent that’s got wings.’
Sandy: ‘If someone comes to my house I’ll trick them by getting them to go into my tree-house and then they’ll jump so high that they’ll fall down and hurt themselves. And then I’ll tell them to jump in the house and they will and they’ll jump down from the tree and hurt themselves. Because I want to trick them.’

Flo: ‘I got a magic wand at home; I got a slide at home.’
Sandy: ‘And then when they fall they’ll fall into a dungeon. There was a piece of string on top of the roof and then the string, the string will undo and they’ll fall down.’
Flo: ‘And I’ve got a fairy at home but she’s not real; she did break once but we had to fix her.’
Sandy: ‘The dungeon’s going to be down at the bottom of the tree. I trick people by taking things away and putting them where people can’t see, in a different place.’

Researcher: ‘What does your wand look like?’
Flo: ‘It’s very beautiful.’
Sandy: ‘I have two wands at home and I share a room with my brother.’
Flo: ‘My wand is pinkish-purple. I got it from Spotlight [a shop]. I made it, I brought all of the stuff that I had to make it from Spotlight.’
Sandy: ‘We’ll go and do some other tricks now.’

Nearby, teacher Jo sings along to music playing on the radio.
Flo [to teacher Jo]: ‘I know one about fairies.’
Teacher Jo: ‘Can you sing it?’
Flo: ‘No, it’s a magic song and it only works on magic days.’

**Talking, thinking**
This serious dual conversation about tricks and traps had elements of the incongruity and double-thinking that characterise joking humour. The conversation was dual, in the sense that both Flo and Sandy constructed stories and explanations; these sometimes overlapped, but were also independent. Ochs and Capps (2001) describe how conversational narratives can help narrators develop ‘frameworks for understanding events’ (p. 2). The researcher, sitting alongside the children, mediated this talk by being passively present, yet listening and asking a few questions to clarify the thinking framework.

Young children’s conversational narratives exhibit a variety of styles: simple, complex, short, long, finished and unfinished. All have in common the concept of meaning embedded in the situation, in the social, cultural, historical context of the individuals involved. We bring our unique and shared experiences to our interpretations of words as utterances, which express
meaning and feeling. Ochs and Capps (2001) write:

All narrative exhibits tension between the desire to construct an over-arching storyline that ties events together in a seamless explanatory framework and the desire to capture the complexities of the events experienced, including haphazard details, uncertainties and conflicting sensibilities among protagonists (p. 4).

In this scenario the story explanations served to hold together relationships, between both the concepts in their stories and the story-tellers. Sandy and Flo used words as tools to assist thinking. Thus, Sandy’s explanation of the invisible tree-house became increasingly complicated in the telling. The words she used seemed to mediate her thinking. Flo embellished her powerful ‘magic’ wand with descriptive words. Asserting her autonomy and imbuing words with magic power, she cleverly explained why she would not, or could not, sing the magic song because, ‘it only works on magic days’. Overlapping themes of magic and tricks coordinated their monologues as dialogue, and towards the end of the conversation wands briefly became a shared interest. It was their experiences in the wider community beyond the early childhood centre that stimulated their conversational monologues. In this way, children’s individual prior experiences and current shared monologues facilitated their shared imaginative thinking; the process is similar to the distribution of cognition described by Salomon (1993). As a mediating listener, the researcher felt she was simply fitting in with an adult listener role that the teachers in this community seemed to value. She had observed them doing likewise.

Discussion

This study emphasises the pedagogical value inherent in everyday centre practices such as morning tea routines and casual conversations. This has implications for teacher awareness of early literacy as social practice (Barratt-Pugh & Rohl, 2000; Makin et al., 2007) and of the complexity in children’s communication. Children’s rhythmic and expressive play with words (including narratives) in these events engaged them socially, emotionally and cognitively.

The events presented in this paper illuminate the interplay of aesthetic, emotional, social and cognitive dimensions of communication, and the overlapping nature of musike in young children’s communication.

The events presented here and in the wider study (Alcock, 2006) show young children adding rhythm, tone and rhyme to words in order to communicate, be empowered, express ideas and feelings, create narratives and have fun together. The implicit rigidity in the very concept of rules around language and routines seemed to invite playfulness; this is a way of exploring and creating flexibility around rules and playing with power patterns, while simultaneously developing understandings and internalising the meanings of specific rules.

The lack of direct teacher involvement in children’s word-play is apparent in these events and was also a feature in the wider study. Everyday routines are valuable occasions for developing children’s early literacy learning by encouraging their play with words and rhythm. In this study children physically constrained by being seated around a table together did communicate, playfully and subversively, by using words and rhythm. They actively empowered themselves, not as individuals, but rather as members of a peer group (Corsaro, 1997). Teachers were seldom included in the children’s narrative word-play. Teachers were seldom observed playing with words as objects. These events and the wider study suggest that teachers may be missing out on extending and enjoying young children’s musical, rhythmic, communicative play with words and narratives, and hence missing out on extending important aspects of oral and early literacy, such as children’s phonemic awareness and vocabulary development (Biemiller, 2006; Hamer & Adams, 2003; Makin & Whiteman, 2007; Rohl, 2000).

A CHAT focus on mediating artefacts illuminates the contradictions and tensions in children’s narrative and word-play. Contradictions, tensions and discontinuities characterise communication generally (Fogel, 1993). Playful communication is not smooth and linear. In this study, tensions and contradictions emerged out of the playful actions of children, and motivated and sustained the activity. In all of these events tensions and contradictions emerged in the power play between the roles and rules in children’s rhythm- and word-mediated communication. ‘Togetherness’, expressed in the creation of peer group subcultures and the development of related Discourses (Gee, 1996), seemed to be the motivating aim for children’s shared activity in these events, as well as in other communicative events in the wider study (Alcock, 2006).

Conclusion

Words, integrated with rhythm, music and movement, stand out as mediating artefacts in these events. Words are tools for playing, and meaning arises in the use of words. Words are also the ultimate tool for thinking, learning and making sense and meaning of the world. As Vygotsky (1978), referring to Dewey, writes: ‘He defines the tongue as the tool of tools, transposing Aristotle’s definition of the human hand to speech’ (p. 53). In these and other playful events in the wider study, children’s words were tools which functioned as if the words were extensions of bodies that rhythmically chanted and moved with the words, which were in turn, embedded in discourses and Discourses (Gee, 1996).

Referring to the changing developmental links between the sense and meaning of words, Vygotsky (1986) wrote:
The connection between thought and word, however, is neither preformed nor constant. It emerges in the course of development and itself evolves. To the biblical ‘In the beginning was the Word,’ Goethe makes Faust reply, ‘In the beginning was the deed’. The intent here is to detract from the value of the word, but we can accept this version if we emphasise it differently: In the beginning was the deed. The word was not the beginning – action was there first; it is the end of development, crowning the deed (p. 255).

In this sense, action (the deed or activity) includes all the temporal communicative arts. Rhythm is integral to these arts. The rhythm that was expressed musically, in word-play and poetry, drama and movement, was a dominant theme in the larger study of children’s playfulness (Alcock, 2006). Such word-play contributes to early literacy development in several ways. These include expanding children’s vocabulary, assisting the development of phonemic awareness and laying the foundations for a love of words that is both aesthetic and functional in enhancing children’s developing communicative patterns. Above all, word-play can empower children as active members of a community able to transform and re-create words, sounds, meanings and feelings anew.

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References


Partnerships in learning
Linking early childhood services, families and schools for optimal development

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VYGOTSKY BELIEVED THAT ‘individual consciousness is built from outside through relations with others’ (Vygotsky, 1997, p. xxiv). He argued that human higher mental functions are products of mediated activity and that the mediator uses a range of psychological tools and interpersonal communication to achieve understanding. In the early years parents, community members, early childhood and school educators are instrumental in mediating children's developing cognition. Increasingly, the importance of congruence between home, community, and school philosophies and experiences is being recognised. Successful transitions to school are more likely when such partnerships exist, ensuring a balance between continuity and new experiences.

TODAY LEARNING AND knowing are understood as cooperative, communicative and interactive activities (Dahlberg, Moss & Pence, 1999) where, together, adults and children make sense of the world. As they move among many relationships, experiences and opportunities (Malaguzzi, 1993, cited in Dahlberg et al., 1999), children are provided with the tools and resources for exploring, problem-solving and making meaning. Pedagogies based on relationship and collaborative dialogue exhibit the true nature of developing cognition and serve to foster optimal learning for children.

Research also indicates that congruence between the practices of home and school is correlated with student success (Rossi & Montgomery, 1994). For example, if the literacy practices of home are similar to those of the school environment, children are more likely to achieve in that area than are children whose home literacy practices differ from those of the school (Lawson, 2000). Lack of congruence between home and school can be attributed to differences which affect children's and families' values, skills and learning styles. As Rossi and Montgomery (1994) note, cultural dissonance can create misunderstanding between home and school because few teachers fully recognise the social and intellectual resources or the ‘funds of knowledge’ held by individual families (Gonzalez, Moll & Amanti, 2005; Gonzalez et al., 1993). The work of Luis Moll and his associates (Gonzalez et al., 2005; Gonzalez et al., 1993), in bridging the gap by helping teachers research families’ strengths and resources, may facilitate better learning for all students, especially those at risk.

Many children make successful adjustments to the perceived dissonance between home and school. Dialogue constructed within relationships built on common values, practices and understandings is likely to be most beneficial to the greatest number of children. In this paper we argue for a Vygotskian model of collaborative dialogue where participants learn with support from each other, not only between families and schools but also between early childhood services, school educators and families—key stakeholders who, with the children themselves, are integral to the cognitive development process.

Supporting cognition

Jerome Bruner, in his collection of essays entitled Actual Minds, Possible Worlds (Bruner, 1986) brings the ideas of Vygotsky into clarity. Bruner not only explicates Vygotsky’s theories on language as a mode of organising thought (Vygotsky, 1978, 1997) and the role of thought in transforming human activity, but he
facilitates this (Christensen, 2002). Equally important goals and engage in effective communication which benefit when parents and teachers share educational shared support of the family and the teacher. All children often contingent on their previous experiences and the learning is encouraged. Children's adaptation to school is of the thinker with what is being learned and the way of the personal needs, interests, inclination and impulses Vygotsky (1997) termed 'fullness of life' or a recognition Epstein, 1995; Sheridan, 2004). This results in what and school (Ashton & Cairney, 2001; Christensen, 2002; Epstein, 1995; Parenting NSW, 2003). Much of this research has highlighted the importance of seamless transitions between early childhood services and schools. The research findings suggest the importance of program continuity and catering for individual learning strengths, resources and needs. Ongoing communication between teachers in services and schools, the preparation of children for the transition, and the continuing involvement of parents (McCarty, 2005), is also essential. Integral to the achievement of seamless transitions is the establishment of trusting relationships between families and teachers in early childhood services and schools.

There is abundant research detailing both the cognitive and social benefits of quality early childhood experiences (Farrell, Tayler & Tennent, 2004; Heckman, 2006), and the importance of parents and educators partnering to foster children's cognitive achievements (Ashton & Cairney, 2001; Christensen, 2002; Epstein, 1995; Sheridan, 2004). What is lacking, with the exception of transition studies, is research focusing on the links between families, early childhood services and schools. This paper identifies and explores the relationship between families and early childhood and school teachers in the first year of school. As detailed above, it is evident from the research literature that collaboration and dialogue between all involved in supporting young children's developing cognition are necessary to provide a secure, relevant learning environment. Findings from the study that inform this paper show that, while families and some school teachers noted the value of early childhood services in supporting children's transition to school, there was no evidence of a continuum of ideas, philosophies and experiences between the early childhood years and school which would lead, in Vygotsky's (1997) view, to optimal learning.

Methodology

The data discussed in this paper is drawn from interviews with nine kindergarten grade teachers, working in five primary schools in one postcode region in Greater Western Sydney. The area is diverse in terms

Transitioning to school

A great deal of research in recent years has focused on school readiness, in particular parents' views of their children's readiness for school, teachers' views of children's knowledge and skills at school entry, and schools' readiness for children (Brostrom, 2005; Dockett & Perry, 2006, 2004; Margetts, 2003; McCarty, 2005). Of concern to sociologists and educators alike, however, is when there is dissonance or a mismatch across subsystems which has the potential to disrupt learning. Disruptions occur when the values, goals and practices of families and schools are significantly different. For example, educational values, inherent in the discourses of school, have traditionally been middle-class with an embodied message of preferment, power and control. As Gee (1996, 2004) notes, preferred or dominant discourses, which are ideological in nature, contribute to the maintenance of hierarchical structures and the distribution of social power (Ashton & Cairney, 2001). For families whose discourses may differ significantly from those of the school, whose funds of knowledge are either not recognised or are trivialised, the structures associated with formal education may be unfamiliar. This can lead to compromised relationships between educators and parents, to false assumptions about families' aspirations for their children, and to both parties holding erroneous feelings of dominance and authority.

Research demonstrates that young children's cognition develops best when congruence exists between home and school (Ashton & Cairney, 2001; Christensen, 2002; Epstein, 1995; Sheridan, 2004). This results in what Vygotsky (1997) termed 'fullness of life' or a recognition of the personal needs, interests, inclination and impulses of the thinker with what is being learned and the way learning is encouraged. Children's adaptation to school is often contingent on their previous experiences and the shared support of the family and the teacher. All children benefit when parents and teachers share educational goals and engage in effective communication which facilitates this (Christensen, 2002). Equally important is continuity in programming and pedagogy across the early years, involving the child's parents and early childhood and school teachers. These factors are critical for children whose circumstances may place them at an educational disadvantage.
of socioeconomics, and social, living and parenting skills; and the physical climate is changeable, with some cold and damp conditions throughout the year. In NSW, kindergarten teachers hold either Bachelor of Education (Primary) or Bachelor of Education (Early Childhood) degrees or their equivalents and they work with children in the first year of school.

The interviews were semi-structured, with trigger questions used to ensure that all the issues under consideration were canvassed. The teachers were invited to discuss their perceptions of the children's adjustment to school (e.g. 'How well do you think your students were prepared for the start of school this year?') and the effects of a range of early childhood experiences on school readiness (e.g. 'What are some of the factors that contribute to children being prepared for school?').

Interviews were conducted at the teachers’ schools at times convenient to them. Depending on the teachers’ wishes, the interviews were either audio-recorded or recorded in notes taken by the interviewer. One teacher had pre-prepared her responses in writing, and these became a valuable data resource. The interview data was analysed using an interpretative inquiry method (Lambert, 2003). This involved the examination of data for common themes across all responses and categorising them under a number of headings, some of which have been used to detail the research findings in this paper.

Research findings

Analysis of the interview data from kindergarten teachers reinforced our understanding of the community as one which was diverse across the region. Additionally, a number of children in their first year of school were identified by families and teachers as having speech and language delays not associated with ‘second language’ or ‘languages other than English’ factors. While surveys with families (reported elsewhere) indicated that many of the mothers in the surveyed group had tertiary qualifications at TAFE or university level, these were juxtaposed with teachers’ concerns about children who were inadequately dressed, especially for the region’s changeable weather, and about children starting the day without breakfast or not being provided with lunch. This highlighted the diversity of the sample group.

A key focus of the data collection involved discussion with parents and kindergarten teachers about early childhood experiences and their role in supporting children’s learning and helping their transition to school. While families and educators generally agreed on the importance of social skills such as turn-taking, sharing and listening, to their early childhood experiences. Others, however, had quite a different view. One teacher said, ‘I don’t think it’s true to say that preschool helps [children] adjust to school’, while another thought the early childhood experience should simply be for playing, remarking, ‘Play with balls, soft toys and water but leave the pencils alone.’ While attributing some skill development to preschools, one kindergarten teacher said, ‘Preschool helps with social skills … but [children] are less stressed about being [at school] due to the Orientation Program.’

Comments such as these suggest that orientation programs are still those most likely to be valued in preparing the child for school, rather than the child’s own understanding developed in the context of home or early childhood services.

Home factors

The majority of teachers interviewed remarked on the value of home factors, observing a range of attributes children bring with them to school. For example, they noted that the development of skills was nurtured where parents spent time with their children. As one teacher said, ‘Reading at home really helps with their preparedness for school’, while another noted that ‘talking and going out to special places very much helps the child’. The corollary to this was also evident, however. Teacher interview data contained reference to children with poor language, social skills and attitudes often linked with financial hardship and dysfunctionality in the home, including drug abuse and domestic
violence. This was evident in remarks such as, ‘The children from unsettled families stand out’, and ‘Some children come to school having had no boundaries in their own homes’.

Home factors, therefore, were clearly rated according to the way teachers perceived them as either contributing to or detracting from children’s ability to cope with the academic and social demands of school.

**Academic skills development**

There was also the expressed view that early childhood services should play a role in fostering early literacy and other academic skills as preparation for school; however, what this role should be was not agreed upon.

For example, one of the teachers interviewed attributed children’s early concepts of print, number and letter recognition to their experiences at ‘preschool’, which she thought made life easier for the child as well as the teaching staff. Another teacher said, ‘You don’t have to send them to preschool so long as you [the parents] are available to give them lots of experiences’, indicating the perceived value of experiences within the family and those outside of the home as children interact with others. Whether these contradictory views have their origin in the differing backgrounds of the parents or in teacher attitudes and values cannot be determined from the present study. Again, this is a question that would bear further consideration.

**Collaboration**

Of particular importance to this study were the kindergarten teachers’ perceptions of collaboration and continuity between early childhood services and school. When teachers were asked what links they had or should have with early childhood services, there were mixed responses. For example, while analysis indicated that some saw merit in developing links with services, teachers also suggested that early childhood services should take the initiative. One kindergarten teacher said, ‘At my previous school we’ve been invited …’, and from another, ‘Every year they [name of a service] provide opportunity for representatives for all the local schools’.

Information being passed from early childhood services to schools was especially valued in some cases, particularly in respect of children who might be requiring additional support. As one teacher said, ‘Problems can be detected early!’ She then went on to note that it was ‘important that the preschool teacher passes this information on to the school’. Another mentioned a conversation with a preschool teacher about a child with additional needs who was expected to start school in the following year, saying that the preschool teacher ‘has been talking to [school personnel] about the needs for this child’.

Some kindergarten teachers did consider it essential to have communication with prior-to-school services for the benefit of all children, as indicated in comments such as, ‘We need to have strong links with all early childhood services in order to work more effectively for our students and families.’ Teachers in one school were unhappy, however, about a particular preschool service. Predicated by a remark supposedly made by preschool staff suggesting parents not enrol their children at a certain school because of the way it operated, one teacher commented, ‘We have a lot of undoing to do’ and ‘We have to get those people [from the preschool] here and show them what we do.’

These comments were in contrast to other perspectives where the prior-to-school experience was not seen to be relevant at all. In some instances kindergarten teachers were dismissive of early childhood experiences and unwilling to accept information about children from early childhood educators. Preferring to make their own judgements about children’s strengths and abilities, or to assess children’s needs from their own observations in the first weeks of school, teachers commented, ‘Our baseline starts when [children] start school. Our baseline isn’t from preschool!’

One kindergarten teacher remarked that she did not want her perception of children coloured by others’ perspectives, noting that school is a different context from preschool and that the child is older. She said, ‘Preschools give us reports which I read with reluctance.’ The same teacher also spoke about ‘anxious parents’ wanting to pass on information, whereas ‘parents who aren’t anxious don’t give reports’. The teacher noted that she often ‘read the form to see what the parent is anxious about … so that they don’t think that I’m being arrogant’.

Of course, this was not the case with children requiring additional support. Kindergarten teachers felt it important to know about problems detected in the preschool years, to help with a smooth transition to school. One teacher was critical of a preschool which she felt had failed to pass on vital information about a ‘severely violent child’.

Of interest is that, amongst teachers generally, most spoke only of ‘preschool’ when referring to the benefits of early childhood services. Other than ‘playgroup’ there appeared to be little differentiation between services, except in one instance when a teacher referred to long day care. In the context of a discussion about working parents she said that more long day care services were needed. She noted, ‘It’s about the parents, really. It’s not about the children!’ Here too, teachers’ attitudes appear to be affecting their assessment of the differing value of the range of early childhood services utilised by families.
Finally, from the range of responses gathered, it is sometimes unclear what meaning the teachers are giving to the term ‘preschool’. For some it is a generic term for all early childhood services, for others there would appear to be little understanding of the different types of services offered prior to school, and of their function.

Perceptions held about early childhood educators

While understandings about early childhood services appeared to vary, there was a degree of congruence about early childhood educators. Several kindergarten teachers acknowledged that early childhood educators are under ‘enormous pressure’, ‘being paid a pittance’, and doing things that school teachers ‘refuse to do’, although exactly what these things were was not specified. One of the teachers noted that at one centre ‘they all have degrees in early childhood education’, and another spoke about the ‘emergent curriculum for the preschools’ they use. An ‘exquisite’ programming document which was ‘really conscientiously thought out … with the transition through to kindergarten’, clearly impressed one of the kindergarten teachers who viewed the document.

What appeared as an afterthought was one teacher’s comment that there was ‘almost an insightfulness that some [early childhood educators] have that allows them to bring something to their supervision’. ‘So’, she said, ‘you could imagine in the preschools that if you had qualified preschool educators that certainly should make some difference.’ Despite such positive comments about the skill of early childhood educators and the worth of the curriculum followed, there was little expressed wish to engage in greater collaboration with them. It also shows a disturbing ignorance of the qualifications held by early childhood educators in Australia.

Discussion

Vygotsky believed that ‘individual consciousness is built from outside through relations with others’ (Vygotsky, 1997, p. xxiv), and that human higher mental functions are products of mediated activity. The role of the mediator is to scaffold the development of understanding using a range of psychological tools and interpersonal communication to transform human understanding and behaviour (Vygotsky, 1978, 1997). Further research shows the increasing importance of congruence between the values and experiences of homes and families in fostering children’s learning (Gee, 1996, 2004). This is best facilitated as teachers develop understanding about the social and intellectual resources held by children and their families (Gonzalez et al., 2005; Gonzalez et al., 1993), and by providing a continuum of opportunity and pedagogy, especially in the early years (Ashton & Cairney, 2001; Christensen, 2002; Epstein, 1995; Sheridan, 2004).

It is in these early years that parents, community members, early childhood educators and school teachers are most instrumental in mediating children’s developing cognition. There has been considerable research into children’s experiences during this period, predominantly from the field of developmental psychology. Powerful new evidence is also drawn from the neurosciences, behavioural sciences and the economics of human capital formation which have placed increased emphasis on the early years in relation to children’s future overall development (Heckman, 2006; Shonkoff & Phillips, 2000). The importance of quality early relationships and experiences to ameliorate risk factors and to support healthy development, increase capabilities, strengthen resilience and foster social skills is unquestioned (Shonkoff & Phillips, 2000).

Successful transitions to school from early childhood services are more likely when partnerships between families, services and schools exist to ensure a balance between new and continuing experiences. This was certainly the perception of some of the teachers in this study whose rhetoric at least was congruent with recent research on partnership (Ashton & Cairney, 2001). What is of concern is that none of the teachers from the kindergarten classes mentioned that they had initiated dialogue with any early childhood service. Early childhood services, however, sent reports on children (which were largely disregarded) and invited the kindergarten teachers from the various schools to speak to parents in the months before the start of each new school year.

Teachers seemed to have limited awareness of the early childhood services in the community, and of their function. When asked which children had settled well at school, one teacher said ‘the children who went to preschools—I am not sure where they were’. This was reinforced by the comment related to long day care services as catering more to parents’ needs, rather than to children’s needs. When criticism of parents’ values and practices is even implied there is less likelihood of the establishment of trusting relationships between teachers and families, irrespective of school policy or teachers’ rhetoric.

When the rhetoric of partnership fails to match practice, it is not only children, but also their families and teaching staff who are disadvantaged. Knowledge about children acquired from the home, as well as understandings developed in the early childhood years, will be lost or disregarded, and scaffolding children’s learning made more difficult as a result.

Paradoxically, most teachers saw value in ‘preschool’ as a precursor to school and helpful in the transition process. They were appreciative of the ‘language of
school’ which children had developed in early childhood services. What they did not recognise, however, was that every aspect of children’s lives is important in the way they think and learn, and that ‘human action and development are shaped by social, cultural, and historical factors’ (Daniels, 2004, p. 185). Daniels (2004) argues that the way staff relate to children and the pedagogic discourses used, especially with children experiencing difficulties, must involve collaboration between stakeholders and a common discourse of values in education. The scaffolding process or the mediation of cognition varies according to cultural and historical contexts. Programming for all learners which recognises the ‘disjunction between individual learners with other learners and their social environments’ (Roth & Lee, 2007, p. 187) is challenging for any educator. When children’s social environments are unknown, however, meaningful mediation becomes problematic.

Daniels (2004) and Roth and Lee (2007) discuss Vygotsky’s psychology and its impact on the development of new theories and ideas for education. For example, Daniels cites Engestrom (1999) and his work on the process of social transformation. He notes the conflicting nature of social practices and how they can set up tensions in the learner. While these contradictions are the ‘motive force of change and development’ (Engestrom, 1999, p.9, cited by Daniels, 2004), the ideas expressed need to be shared through dialogue and interpreted to make sense to the learner before change is effected.

In summary, perceptions of the kindergarten teachers interviewed in this study in respect of early childhood services and their value in preparing children for school were mixed. While most teachers appreciated the way children started school with the ‘language of school’, and some attributed this to children’s early childhood experiences, others believed that school-based orientation programs were instrumental in its development. Some teachers attributed children’s pre-reading and pre-numeracy understanding to early childhood services, while others suggested that there was no expectation that children commence school with these skills and that in the years prior to school children should concentrate on ‘balls, water and soft toys’ rather than pencils, which should be left alone.

Most teachers referred to the importance of children’s family experiences in supporting their development. There was concern for children from dysfunctional families whose practices in some cases militated against the social and academic advancement of their children. Ironically, in spite of the value placed on families, there was little dialogue indicating an appreciation of the need for partnerships with them in fostering children’s learning. This is consistent with the finding of previous partnership studies (Ashton & Cairney, 2001).

Of particular concern to our study were the findings related to collaboration between school teachers and early childhood educators in prior-to-school settings. Whilst most school teachers spoke respectfully of early childhood educators, noting their high levels of education, their limited remuneration and the extraordinary professionalism displayed in their documentation, there was an unwillingness to initiate working relationships with them. The exception was in the case of children with additional needs, where partnerships were thought to be essential. In this instance there was criticism of an early childhood service which had failed to alert the school to an ongoing behavioural issue with a child.

Ironically, where collaboration was thought to be beneficial in critical circumstances, some teachers who had received reports of children from early childhood educators chose to disregard or dismiss them, believing them to have been passed on from ‘anxious parents’. Although some reports were read to ‘find out what parents were anxious about’, teachers preferred to make their own judgements about children. The findings, therefore, point to ambivalence by kindergarten teachers to the role and contribution of educators in prior-to-school settings. In the light of research findings around the importance of continuity in achieving the best outcomes for children, this finding suggests how far the field still has to travel to achieve seamless transitions between prior-to-school and school experiences.

Conclusion

Significant research over many years has reinforced the idea that the development of cognition occurs in relationships and that collaboration and dialogue are necessary for scaffolding, organising thought (Vygotsky, 1978) and transforming human activity. ‘Individual consciousness is built from outside through relations with others’ (Vygotsky, 1997 p. xxiv), and human higher mental functions are products of mediated activity. In the early years it is parents, community members, early childhood and school teachers who are instrumental in mediating children’s developing cognition, using a range of psychological tools and interpersonal communication methods in the process.

Increasingly, the importance of collaboration between the mediators, and congruence among home, community and school philosophies and experiences, is being recognised. Successful transitions to school are more likely when partnerships between early childhood services, families and teachers exist, ensuring a balance between continuity and new experiences (Gonzalez et al., 2005; Gonzalez et al., 1993). Continued partnerships between families and schools encourage shared understanding of cultural and social values, which enables staff to plan experiences relevant for all children. Given that the structure of school...
organisations is imbued with messages about family and student position, and about whose values are or are not accepted in an organisation (Daniels, 2004), collaboration between all parties in the support of children’s developing cognition is vital to their success. We would argue that collaborative dialogue regarding the values, philosophies and experiences of early childhood services and schools, and between early childhood teachers, school teachers and families, must become a sustainable feature of the prior-to-school and transition process. In this way, mediating children’s developing cognition through scaffolded experiences from a Vygotskian perspective can become a shared process, relevant to children’s lives, honouring to families, and reflecting congruent pedagogies to most effectively support children’s learning.

References


Parent cognitions and parent–infant interaction
The relationship with development in the first 12 months

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This study examined parent cognitions and parent–infant interaction in terms of their contribution to infant development in the first 12 months. With a sample of 95 mother–infant dyads, results using structural equation modelling confirmed the expected finding that parent–infant interaction mediates the association between parent cognitions and infant development. An unexpected finding was that the direct association between parent cognitions and infant development was stronger than the direct association between parent–infant interaction and infant development. These findings are discussed with regard to the implications for preventative and early intervention models.

Cogitation-based models of parenting behaviour suggest that parent cognitions are predictive variables that shape the specific practices undertaken by a parent for the emotional, social, cognitive and physical care of a child (Bugental & Johnston, 2000; McGillicuddy-DeLisi & Sigel, 1995; Murphey, 1992). Parent cognitions are active when parents are behaving deliberately and with forethought, but they also contribute to how parents react spontaneously. In this way, parent cognitions are ubiquitous and it is likely that they have an important, albeit indirect, effect on child development. What underpins parenting behaviour and seems to have a direct effect on child development is the interactional relationship between the parent and the child.

To our knowledge, the research described here brings together for the first time the contribution of parent cognitions and parent–infant interaction to infant development in the first 12 months of life. According to Murphey (1992), parent cognitions can be regarded as those which are either ‘global’ in nature (cognitions that can be acquired vicariously, even by non-parents), or ‘particular’ in nature (cognitions associated with the specific parenting role and usually about a particular child). In line with this, we examined ‘global’ cognitions relating to children in general (attitudes and attributional style) and two types of ‘particular’ cognitions relating to infant characteristics (temperament) and parental functioning (wellbeing, social support and role relationship).

Research has frequently found that attitudes are predictive of child outcomes but not necessarily parenting behaviour or aspects of the parent–child relationship (Murphey, 1992). In contrast, low parental attributional style, operationalised as parental perception of reduced control or power compared with the child, has not only been found to reflect a poor parent–child relationship, but also less-than-optimal developmental outcomes (Bugental, Lyon, Lin, McGrath & Bimbela, 1999; Bugental, Lyon, Krantz & Cortez, 1997; Nix et al., 1999). Research findings also reveal that parents who perceive their infant as having a difficult temperament are less satisfied with the parent–child relationship (Sacco & Murray, 1997) and show less sensitive responsiveness during parent–infant interaction (Mertesacker, Bade, Haverkock & Pauli-Pott, 2004). Moreover, parent perceptions of infant temperamental characteristics may influence the infant’s actual development of these characteristics over time (Pauli-Pott, Mertesacker, Bade, Haverkock & Beckmann, 2003).

In terms of ‘particular’ cognitions relating to parental functioning, the literature is vast. However, key areas that have important implications for the parent–child relationship and child development include parental...
perceptions of their own wellbeing, social support and relationship to the role of being a parent.

Empirical evidence suggests that maternal depression impacts negatively on infant functioning, particularly via parental negative affect expressed verbally and non-verbally, and reduced parental sensitive responsiveness to infant verbal and non-verbal signals (Cohn, Campbell, Matias & Hopkins, 1990; Field, 1992; Field et al., 2004; Murray, Fiori-Cowley, Hooper, 1996; Stanley, Murray & Stein, 2004). Additionally, a lack of social support from one’s spouse and/or social network impacts negatively on parenting behaviour (Simons, Lorenz, Wu & Conger, 1993), including the parent-child relationship (Cmic, Greenberg, Ragozin, Robinson & Basham, 1983). In terms of cognitions relating to the role of being a parent, when parents lack a sense of perceived competence they may not put their parenting knowledge into action (Teti & Gelfand, 1991). Several studies have also revealed a relationship between low parenting self-efficacy and compromised developmental outcomes in older children, such as socio-emotional development (Swick & Hassell, 1990) and school achievement (Bandura, Barbaranelli, Caprara & Pastorelli, 2001).

While thus far we have been concerned with parent cognitions and how they impact upon parent-infant interaction and/or infant development, the direct link between parent-infant interaction and infant development is also important to consider. Bowlby’s (1969) work was prescient, not only in its emphasis on the enduring influence of the infant’s first attachment to another human being, but also with regard to Bowlby’s thoughts on how the early environment interacts with the unique genetic endowment of the maturing organism in order to shape developmental processes. More recently, Schore (1994, 2003) has reconceptualised attachment as a regulatory theory involving a parent who is capable of regulating the infant’s shifting arousal levels, and therefore internal emotional state, but also capable of navigating the infant from stress to stress-recovery when misattunements occur. In line with this, the context of playful parent-infant interaction has been put forward as a unique opportunity for the experience and successful integration of complex, and therefore arousing, socio-emotional interactions. These have been argued to assist in the development and expansion of an independent regulatory system necessary for exploration of the emotional, social, cognitive and physical domains (Glaser, 2000; Panksepp, 1998, 2001; Schore, 1994, 2003).

There are numerous parent-infant interactional characteristics that are salient during the play. In order to explore parent-infant interaction, we organised six parent-infant interactional characteristics known to occur in the context of play into three constructs. The first of these constructs was ‘Affect Within the Dyad’, inclusive of mutual attentiveness (Allman & Brothers, 1994; Kaye & Fogel, 1980; Schore, 1994) and pleasurable engagement (Field, 2000; Papoušek & Papoušek, 1987; Papoušek, Papoušek & Symmes, 1991). The second construct was ‘Activity Within the Dyad’ inclusive of turn-taking (Fogel, Nelson-Goen, Hsu & Shapiro, 2000; Hsu, Fogel & Messinger, 2001; Scherer, 1994) and parental pausing (Fogel et al., 2000; Scherer, 1994). The final construct was ‘Communication Within the Dyad’ inclusive of infant use of signals and parental sensitive responsiveness (Claussen & Crittenden, 2000).

In summary, the first aim in this study was to develop a full measurement model from a series of separate measurement models that would explain the causal relationships between the underlying latent constructs of parent cognitions, parent-infant interaction, and infant development. These three latent constructs comprised three composite variables (i.e. Parent Cognitions: Children in General, Infant Characteristics and Parental Functioning; Parent-infant Interaction: Affect Within the Dyad, Activity Within the Dyad and Communication Within the Dyad; and Infant Development: Mental Skills, Psychomotor Skills and Quality of Behaviour). It was hypothesised that parent cognitions would predict parent-infant interaction and, in turn, parent-infant interaction would predict infant development. In line with the view that an association between parent cognitions and infant development is mediated by the parent-infant/child relationship, it was expected that a direct association between parent-infant interaction and infant development would be stronger than a direct association between parent cognitions and infant development.

Method

Participants

The sample included 95 mother-infant dyads recruited from 208 Maternal and Child Health Centres located in metropolitan Melbourne and surrounding regional areas. The mothers’ ages ranged from 21 to 43 years (M = 32.33 years, SD = 4.69), and the infants were aged from 1.37 to 12.50 months (M = 6.85 months, SD = 3.13). Mothers were predominantly Caucasian in ethnicity (93.6%) and born in Australia (85.3%). They were also predominately married (68.4%) or in a de facto relationship (24.2%), and 41.1 per cent had at least two children, including the participating infant. The majority of mothers had a minimum of final year secondary (high) school education (81.1%) and, at the time of testing, were not in paid work (70.5%). Regarding annual household income, 42.1 per cent of mothers nominated a family income of up to A$50,000 and 57.9 per cent nominated a family income of A$51,000 or more.
There were 44 male infants ($M = 6.45$ months, $SD = 3.19$) (age corrected: $M = 6.39$ months, $SD = 3.06$) and 51 female infants ($M = 7.19$ months, $SD = 3.21$) (age corrected: $M = 7.10$ months, $SD = 3.08$). Infants’ mean birth weight was $3.36$ kilograms ($SD = .58$). Ninety-five per cent of infants were born full-term with no major birth complications or special medical treatment required. Five infants were born prematurely. These five infants were included in the analyses because their development was well within normal limits, or close to being within normal limits, once their ages were corrected in line with administration of the Bayley Scales of Infant Development (Bayley, 1993) (age corrected: $M = 6.77$ months, $SD = 3.11$). Most importantly, none of the five mother–infant dyads was found to be outliers when univariate and multivariate normality were assessed at the stage of data treatment.

**Measures**

Parent Cognitions. Two separate measures were used to assess parent cognitions relating to Children in General: (1) Adult-Adolescent Parenting Inventory – 2 (AAPI – 2) (Bavolek & Keene, 2001); and (2) Parent Attribution Test (PAT) (Bugental & Shennum, 1984). The subscales on the AAPI – 2 and the PAT were found to have adequate internal consistency ($\alpha = .75$) and, together, were used to represent parent cognitions relating to Children in General (Attitudes and Attributions, respectively).

The AAPI – 2 was used to assess parenting and child-rearing attitudes relating to Inappropriate Expectations, Empathy, Corporal Punishment, Role Reversal and Power Independence. Bavolek and Keene (2001) have reported high internal reliability for each of the five constructs in addition to high criterion-related validity with regard to discrimination between known abusive/neglectful and non-abusive/non-neglectful parents.

The PAT (Bugental & Shennum, 1984) was used to assess parenting attributions relating to perceived causes of caregiving success and failure (Adult Control over Success and Adult Control over Failure versus Child Control over Failure). Bugental et al. (1997) have reported high internal consistency for this scale, and Bugental et al. (1999) have reported adequate test–retest reliability.

The Child Domain of the Parenting Stress Index – Third Edition (PSI – 3) (Abidin, 1995) was used to assess parent cognitions relating to Infant Characteristics, and the Parent Domain of the PSI was used to assess parent cognitions relating to Parental Functioning. The Child Domain on the PSI – 3 consists of temperament-related subscales (Adaptability, Demandingness, Mood, Distractability/Hyperactivity, Child Acceptability, and Reinforces Parent) that were found to have adequate internal consistency ($\alpha = .81$) and, together, were used to represent parent cognitions relating to Infant Characteristics (Temperament). The Parent Domain on the PSI – 3 consists of personality and pathologyness subscales (Depression, Competence, Parental Attachment, Spouse, Isolation, Health, and Role Restriction). These personality, pathology and situational subscales were found to have adequate internal consistency ($\alpha = .84$) and, together, were used to represent parent cognitions relating to Parental Functioning (Wellbeing, Social Support, and Role Relationship). The subscales for parental functioning were grouped in the following way: Health and Depression (variables reflective of wellbeing); Spouse and Isolation (variables reflective of social support); and Competence, Parental Attachment, and Role Restriction (variables reflective of the relationship to the role of being a parent).

**Parent–infant Interaction.** A modified version of Censullo’s (1991) Dyadic Mutuality Code (DMC), the DMC – M (Smith & Ferrier-Lynn, 2002) was developed to assess the three domains of parent–infant interaction of interest in this study: Affect Within the Dyad, Activity Within the Dyad, and Communication Within the Dyad. The assessment of parent–infant interaction occurred during a five-minute videotaped task that was playful in nature. As with Censullo’s instructions, mothers were asked to begin by positioning their child in an infant seat so that each could fully view the other’s face. They were then asked to ‘interact with your baby as you normally would [at home] without using any toys’. The parent–infant interaction was then videotaped for five minutes, using a standard video recorder fixed to a tripod.

Although the original code (Censullo, 1991) contains six items (Mutual Attention, Positive Affect, Turn-Taking, Maternal Pauses, Infant Clarity of Cues, and Maternal Sensitive Responsiveness), some of these items were modified. According to the modified version, six items fell into three constructs and were referred to as: (1) Affect within the Dyad: Mutual Attentiveness and Pleasurable Engagement; (2) Activity within the Dyad: Turn-Taking and Parental Pausing; and (3) Communication Within the Dyad: Infant Use of Signals and Parental Sensitive Responsiveness.

Each item was coded as either 1 (less than optimal parent–infant interaction), ½ (optimal parent–infant interaction) or 2 (highly optimal parent–infant interaction) according to a modified scoring criterion. Parent and/or infant scores were given for each item as well as an average score for items that have both parent and infant scores. For items that have both parent and infant scores, the average score was used in the total score. The total score was obtained by summing the scores on all items. Scores ranged from 6 to 12, with higher scores indicating more optimal parent–infant interaction. A blind rater was trained using a purpose-written coding manual, and inter-rater reliability for the...
total score of the DMC – M was calculated. The single measure intraclass correlation coefficient was found to be $r = .79$, $F (15) = 8.37, p = .00$. The six interactional characteristics were found to have adequate internal consistency ($r = .83$).

**Infant Development.** The Bayley Scales of Infant Development – Second Edition (BSID – II) (Bayley, 1993) was used to assess infant development in three domains: Mental Skills, Psychomotor Skills, and Quality of Behaviour. For Mental Skills and Psychomotor Skills, the total score was based on an index whereby the mean is 100 and standard deviation is 15. For Quality of Behaviour, the total score was achieved by converting the raw score to a percentile between 1 and 100.

Higher scores represent more optimal infant development. Bayley (1993) has reported high internal reliability for each scale and argued for stability of the scales over time based on test–retest reliability with a 1–16 day interval, and a median retest interval of four days. Bayley has also reported high construct validity for each of the scales.

**Procedure**

Twenty-seven parent–infant dyads were assessed at the Child Development Unit in the School of Psychological Science, La Trobe University. The remaining parent–infant dyads were assessed in their home because distance prevented them from coming to the university. The testing session involved three components: (a) participation by the parent and infant in the five-minute videotaped parent–infant interaction task using the DMC – M (Smith & Ferrier-Lynn, 2002); (b) completion by the parent of the battery of self-report questionnaires including a general demographic questionnaire, the AAPI – 2 (Bavolek & Keene, 2001), PAT (Bugental & Shennum, 1984) and the PSI – 3 (Abidin, 1995); (c) assessment of infant development using the BSID – II (Bayley, 1993).

**Results**

The means and standard deviations for Parent Cognitions are shown in Table 1. Mean Parent–infant Interaction scores were: Affect Within the Dyad, 3.17 (.41) – Mutual Attentiveness and Pleasurable Engagement, 1.64 (.20) and 1.53 (.30), respectively; Activity Within the Dyad, 3.27 (.59) – Turn-Taking and Parental Pausing, 1.64 (.34) and 1.63 (.37), respectively; and Communication Within the Dyad, 3.27 (.64) – Infant Use of Signals and Parental Sensitive Responsiveness, 1.67 (.36) and 1.60 (.36), respectively. Mean Infant Development scores were: Mental Skills, 100.15 (7.25); Psychomotor Skills, 96.20 (8.81); and Quality of Behaviour, 65.12 (24.84).

<table>
<thead>
<tr>
<th>Observed Variable</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children in General</td>
<td>42.28</td>
<td>12.90</td>
</tr>
<tr>
<td>Inappropriate Expectations$^a$</td>
<td>6.22</td>
<td>1.65</td>
</tr>
<tr>
<td>Empathy$^b$</td>
<td>6.07</td>
<td>2.18</td>
</tr>
<tr>
<td>Corporal Punishment$^a$</td>
<td>5.57</td>
<td>2.12</td>
</tr>
<tr>
<td>Role Reversal$^b$</td>
<td>5.42</td>
<td>1.71</td>
</tr>
<tr>
<td>Power Independence$^b$</td>
<td>6.33</td>
<td>2.05</td>
</tr>
<tr>
<td>Balance of Control Over Caregiving Success$^b$</td>
<td>14.48</td>
<td>6.12</td>
</tr>
<tr>
<td>Balance of Control Over Caregiving Failure$^c$</td>
<td>4.50</td>
<td>5.71</td>
</tr>
<tr>
<td>Infant Characteristics$^d$</td>
<td>272.96</td>
<td>104.40</td>
</tr>
<tr>
<td>Adaptability</td>
<td>47.42</td>
<td>29.64</td>
</tr>
<tr>
<td>Demandingness</td>
<td>55.97</td>
<td>29.81</td>
</tr>
<tr>
<td>Mood</td>
<td>56.56</td>
<td>29.25</td>
</tr>
<tr>
<td>Distractability/Hyperactivity</td>
<td>55.04</td>
<td>26.37</td>
</tr>
<tr>
<td>Child Acceptability</td>
<td>55.55</td>
<td>27.60</td>
</tr>
<tr>
<td>Reinforces Parent</td>
<td>57.97</td>
<td>26.87</td>
</tr>
<tr>
<td>Parental Functioning$^e$</td>
<td>324.21</td>
<td>145.41</td>
</tr>
<tr>
<td>Health</td>
<td>35.35</td>
<td>24.97</td>
</tr>
<tr>
<td>Depression</td>
<td>52.99</td>
<td>30.71</td>
</tr>
<tr>
<td>Spouse</td>
<td>35.85</td>
<td>25.72</td>
</tr>
<tr>
<td>Isolation</td>
<td>46.72</td>
<td>30.91</td>
</tr>
<tr>
<td>Competence</td>
<td>55.57</td>
<td>31.59</td>
</tr>
<tr>
<td>Parental Attachment</td>
<td>51.15</td>
<td>29.25</td>
</tr>
<tr>
<td>Role Restriction</td>
<td>46.59</td>
<td>28.82</td>
</tr>
</tbody>
</table>

*Note.* Higher scores represent more optimal cognitions. $^a$AAPI – 2. Scoring out of 10. $^b$PAT (Success Scale). Scoring out of 42. $^c$PAT (Failure Scale). Scoring calculated by subtracting control attributed to children (scoring out of 42) from control attributed to self (scoring out of 42). $^d$PSI – 3: Child Domain. Raw score converted to a percentile between 1 and 100. $^e$PSI – 3: Parent Domain. Raw score converted to a percentile between 1 and 100.

The analyses used Structural Equation Modelling (SEM) to examine the major research question of whether parent–infant interaction mediates the association between parent cognitions and infant development. SEM is a modelling technique that consists of sequential regression equations in a two-step process:
the development of a series of ‘measurement models’ followed by the development of a ‘structural model’. It has been argued that a ratio of five cases per parameter estimate is acceptable if the data is normalised (Bentler & Chou, 1987). This ruling was used as a guideline in the current study.

Separate measurement models were developed using a number of variables deemed to reflect latent constructs relating to the ‘theoretical’ domains of Parent Cognitions, Parent–infant Interaction and Infant Development1. Given that all separate measurement models were adequate, a full measurement model (Confirmatory Factor Analysis: CFA) was developed including three observed variables relating to Parent Cognitions (Children in General, Infant Characteristics and Parental Functioning); three observed variables relating to Parent–infant Interaction (Affect Within the Dyad, Activity Within the Dyad and Communication Within the Dyad); and three observed variables relating to Infant Development (Mental Skills, Psychomotor Skills and Quality of Behaviour). The purpose of this measurement model was to confirm that the various observed variables had been constructed in a meaningful way and to eliminate any causes of misfit in the model before developing the structural model.

Based on modification indices, the model required re-specification so that it would better represent the sample data. With the inclusion of a covariance between the error terms of Mental Skills and Psychomotor Skills (.29), the CFA revealed satisfactory fit and non-significance, x2 (23, N = 95) = 34.64, p = .06, with most goodness-of-fit indices (i.e. Comparative Fit Index: CFI, see Bentler, 1990, 1992; Tucker-Lewis Index: TLI, see Hu & Bentler, 1999; Root Mean Square Error of Approximation: RMSEA, see Browne & Cudeck, 1993) at acceptable levels. A summary of goodness-of-fit indices is presented in Table 2 and the full measurement model is presented in Figure 1. Bivariate correlations among all variables to appear in the structural model are presented in Table 3.

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1 Latent constructs are theoretical because there is no complete measure for ‘Parent Cognitions’, ‘Parent–infant Interaction’ or ‘Infant Development’. Theoreticians endeavour to find variables that can be tested to best represent a notion of these theoretical constructs. These are known as observed variables.
The process of testing a structural model with parent–infant interaction mediating the association between parent cognitions and infant development involved two steps. The first step involved the development of a structural model to examine whether parent cognitions predict infant development, and the second step involved the development of a structural model that included parent–infant interaction mediating the association between parent cognitions and infant development. It was expected that the inclusion of parent–infant interaction would improve the fit of the model and more adequately explain the variance in infant development than parent cognitions alone.

As with the measurement model, the first structural model examining whether parent cognitions predict infant development required re-specification. Consistent with the measurement model, this involved the inclusion of a covariance between the error terms of Mental Skills and Psychomotor Skills (.31). The first structural model was non-significant, \( \chi^2 (7, N = 95) = 13.25, p = .07 \), and the unsatisfactory fit and most goodness-of-fit indices (i.e., TLI, AGFI, RMSEA, SRMR) were not at an acceptable level. Further modifications could not improve the overall fit of the model. Overall, the structural model revealed that parent cognitions predicted infant development (\( \beta = .51, p < .05 \)), with the model explaining 26 per cent of the variance in infant development. A summary of fit indices is presented in Table 2 and the model is presented in Figure 2.

The second structural model examining parent–infant interaction mediating the association between parent cognitions and infant development also required re-specification; this involved the inclusion of a covariance between the error terms of Mental Skills and Psychomotor Skills (.29). With this modification, the second structural model revealed satisfactory fit and non-significance, \( \chi^2 (23, N = 95) = 34.64, p = .06 \), and most goodness-of-fit indices (i.e., CFI, TLI, RMSEA) were at an acceptable level. A summary of fit indices is presented in Table 2 and the model is presented in Figure 3.

This structural model revealed that parent cognitions predicted parent–infant interaction (\( \beta = .36, p < .01 \)) and, in turn, that parent–infant interaction predicted infant development (\( \beta = .31, p < .05 \)). Indeed, the inclusion of parent–infant interaction improved the model. Regarding the direct association between parent cognitions and infant development, there was a decrease in the regression coefficient from \( \beta = .51, p < .05 \) (see Figure 2) to \( \beta = .43, p < .05 \) (see Figure 3), with the second structural model explaining a further 12 per cent of the variance in infant development. Overall, this finding suggests that parent–infant interaction mediated the significant positive association between parent cognitions and infant development. However, the structural model also revealed that parent cognitions predicted infant development directly (\( \beta = .43, p < .05 \)).

### Discussion

The aim of this study was to examine parent cognitions and parent–infant interaction in terms of their contribution to infant development in the first 12 months. The finding that parent cognitions and parent–infant interaction were positively associated makes sense. Adaptive cognitions are likely to be associated with positive parent–child interactions and vice versa. For example, parents who think of children in general and who see their infant’s
characteristics in a positive light are likely to seek out and nurture an interactional relationship. Likewise, when parents think of themselves as functioning well, this is likely to provide an environment in which the parent–infant interactional relationship can thrive.

At the heart of this research project was the idea that parent–infant interaction is pivotal in the infant’s early life in that it underlies the development of the first ‘attachment’ relationship (Schore, 1994, 2003). Given that attachment is regarded as a theory of arousal regulation, play provides an ideal context for the experience and interaction of arousal regulatory information. The finding of a significant positive association between parent–infant interaction and infant development offers indirect support for the idea of ontogenesis—that self-regulation, particularly that learned in the context of playful face-to-face interaction, is a key driving force in the development of self (Glaser, 2000; Panksepp, 1998, 2001).

In relation to the finding that parent–infant interaction mediated the significant positive association between parent cognitions and infant development, it is possible

Figure 2. Structural model showing parent cognitions predicting infant development

Figure 3. Structural model showing parent–infant interaction mediating the association between parent cognitions and infant development
that parent cognitions that disturb parents’ self-regulatory capacities also disturb their ability to engage in an optimal interational relationship with their infant. As argued extensively by Schore (1994, 2003), parents’ abilities to engage in arousal regulatory interaction with their infants are dependent, to some extent, on their own abilities in that area. In searching for parent cognitions that disturb their self-regulatory capacities, an important starting point is to examine the types of parent cognitions that are capable of arousing strong feelings. Murphey (1992) noted that parent cognitions associated with the specific parenting role, and usually about a particular child (i.e. ‘particular’ cognitions), are more emotionally ‘loaded’. Consequently, they are different from parent cognitions that can be acquired vicariously, even by non-parents (i.e. ‘global’ cognitions).

In addition, Murphey (1992) argued that particular cognitions were found to be distinct from global cognitions and were more potent in their effects on parent–infant interaction and, in turn, infant development. Certainly these findings suggest that clinical attention should be paid to parents who see their infant’s characteristics in an unfavourable light but, particularly, if they regard their parental functioning as poor. It may be that the combination of these two domains of parent cognitions represents a ‘cumulative’ risk and, consequently, has the greatest potential to disturb a parent’s self-regulatory capacities and impinge upon infant developmental capacities.

An unexpected finding here was that the direct association between parent cognitions and infant development was stronger than the direct association between parent–infant interaction and infant development. The literature suggests that some parent cognitions (e.g. attitudes) predict child outcomes even though they have not always been found to predict parenting behaviour (Murphey, 1992). Hence, a direct association between parent cognitions and infant development may not be surprising. However, parent cognitions being a stronger predictor of infant development than parent–infant interaction was surprising.

It is likely that, while parent cognitions affect infant development via parent–infant interaction, there are aspects of parent–infant interaction that have not been accounted for by our model. Indeed, there are many ways that parents influence their infant’s development other than during the immediacy of playful face-to-face parent–infant interaction, and it would be impossible for any single measure to capture this. For example, the method of face-to-face parent–infant interaction during feed time, bath time, or using toys may have gleaned different results, as may have a change of emphasis from mother–infant to father–infant or mother–father–infant (triad) interaction.

Another related explanation is that, while parent cognitions affect infant development via parent–infant interaction, the nature of parent–infant interaction, as observed by a third party (the researcher), does not necessarily match how it is perceived by the infant. Certainly, parents are capable of putting up a good front (Murphey, 1992). In this research, the mother may have been capable of masking her cognitive state during parent–infant interaction, thus appearing to the researcher as if she were interacting in an optimal manner. However, it is possible that parents are not entirely capable of masking their cognitive state from their infant, who has a sophisticated system for reading, and storing in memory, biologically relevant facial and bodily signals without conscious awareness (Fernald, 1992; Nakamura et al., 1999; Schore, 2003).

Of course, the opposite might also be true—that the parent appeared as if she were interacting in a less-than-optimal way, but the infant’s prior interactional history with the parent was actually optimal. It is possible, therefore, that despite adequate inter-rater reliability, the parent–infant interaction was not coded correctly. Perhaps improvements to the methodology, such as a warm-up period for mother and infant, could be considered for increased reliability of the mother and infant’s most usual playful interaction. Additionally, increased detail of parent and infant facial responses might assist with more accurate interpretation of extremely subtle interactional material.

Given that attachment has been reconceptualised as a theory of arousal regulation (Schore, 1994, 2003), it is important to note that another limitation of this study relates to the use of the DMC – M (Smith & Ferrier-Lynn, 2002). In particular, the DMC – M lacks a distinction between profiles of arousal regulation during less-than-optimal parent–infant interaction—that is, parental and infant under-arousal and over-arousal. Although the profiles of arousal regulation during less-than-optimal parent–infant interaction are acknowledged in the DMC – M, they are classified in an equivalent way. In this way, the DMC – M can be used to describe the quality of the interaction (i.e. ranging from less-than-optimal to highly optimal), but the scoring does not reflect the actual pattern of less-than-optimal interaction that is used (see Cohn et al., 1990; Cummings & Cicchetti, 1990 and Field et al., 2001 for details of maternal profiles of arousal regulation in depressed mothers and their infants). There are more complex methods for measuring the quality and nature of parent–infant interaction—for example, Crittenden’s (2001) CARE-Index—but these require extensive training and are less accessible to clinicians than is the DMC – M (Smith & Ferrier-Lynn, 2002).

A further point to consider is the relatively large age range of infants from 1.37 months to 12.50 months. Initially, we were not concerned with age-related
variations. However, through the use of the DMC-M (Smith & Ferrier-Lynn, 2002), it became clear that age was indeed relevant when assessing parent–infant interaction, most obviously in relation to Mutual Attentiveness. Specifically, we noticed that infant gaze patterns were quite different as a function of age. For example, infants aged up to around eight months appeared to enjoy unbroken mutual eye contact, whereas infants older than eight months appeared to prefer visual and physical exploration of the surrounding environment interspersed with mutual eye contact. Importantly, we found explanations for these patterns in the literature with regard to critical periods of brain development relating to the onset of the primary visual cortex (at around two months of age), and increased maturity of the orbitofrontal cortex (at around 10 months of age) (Schore, 1994, 2003). Future research or clinical work interested in mutual attentiveness as an indicator of parent–infant interaction should be aware that the meaning of optimal mutual attentiveness varies across the 12 month age-range. Furthermore, variations in mutual attentiveness are a consequence of differing biological functions across the 12 month age-range. For example, mutual attentiveness in a two-month-old infant is related to encoding biologically relevant facial signals (Fernald, 1992; Nakamura et al., 1999; Schore, 2003), while in a 10-month-old infant it is more related to using those previously-learned facial signals for social referencing. It is also likely that there are developmental differences for the other parent–infant interaction variables used.

In conclusion, we found that infants’ development was affected by playful parent–infant interaction. Furthermore, in terms of the mediating role of parent–infant interaction, parent cognitions reflecting a component of intrinsic self-regulation appeared to have particularly potent effects on developmental outcomes. Indeed, our findings suggest, for the first time, that interventions aimed at changing parent cognitions may be even more effective than interventions focused solely on changing the parent–infant interactional relationship. Given the importance of early and preventative intervention for good infant mental health, further research is needed to explore the veracity of our findings.

References


Introduction

DURING THE EARLY years of life when rapid growth and development is occurring in all domains, it is possible to establish healthy lifestyle choices and lay the foundations for a child's physical activity patterns. It is important that during this time children are provided with experiences through which to develop positive attitudes towards healthy eating and physical activity (Birch, 1999; Temple & O’Connor, 2003b). Over the past 20–40 years the way these experiences are obtained has altered significantly because of changes in family dynamics, competing time demands and increases to the social, economic and physical aspects of life (Catford & Caterson, 2003).

Many of these changes in society have resulted in an increased demand for formalised child care in Australia. From 1999 to 2004 the number of children attending government-funded child care increased from 577,500 to 752,800, with the number of children attending long day care (LDC) increasing by 18 per cent and family day care (FDC) 13 per cent (Department of Family and Community Services, 2000; Department of Family and Community Services, 2005). LDC and FDC are the forms of early childcare services more commonly utilised by parents in Australia. LDC provides centre-based care for children aged birth to five years in an institutionalised-type setting during weekdays (Bravo & Cass, 2003; Montague, 2003). In comparison, FDC provides care for children aged birth to five in a home environment during weekdays, weekends and overnight (Bravo & Cass, 2003; Montague, 2003). Due to this increasing reliance on child care and the changing role of childcare centres from child minding to early education and advisory centres, early childcare settings, through their positive environments and structured play and learning, are seen as the ideal settings for promoting healthy lifestyle choices (Pagnini, Wilkenfeld, King, Booth & Booth, 2006).

These changes have placed added responsibility on childcare settings and professionals to provide this service. To do this effectively, childcare professionals have stressed the importance of readily available resources which will enable them to create a healthy environment and educate children in their care, as well as advise the parents and community of the importance of healthy interventions for young children (Temple & O’Connor, 2003a; Hesketh, Waters, Green, Salmon & Williams, 2005; Pagnini et al., 2006).

In this context a review of the physical activity literature was undertaken to identify best-practice physical activity programs utilised by Australian LDC and FDC settings and the key issues that influence the development of
these best-practice programs. This paper presents the main findings from the literature.

Methods

The literature review involved a search of Australian Government, State and Territory Government, universities, FDC and LDC accreditation and childcare advisory services websites and databases, including ERIC and the Australian Education Index (AEI), PubMed, EBSCO and Google Scholar for the period 1980–2006. In addition, searches were conducted on Australian physical activity/exercise and nutrition agencies—including the Dietitians Association of Australia, Nutrition Australia, the Australian Council for Health, Physical Education and Recreation (ACHPER) and the Heart Foundation. The search was limited to Australian literature only and conducted over a three-month period from June to September 2006. The key search terms included physical activity/programs, long day care, family day care, child care, exercise, health, wellbeing and a combination of these terms.

Best-practice was defined as a technique, method, process, activity or incentive that is more effective at delivering a particular outcome than any other technique, method or process (Baum, 1992; Speller, 1998). To be classed as best-practice, the program had undergone either an evaluation or quality assurance process and was referred to and recommended in other literature.

Results

The search identified more than 50 documents and websites relating to physical activity programs, resources and the physical activity status of children aged birth to five. In the early literature, there were very few programs and polices relating to physical activity, a trend that has reversed over the past five—ten years. In contrast, policies and strategies relating to healthy eating and nutritional status were developed from 1990, with the earliest identified nutrition program developed for LDC centres in the mid-1990s (Sangster, Chopra & Eccleston, 1996).

The search elicited only one physical activity program that directly targeted children who attended either a LDC or FDC setting, in contrast to 16 nutrition programs identified in the same study as having been developed for these same settings. The ‘Moving with Young Children’ program, developed in 2003 by the Queensland Government as part of their ‘Get Active Queensland Children and Young People’ initiative, provides ideas for childcare and kindergarten professionals on how to include physical activity in the everyday program and increase the awareness of physical activity for children in the birth to five-year-old age group, and suggests suitable physical activity equipment for use in these settings (Queensland Government, 2004).

Two further programs, ‘Kids—“Go for your Life”’, and ‘Romp and Chomp’, both developed in Victoria, while not directly targeting children in LDC or FDC settings, provide advice to teachers, parents and the community on improving physical activity and nutrition status of children. ‘Kids—“Go for your Life”’, a state-wide initiative developed by the Victorian Government, focuses on nutrition and physical activity for children aged birth to twelve years and their families (Victorian Government, 2006). It can be accessed online and members of the program receive resources to help the relevant community to undertake healthy lifestyle habits by working through a number of health and wellbeing criteria, for example, promoting water consumption and increasing active play (Victorian Government, 2006).

‘Romp and Chomp’, launched in the Geelong area in 2005, is part of the Deakin University Sentinel Site for Obesity Prevention in the Barwon-South West region project. One of three initiatives of this project, ‘Romp and Chomp’ aims to reduce and prevent early childhood overweight and obesity through the promotion of healthy eating and physical activity, including daily fruit and vegetables, less screen time, and daily active play (Deakin University, 2005).

While there were limited programs available for LDC and FDC settings, there are numerous resources, including books, videos and websites, available for use by childcare professionals. A list of resources, although not exhaustive, can be found in the literature review (Lawlis, Mikhailovich & Morrison, 2006). Although not the aim of the review, the literature search also highlighted the limited research undertaken on the physical activity status and requirements of children attending LDC and FDC settings.

Discussion

The Federal Government has identified the status of Australian children’s health and wellbeing as a priority area because of the increasing prevalence of childhood obesity. To address this issue nationally, the Government has developed a number of policies and frameworks, including Acting on Australia’s weight: A strategic plan for the prevention of overweight and obesity, Healthy Weight 2008—Australia’s Future: The national action agenda for young people and their families, and, more specific to this paper, Building a Healthy, Active Australia and Be Active Australia: A framework for health sector action or physical activity. These provide a rich and sophisticated policy context to address the problem; however, to date, there are no Australian physical activity recommendations for birth to five-year-olds. Guidelines currently utilised by parents and professionals caring for children in the birth to five age group are based on those published by the National Association for Sport and Physical Education (see Table 1), an association of the American Alliance for Health, Physical Education, Recreation and Dance (National Association for Sport and Physical Education (NASPE), 2006).
Physical activity is defined as an increase in energy expenditure through the movement of large muscle groups (Steinbeck, 2001; Salmon, 2005). For older children and adults the more common forms of physical activity involve sporting teams and organised activities. In younger children physical activity is undertaken in bursts throughout the day which vary in both intensity and duration (Steinbeck, 2001; Salmon, 2005). Structured play includes ball games, obstacle games and hide-and-seek; unstructured play involves making cubby houses; while sitting and watching non-interactive TV and sleeping are classed as sedentary activities.

Table 1. Physical activity guidelines for birth to five year olds (National Association for Sport and Physical Education, 2006)*

<table>
<thead>
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<th>Age Group</th>
<th>Physical Activity Guidelines</th>
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| Birth to 12 months | • Infants’ physical activity should promote the development of movement skills  
|                    | • Infants should be placed in safe settings that facilitate physical activity and do not restrict movement for prolonged periods |
| Toddlers 12–36 months | • Toddlers should accumulate at least 30 minutes daily of structured physical activity  
|                    | • Toddlers should engage in at least 60 minutes and up to several hours per day of daily, unstructured physical activity and should not be sedentary for more than 60 minutes at a time except when sleeping |
| Pre-schoolers 3–5 years | • Preschoolers should accumulate at least 60 minutes daily of structured physical activity  
|                    | • Preschoolers should engage in at least 60 minutes and up to several hours per day of daily, unstructured physical activity and should not be sedentary for more than 60 minutes at a time except when sleeping |

*The above table is a summary of the guidelines outlined by NASPE.

The time children spend in structured and unstructured play, the nature of this play and the benefits from it are difficult to measure. Temple and O’Connor (2003b) found in a FDC study that around 18 per cent of a child’s time was spent in structured play, while 30 per cent was spent in unstructured play. In other studies, LDC staff reported that children were not as active as those in the previous five–ten years; however, the children were found to be more active while attending the LDC than at home (Temple & O’Connor, 2003a; Pagnini et al., 2006). In an earlier study, a child’s participation in fundamental movement skills was found to increase in the presence of a carer or adult (Taggart & Keegan, 1997).

The release of national, state and territory policies and frameworks provide the guidelines and incentives for which population-specific programs are developed. While those identifying the health and wellbeing of young children and their families as a priority have been released over the past five–ten years, those addressing physical activity are even more recent, thereby resulting in limited availability of programs and resources not only for children aged birth to five, but also for those who attend childcare facilities. In contrast, the nutritional literature is relatively older, resulting in the development of LDC and FDC programs addressing issues including food safety and the nutrition status of children who attend LDC or FDC, such as the ‘Start Right Eat Right’ (Pollard, Lewis & Miller, 1999; Pollard, Lewis & Miller, 2001) and the ‘Good Food for Children’ programs (Sangster, Eccleston & Stickney, 2002; Bravo & Cass, 2003). This was also found to be the case more recently where the Weight of Opinion (Pagnini et al., 2006) report stated that early childhood centres are subject to government rules and regulations and have programs and polices in relation to healthy eating; but there was no mention of such mandatory requirements relating to physical activity (Pagnini et al., 2006). The inclusion of physical activity and teaching of gross motor skills were seen by the early childhood professionals as part of their core mission (Pagnini et al., 2006). As part of their daily curriculum, early childcare centres include activities such as dance, active games and ball games, and have climbing equipment and bikes available (Hands & Martin, 2003; Pagnini et al., 2006). While these activities are not specific physical activity programs per se, and therefore may not have been identified in the literature search, they do encourage active play for children attending a childcare facility.

Although the Queensland ‘Moving with Young Children’ workshops were the only physical activity programs identified in the literature specific for LDC and FDC, two programs that target children in the birth to five years age group were identified, ‘Kids—“Go for your Life”’ and ‘Romp and Chomp’, and thus may be utilised by these settings. ‘Kids—“Go for your Life”’ in particular
Literature refers to accreditation principles or are based on the nutrition programs and resources identified in the physical activity programs and resources. Many of these factors referred to in the literature that may explain the lack of specific physical activity programs reported in the literature, and also contribute to the development of future programs for this age group.

**Accreditation issues**

Although the various state and territory regulations require both LDC and FDC to be licensed, it is not mandatory for the centres to be accredited unless they want to be eligible for childcare benefit funding. The accreditation schemes for both LDC and FDC are set and administered by the National Childcare Accreditation Council (NCAC). The LDC accreditation system is based on the NCAC Quality Improvement and Accreditation System (QIAS), while the FDC system is based on the Family Day Care Quality Assurance (FDCQA) system. Under both systems there are specific quality areas and principles that the relevant centres must meet. These quality areas and principles are a set of requirements that promote the delivery of quality child care. While there are no quality areas or principles that specifically relate to physical activity, there are two QIAS principles—Principle 4.1: Staff encourage each child to make choices and participate in play; and Principle 4.6: Staff promote each child’s physical abilities (National Childcare Accreditation Council, 2005)—and one FDCQA principle—Principle 3.5: Carers and co-ordination unit staff promote physical competence in all children (National Childcare Accreditation Council, 2004)—that could be related to physical activity.

The NCAC vision is to provide ‘quality childcare experiences for all children enrolled in childcare services in Australia’ (National Childcare Accreditation Council, 2004; National Childcare Accreditation Council, 2005). Early life opportunities and experiences play a major role in laying the foundations for a child’s future health, as they can influence a child’s attitude and behaviour in many ways, including healthy eating and physical activity (Birch, 1999; Temple & O’Connor, 2003b). It is important, and in keeping with the NCAC vision, to include a physical activity quality area or principles within both the QIAS and FDCQA. Not only will this inclusion contribute to the delivery of quality child care, but it will also promote the development of LDC and FDC physical activity programs and resources. Many of the nutrition programs and resources identified in the literature refer to accreditation principles or are based on them, such as ‘Guidelines for Food and Nutrition Policy in Child Care’ distributed by the SA Child Care Nutrition Partnership (SA Child Care Nutrition Partnership, 2005), and the ‘Menu assessments’ service provided by Nutrition Australia (Nutrition Australia, 2006).

**The need to underpin the practice with research**

Effective program development requires a sound research base in order to identify specific areas that require attention. The literature indicated that limited research exists on the physical activity status of children attending LDC and FDC, the barriers and enablers of conducting physical activity programs within a LDC or FDC setting, and the current physical activity practices undertaken and resources used by the LDC and FDC staff.

**The specific needs and contexts**

Unlike LDC, which provides centre-based day care, FDC provides day care conducted in the family home of the carer (Bravo & Cass, 2003; Montague, 2003) and as a result different factors need to be considered when developing programs for each setting. In the study conducted by Temple and O’Connor (2003b) in FDC, barriers to conducting physical activity by FDC carers included the lack of space in undercover or closed areas, transportation to parks, and the mix of children and babies’ needs for sleep, resulting in older children having to undertake quieter activities (Temple & O’Connor, 2003a).

Childcare professionals from both LDC and FDC also identified their own abilities, experiences and knowledge (Temple & O’Connor, 2003a; Temple & O’Connor, 2003b) and parent attitudes to healthy lifestyles as barriers to effectively teaching and conducting physical activity (Pagnini et al., 2006). In all of these studies childcare professionals reported that access to best-practice guidelines, up-to-date resources (including books, pamphlets and games) and professional expertise would help them to educate both the children and parents and conduct physical activities in their respective centres, and thus be able to deliver quality child care (Temple & O’Connor, 2003a; Temple & O’Connor, 2003b; Pagnini et al., 2006).

**Conclusion and recommendations**

The aim of the literature review was to identify best-practice physical activity programs developed for LDC and FDC settings within Australia. Only a small number of programs and resources were found, and only one was developed specifically for LDC and FDC. The literature also identified the need for more research into the area of physical activity teaching and delivery in LDC and FDC. To ensure the development of successful programs it is necessary to consider the different features of LDC and FDC, particularly the availability of space in the FDC environment and the...
delivery of the training programs to improve understanding, knowledge and skills in this area. The review did not examine the current educational or training requirements for early childhood education courses in relation to physical activity and nutrition. An inclusion of physical activity principles in the QIAS and FDCQA accreditation systems will assist in promoting the development of programs specific to LDC and FDC settings. These developments will help childcare settings to continue to deliver quality care to Australian children and provide children with opportunities to foster a positive attitude to a healthy lifestyle.

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References


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Outdoor play
Does avoiding the risks reduce the benefits?

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ALTHOUGH THE TERM ‘RISK-TAKING’ often has negative connotations, the reality is that the willingness to engage in some risky activities provides opportunities to learn new skills, try new behaviours and ultimately reach our potential. Challenge and risk, in particular during outdoor play, allows children to test the limits of their physical, intellectual and social development. This paper examines the current status of outdoor play in urbanised, Western societies such as Australia and provides a critical analysis of the literature to present an argument for the inclusion of positive risk-taking experiences in children’s outdoor play, principally in the context of early childhood education. The increasingly restrictive regulation of early childhood services is considered in terms of the impact of risk avoidance in outdoor play for children’s optimal growth and development. Finally, a model of possible developmental outcomes resulting from the minimisation of risk-taking in early childhood contexts is proposed.

WITHIN THE EARLY CHILDHOOD field, play has long been acknowledged as an important context for children’s learning and development. Play is a significant aspect of their lives, reflecting their social and cultural contexts. Consequently, changes within these contexts impact on both the nature and quality of children’s play experiences.

This paper aims to examine outdoor play in the light of social and environmental factors that have impacted on children’s play experiences, particularly in urban Western culture. It provides a review of the literature since 1990, drawing on findings from a range of disciplines. It is argued that stimulating and challenging experiences involving physical risk are an important and necessary aspect of children’s healthy growth and development; yet social, institutional and educational factors apply implicit and explicit pressure on early childhood staff to eliminate or minimise experiences involving physical risk. The reviewed literature was accessed through electronic databases (EBSCO, OVID, Science Direct) and includes empirical research and other scholarly sources such as practitioner viewpoints to provide a comprehensive discussion of the relevant issues. The significant role of early childhood education settings and practitioners in supporting opportunities for well-managed risks in the context of stimulating and challenging outdoor play provision is considered.

Value of play

There has been considerable research documenting the vital role of play in fostering optimal growth, learning and development across all domains—physical, cognitive, social, emotional—throughout childhood (Fisher, 1992; Isenberg & Quisenberry, 2002; Stine, 1997). Play provides a vehicle for children to both develop and demonstrate knowledge, skills, concepts and dispositions (Dempsey & Frost 1993; Isenberg & Quisenberry, 2002).

Play provides a non-threatening context for children to learn about their world and gain skills necessary for adult life (Bjorklund, 1997; Bruner, 1972). Through their interactions with the environment during play, children gain control and ultimately mastery over their bodies with the development of a range of manipulative and motor skills. They learn new skills and concepts, discover the world, and learn about themselves and others through their interactions in a variety of social situations. Play also facilitates language development, creative thinking and problem-solving, and helps children deal with complex and competing emotions (Dempsey & Frost 1993; Wyver & Spence, 1999; Zeece & Graul, 1993).

Furthermore, children today are growing up in an era of increasing emphasis on academic achievement and the significance of the early years for learning. Recent
contributions from brain research have provided much support for the early years as a period for optimising learning across all areas. Children’s early experiences and interactions, including those during play, affect the way the brain develops and helps shape its structures (Shore, 1997). Within this research there is an acknowledgment of the importance of play as a ‘scaffold for development, a vehicle for increasing neural structures, and a means by which all children practice skills they will need in later life’ (Isenberg & Quisenberry, 2002, p. 33).

Play has traditionally been the foundation of good practice in early childhood education. While current practice makes no distinction between play and other experiences that foster children’s learning, open-ended child-directed play opportunities in a rich environment are still seen as a very important and integral part of early childhood education practice (Stonehouse, 2001).

The significance of play as an essential part of every child’s life has also been acknowledged by the United Nations Convention on the Rights of the Child. Article 31 supports a child’s right to rest and leisure, and to participate in play and recreational activities appropriate to the age of the child (Office of the United Nations High Commissioner for Human Rights, 1990). Yet recent decades have seen a steady decline in children’s opportunities for play, and particularly outdoor play (Rivkin, 1995).

Pellegrini and Bjorklund (2004) argue that, while the lifestyle of most Western middle-class children offers safety, it also involves large amounts of time in formal schooling, structured play activities and television viewing, all of which lead to changes in the amount and quality of play children engage in. Although Pellegrini and Bjorklund argue that these changes may have subtle impacts on children’s development, it is equally plausible that the changes are profound and negative—if not for all children, at least for some subgroups.

**Current status of outdoor play**

In a constantly evolving world, social and environmental factors have greatly impacted on children’s opportunities for outdoor play. Where once children may have spent time playing in the street—riding bicycles, playing chasing games and ball games or enjoying other outdoor pastimes—increased traffic has made these areas and play opportunities off-limits for children as the dangers are far too great. Children are now confined to backyards or local parks for relatively safe places to play. Yet even these are changing. With growing populations, the increased demand for housing in many areas, particularly urban areas, is eroding children’s play spaces. Housing blocks are becoming smaller and high-density housing is becoming more prevalent. Combined with decreased opportunities for parents to spend time supervising and participating in their children’s play because of increased work commitments, this situation has resulted in greatly reduced prospects for children’s engagement in outdoor play (Children’s Play Council, 2002; Rivkin, 1995).

Added to this, decreased outdoor play experiences have been attributed to parental fears for their children’s safety. A UK survey found that, while 91 per cent of the adults questioned recognised the importance of outdoor play, 60 per cent stated they were concerned about the safety of their children when playing in public places (McNeish & Roberts, 1995, cited in Valentine & McKendrick, 1997). As a result, parents place greater restrictions on children’s independent activities. Their fears have contributed to a developing trend towards overprotective parenting, whereby the world is seen as an inherently dangerous place from which children need to be sheltered (National Playing Fields Association, Children’s Play Council & Playlink, 2000; Furedi, 2001). This concern for safety exists on a number of levels, including issues related to safety resulting from increased traffic and ‘stranger danger’ (Valentine & McKendrick, 1997) as well as those related to injury sustained through the use of playground and other equipment (bicycles, skateboards etc.). It is this latter aspect that is of most relevance for this paper.

Parents have always been concerned for their children’s safety and well-being, but an exaggeration of the risks involved in many common childhood pursuits has resulted in children being denied the opportunity to engage in many worthwhile activities that facilitate their learning and development (Furedi, 2001). Furedi believes this perception of risk as something bad that needs to be avoided is a recent phenomenon, whereas once ‘taking risks was seen as a challenging aspect of children’s lives’ (Furedi, 2001, p. 25). Risky play activities are usually those that involve high levels of physical activity, and Pellegrini and Smith (1998) argue that parents are often ambivalent about their children’s engagement in such activities. Potentially, it may not be difficult to persuade parents to curtail children’s pursuit of the more physical and risky aspects of play. In reality, however, risk is a complex issue, one which requires a consideration of the task, the risks involved, the likelihood of success or failure in terms of one’s abilities, and the severity of any negative outcomes compared to the positive outcomes. What is important is how these experiences are scaffolded to allow for the gradual transfer of risk management to children. Through exposure to carefully managed risks, children learn sound judgement in assessing risks themselves, hence building confidence, resilience and self-belief—qualities that are important for their eventual independence (Children’s Play Council, 2004).

Furthermore, a growing culture of litigation has resulted...
in the removal of playground equipment from many public places and an increasing fear amongst non-parental carers and educators that they will be held liable for any injury (even minor) suffered by a child while in their care (Children's Play Council, 2004; Department for Culture Media and Sport [DCMS], 2004; New, Mardell & Robinson, 2005; Shepherd, 2004). New et al. (2005) suggest that such concerns are seriously impacting on early childhood educators’ capacity to provide many worthwhile experiences that foster children's development and learning. Whether out of fears that children will actually come to serious harm or, more likely, to avoid accusations of irresponsibility, teachers now maintain constant supervision over children's activities even as they discourage or avoid potentially “unsafe” activities’ (New et al., 2005, p. 4). The problems with this response to safety and fear of litigation are that physical play opportunities for children become so sterile and unstimulating that children may actually place themselves at greater risk of injury as they seek to inject some excitement back into the activity (DCMS, 2004). Such a response also denies children the opportunity to learn about risk and how to manage it in the real world of the communities they live in (Shepherd, 2004). Furthermore, children who conform and adopt more sedentary approaches to play may be exposed to the more sinister risks of chronic illness associated with reduced activity levels. Experimental evidence with preschoolers (Smith & Hagan, 1980) and children in the early school years (Pellegrini & Davis, 1993) demonstrates that children who have been deprived of physical activity for short periods will, when given the opportunity, engage in physical play that is much more intense and sustained. This deprivation effect was found to be more profound for boys than for girls and suggests that risk reduction strategies that restrict physical play are likely to have a direct impact on the quality of play.

Children naturally seek challenge and, despite the adult concerns, engage in risk-taking as they expand their world view, develop an understanding of themselves and others, and endeavour to gain competency in a vast range of skills (Children’s Play Council, 2004; Stephenson, 2003). The significance of risk-taking in fostering children’s learning and development in the context of outdoor play experiences is further examined in the following literature review.

**Learning and development in outdoor play**

The outdoors, whether it be the natural environment or playgrounds specifically designed for children, is the ideal context to encourage children to be themselves, to explore, to experiment, to move and make the most of the opportunities offered in a less-restricted manner (Henniger, 1994; Rivkin, 1995; Zeece & Graul, 1993). The outdoors presents obvious opportunities to move and be active, and for children to discover and engage with the natural environment, as well as the chance for open-ended activities such as sand and water play, construction and pretend play. Furthermore, the openness and space afforded by outdoor environments can provide a relatively unrestricted and spontaneous context for facilitating peer interactions (Frost, Shin & Jacobs, 1998).

While much of the learning that occurs during outdoor play also occurs in other contexts, the space afforded outdoors allows children to engage in more active physical play than indoors (Stephenson, 1998, 2002). Outdoor play provides opportunities for children to learn and gain competence in a vast range of motor skills. This is particularly important during the early childhood years, a period hallmarked by significant development across all domains. Outdoor play provides occasions for children to develop and refine basic locomotor skills, including walking, running, jumping, climbing, hopping, skipping, sliding and tricycling; manipulative skills such as throwing, catching, kicking, striking and bouncing; and stability abilities including bending, stretching, swinging, twisting and beam-walking (Gallahue, 1993; Poest, Williams, Witt & Attwood, 1990). Children need the space for active, spontaneous movement as they consolidate and gain mastery over this range of fundamental movement skills (Bilton, 2002; Gallahue, 1993), and it cannot be assumed that this space is available in their home environment. As noted earlier, there is a significant trend towards high-density living.

Movement is a central aspect of young children's lives and learning that impacts on all facets of their development. As children grow, their capacity to interact with and make sense of their environment is closely linked to their developing movement capabilities. Movement is the means through which children learn about themselves and the world as well as the way they gain greater competence and confidence (Bilton, 2002; Gallahue, 1993). Children not only experience the joy of moving but also gain physical competence and confidence that promotes a life-long participation in physical activity and hence the enjoyment of the benefits of an active healthy lifestyle (Hihiko, 2004). This latter aspect is perhaps particularly pertinent in considerations of obesity prevention. Fundamental movement skills provide the foundation for the more specialised skills used in games, sports, dance, gymnastics and a range of other outdoor education and recreation activities that children may become involved in later in their lives (Gallahue & Ozmun, 1995; Hihiko, 2004). Research indicates that low skill level and low movement competence are associated with reduced physical activity and represent a major barrier to children’s participation in sport (Hands & Martin, 2003). Bouffard, Watkinson, Thompson, Dunn and Romanow (1996, cited in Hands & Martin, 2003, p. 47–48) found that
children with low motor competence were ‘vigorously active less often, played less on large playground equipment and spent less time interacting socially with their peers’.

Thus not only is the acquisition of movement skills important for children’s learning, but lack of confidence and competence in performing these skills can be detrimental for their social and emotional wellbeing. Children who have low fundamental skill ability often experience frustration when participating in sport or dance activities, as they are unable to cope with the complex combinations of movements. The inability to fully participate in such activities can lead to lower self-esteem, a tendency to have fewer friends, and health problems in later life as a result of physical inactivity (Hands & Martin, 2003; Poest, Williams, Witt & Atwood, 1990). In addition, low skill ability and lack of confidence can place children at greater risk of injury (Sutterby & Frost, 2002). The above provides evidence that reductions in physical play in order to minimise risk actually presents children with longer-term and more intractable risk exposure.

It is clear then that, in the preschool years, children benefit from and indeed seek out opportunities for physical outdoor play. Stephenson (1998) describes three types of physical play that preschool children typically engage in outdoors. First is play which might be described as coaching, whereby children seek teachers’ assistance to either learn specific physical skills or attempt a particular physical activity. The second type of play combines aspects of physical play and dramatic play—physical activity incorporated with role-playing in dramatic play episodes. Chasing games, such as ‘What’s the time, Mr Wolf?’, are also included in this category. The third type of play relates to the children’s obvious desire to physically challenge themselves and extend their skills by ‘riding … the bikes very fast, climbing around the outside of the fort, running across the challenge course, swinging very high, dangling off the edge of the fixed slide and dropping to the ground’ (Stephenson, 1998, p. 127). Stephenson notes that the children appeared acutely aware of their own skill level and competence, and the aim of this type of play was to test their own limits and display their physical skills. At times they were focused on the task at hand while at others they sought to display their skills, imploring others, particularly the adults, to look at them. From these examples, it is apparent that the children were engaging in risk-taking behaviour as they endeavoured to learn new skills and gain mastery over their motor abilities.

Risk-taking in outdoor physical play

‘Outdoor play provides open-ended, dynamic, varied opportunities which are unpredictable and at times risky. However, the risks and challenges of being outdoors provide rich opportunities for learning, problem-solving and developing social competence’ (Greenfield, 2004, p. 1). Children need the freedom to take risks in play because it allows them to continually test the limits of their physical, intellectual and emotional development (Tranter, 2005).

Preschool children, in particular, enjoy seeking challenge and testing their motor skills (Stephenson, 2003; Taylor & Morris, 1996; Walsh, 1993). As Stephenson’s (1998) observations of children’s play suggest, risk-taking is an important and necessary part of outdoor physical play. As Stine (1997, p. 29) asserts, ‘by taking risks, by facing a challenge, we learn about our competence and our limitations. Trying to exist in a world without some measure of risk is not only impossible but inhibits our lives and the child’s need for challenge’.

Henniger (1994) believes that the provision of healthy risk-taking opportunities is a vital component of quality outdoor play. Risky play opportunities introduce excitement and challenge for children to test their skills and try new activities. They gain mastery and a sense of accomplishment, thus further encouraging them to face new challenges. Furthermore, risk-taking has been found to be positively related to self-confidence and creative ability (Goodyear-Smith & Laidlaw, 1999).

Children’s physical risk-taking during outdoor play also has implications for learning in other contexts. Stephenson (1998) noted how teachers commented that children who were confident physical risk-takers in the outdoor environment were more likely to take risks during indoor activities. In effect, they had developed what might be termed a risk-taking disposition whereby they sought or accepted challenges in both environments. Risk-taking in both contexts is important for children’s learning and development, but adult response varies remarkably. The development of a risk-taking disposition in some contexts is viewed as a positive attribute associated with persistence in the face of difficulty and uncertainty. This persistence has been described by Carr (1997, p. 10, cited in Stephenson, 2003, p. 41) as ‘engaging with uncertainty, being prepared to be wrong, risking making a mistake—going on to learn’. However, where parents and teachers accept and even encourage children to take risks and challenge themselves mentally, physical risk is more often seen as something negative and dangerous and to be avoided.

The literature evaluated thus far has focused on the benefits of providing opportunities for challenge and hence risk. However, the discussion is not complete without a consideration of the outcomes if children are not given such opportunities. First, insufficient challenge and novelty in the playground can lead to inappropriate risk-taking as children seek thrills in a fearless manner (Greenfield, 2003). This has links with sensation-seeking as highlighted in the literature relating to risk-taking and unintentional injury (see DiLillo, Potts & Himes, 1998;
Kafry, 1982; Potts, Martinez & Dedmon, 1995), as well as risk-compensation behaviour whereby individuals are thought to engage in greater risky behaviour when safety measures are applied to an activity (Pless & Magdalinos, 2006). Second, children are more likely to develop responsible attitudes toward risk if they have experience dealing with risky situations (Barker, 2004). If adults deny children opportunities for worthwhile, positive risks, they also prevent children from developing the decision-making skills necessary to make accurate risk judgements. Children need to learn to take calculated risks. This is difficult for children as their skill level and growth are dynamic, unlike adults where these factors are relatively stable. Finally, Goodyear-Smith and Laidlaw (1999) argue that parents want their children to be resilient, persistent, to develop problem-solving skills and physical competence. They want them to be confident and to be creative, independent thinkers; to make appropriate decisions and take responsibility for their own actions, not only in the physical environment but across all aspects of their lives. From this it could be argued that children need to engage in managed risk-taking if these qualities are to be encouraged and developed.

Implications for early childhood education

The provision of opportunities for risk-taking in children's outdoor play does not mean that safety is ignored. Rather it means that parents and teachers need to be acutely aware of the hazards and take all necessary steps to ensure that the environment is safe (Henniger, 1994), and to have adequate staff ratios to support physical play (Lam, 2005). Even within the injury prevention and playground safety field there is an acknowledgement of the importance of risk-taking during play. Mitchell, Cavanagh and Eager (2006, p. 122) argue that ‘children should have opportunities to explore and experiment in an environment that provides a degree of managed risk’, because ultimately, no matter how safe the play environment, it will fail in meeting its objective if it is not attractive and exciting for children. Unfortunately, the term risk-taking is usually interpreted with negative connotations, with risk and hazard often being seen as synonymous (Lupton & Tulloch, 2002). Greenfield (2003), however, believes a distinction should be drawn between these two terms; hazard is something the child does not see, whereas risk relates to the child’s uncertainty about being able to achieve the desired outcome, requiring a choice whether to take the risk or not. Adults can mostly see the hazards and endeavour to eliminate them. The way is then clear for children to face the challenge and accept the risk should they choose to do so. This also involves providing adequate supervision and support and being aware of those aspects of the child's behaviour that might contribute to serious injury, especially as a result of inappropriate use of playground equipment.

Risk needs to be considered within a much broader context. Tranter (2005) suggests that, when the risks are considered against the benefits of letting children play freely, the risks might include traffic danger, injury from play equipment, injuries sustained from environmental hazards such as broken glass or syringes, bullying from older children and stranger danger. The benefits, on the other hand, include fun, cognitive, emotional, social and physical development, independence and autonomy. In contrast, Tranter argues that not allowing children to play freely and explore their environment has a single benefit (safety) outweighed by multiple risks—compromised development, decreased physical exercise, increased obesity, limited spontaneous play opportunities, lack of road sense in later years, and loss of a sense of place and enjoyment.

Furthermore, what constitutes a negative or unwarranted risk is very much subject to cultural interpretation (New et al., 2005). Activities that many in Westernised urban Australian culture might consider as inappropriate and unwarranted risks are quite different from those of many Indigenous Australians who view play as a survival mechanism within which risk-taking is seen as an important learning process, and thus acceptable in the presence of adults and in accordance with predetermined rules (Johns, 1999). These differences in attitudes towards risk exist in other cultures as well, notably some of the European and Scandinavian countries. In particular, New et al. (2005, p. 3) refer to practices in Reggio Emilia, Italy, which reflect teachers’ belief in children’s right to engage in activities that test their developing motor and critical thinking skills, adding that ‘children generally know when they’ve gone far enough; they are careful because they don’t want to get hurt’. The belief in the benefits to be gained from participation in a wide range of physically challenging (and perhaps risky) activities greatly outweighs any concerns about potential litigation (New et al., 2005). Similarly, in countries such as Norway where valuing the natural environment is part of the culture (Fjortoft & Sageie, 2000), many early childhood settings provide children with a vast array of experiences such as hiking, climbing trees and water activities in natural outdoor environments. Such practices might be considered unnecessarily risky in a Westernised Australian context. Yet these experiences provide children with a much deeper understanding of their environment and of reality, as well as promoting development in all areas, particularly motor fitness and motor ability (Fjortoft, 2001; Fjortoft & Sageie, 2000), in a far more interesting, stimulating and pleasurable context.

Greenfield (2003) believes that early childhood centres are well-placed to provide children with positive risk-taking opportunities that are not available to them in other contexts. An environment free from hazard is necessary to ensure that children can satisfy their natural curiosity and desire for novelty and challenge, and take risks without compromising their safety. This
does not mean removing all the risks, but rather finding the balance between those that foster learning and those that can result in serious injury, and ensuring appropriate supervision. It also means that the impact of the outdoor environment on play should be monitored closely. Current safety requirements operating within the children’s services regulations rely on passive strategies aimed at making the environment safer, independent of the behaviour of those using it (Little, 2006). Often in early childhood, play is considered to be a characteristic of the child rather than a relationship between a child and their environment. Close attention to the quality and quantity of play, especially physical play, is one way of determining whether an appropriate balance has been achieved. Such monitoring requires a high level of practitioner skill; there are significant developmental and individual variations in play that need to be understood before assessments of play quality and quantity can be made. The national Quality Improvement and Accreditation System (QIAS) (National Childcare Accreditation Council, 2005) asserts that staff ‘should have the skills to assess risk potential, based on their knowledge of each child’ (p. 84), allowing them to intervene to prevent harm when necessary while also fostering ‘each child’s developing independence and competence by supporting the child in some activities that the child perceives as risk taking’ (p. 84).

The notion of finding the balance is central if children are to have the opportunity to experience some risk in their lives. This balance can be achieved when adults respond sensitively to individual patterns of behaviour; to accept and promote children’s ability to appraise and manage risks, as well as their desire for challenge and excitement in their play (DCMS, 2004; NCAC, 2005). Yet, despite the benefits of providing challenging physical play experiences that present children with the opportunity to engage in some forms of risk-taking, legislation and regulations in the early childhood sector are becoming increasingly restrictive and prescriptive with an overemphasis on risk management. These constraints limit early childhood professionals’ capacity to use their knowledge and experience to inform their practice (Fenech, Sumsion & Goodfellow, 2006), resulting in the feeling that they are no longer able to provide children with rich and challenging play environments (Shepherd, 2004). The recent study by Fenech et al. (2006) reveals that, while early childhood teachers acknowledge the Regulations and QIAS provide support for their practice, at times their decision-making was adversely affected. In particular, the overemphasis on risk within the Regulations was viewed as detrimental to children’s learning and wellbeing, with teachers making comments such as ‘I think we have to provide a cotton wool environment’, ‘All the equipment has become so supersafe that the children don’t have any

**Figure 1. Possible pathways from the five main factors that lead to risk minimisation in early childhood play contexts**

- High child-staff ratios
- External regulation restricting activities
- Inadequate understanding of benefits of risk-taking
- Poor outdoor environment
- Fear of litigation

Minimisation of risk-taking play

- Reduced opportunities to develop skills in risk evaluation
- Increase in unsafe risk-taking
- Fewer benefits from physical play
- Underdeveloped motor skills
- Risk of chronic illness associated with low levels of activity

- Reduced opportunities for child chosen risk
- Reduction in physical activity
- Change in quality of physical play
- Underdeveloped motor skills
- Risk of chronic illness associated with low levels of activity

- Poor evaluation of risk situations
- Increased injury
- Fewer benefits from physical play
- Underdeveloped motor skills
- Risk of chronic illness associated with low levels of activity

- Change in quality of physical play
- Underdeveloped motor skills
- Risk of chronic illness associated with low levels of activity

- Reduction in physical activity
- Risk of chronic illness associated with low levels of activity
risk-taking activities’, and ‘we are so restricted by things like safety … all of the time that it really restricts your pedagogy’ (Fenech et al., 2006, p. 55). If children are to continue to have access to and benefit from a wide range of stimulating and challenging outdoor play experiences, then a reconsideration of attitudes and approaches to policy and practice in the early childhood education sector is necessary.

Figure 1 shows pathways from the five main factors that lead to minimisation of risk-taking in early childhood contexts through to some of the developmental outcomes. These pathways are supported by the literature reviewed in this paper. It should be noted that these pathways have been described on the basis of available evidence, and it is likely that a much more complex picture will emerge as researchers investigate more aspects of risk-taking in early childhood settings. It should also be noted that, when applied in practice, these pathways need to take account of other factors in children’s lives that may make them more vulnerable or resilient when engaged in early childhood contexts in which there is significant risk minimisation (e.g. child temperament, home environment).

Conclusion

Changing social and environmental contexts in recent decades have impacted on children’s prospects for outdoor play. Decreased spaces for physical play combined with changing attitudes towards the risks involved in some physical activities has brought about changes in the quality of children’s outdoor play experiences. Practitioners and researchers from diverse disciplines are beginning to recognise the negative impact such changes are having for children’s optimal growth and development. This concern has led to movement towards creating child-friendly communities (Karsten & van Vliet, 2006; Tranter, 2005) and a call for play providers to acknowledge children’s desire and need for taking risks in their play by providing stimulating and challenging environments that allow children to explore, develop and master their abilities. The goal should be to find ways of managing risk rather than seeking to eliminate it. Supporting children’s physical play should be the utmost consideration.

Thus, while safety issues need to be addressed, avoiding all risk is not the solution, as doing so limits children’s participation in worthwhile experiences that promote their optimal health and development. On the contrary, failure to provide children with stimulating and challenging experiences through which they can engage in positive risk-taking exposes them to different risks that compromise their health and development. The ultimate aim for parents, teachers and other play providers should be to provide outdoor play environments where the risks of serious injury are reduced, but creativity, challenge and excitement are maintained.

References


Playgrounds of learning
Valuing competence and agency in birth to three-year-olds

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In the early childhood education and care (ECEC) sector there has been a plethora of literature about practice with children in the birth to five age group (Arthur, Beecher, Dockett, Farmer, Richards, 1995; Dockett & Fleer, 1999; Fleer, 2003, 2005; Hutchins & Sims, 1999; Grieshaber & Cannella, 2001; Press & Hayes, 2000; Stonehouse, 1988). There is also literature about how particular types of ECEC practice assist in promoting intellectual competence, agency and resilience in these young children. However, current research about how to scaffold and value metalinguistic and metacognitive competence and agency in the birth to three age group appears to be scant (Page, 2005).

This paper uses data from interviews and videotaped observations of young children and their families to begin to unpack how learning experiences for birth to three-year-olds happen within particular social contexts. An interpretive and theoretical bricolage (Denzin & Lincoln, 2003; Levi-Strauss, 1966) of theory and literature is used to interrogate this data, acting as a means of informing epistemological understanding about how practice within particular social contexts constrains or enables children as competent and capable learners. The authors argue that a tendency to underestimate the metacognitive and metalinguistic ability of infants and toddlers delimits understanding of what is possible for them within play and learning contexts. Finally, a model of practice is developed that focuses on appreciating and enhancing such abilities in this age group.

Introduction

Theory and Literature that underpins practice with infants and toddlers in various ECEC settings often privileges notions of sequential development, in terms of how infants and toddlers learn to communicate and understand. Certainly there is a plethora of literature that speaks to this point (Petersen, 2004; Berk, 2004; Press & Hayes, 2000; Bredekemp & Copple, 1997). However, much of this literature is underpinned by the view that there are certain milestones to be achieved in order to gain competence in these areas, positioning the child as subject to, and produced by, their own limitations in this respect.

This paper provides a different perspective. By taking an alternative view, one that positions children as agentive individuals (Davies & Banks, 1995) and contributors to their own learning (Edwards, Gandini & Forman, 1998), a different understanding can emerge (Fleer et al. 2006; Rolfe, 2004). Furthermore, the authors argue that individuals who work with young children, in any capacity (i.e. formal and informal), require an understanding of how such agency develops and of how it contributes to the way that young children learn. It is this understanding that enables the development of a framework for practice and care that transcends disciplines and creates space for agency to be enacted throughout the process of growth, learning and development. The authors go further to argue that the ability to exhibit agency is tied to the development of resilience. As children learn to exhibit agency within supportive environments, then they also learn about negotiation, compromise, success and failure to some degree, developing skills and abilities to deal with these concepts and to cope with their consequences. So it is vital that professionals, practitioners and parents scaffold and develop opportunities for children in this respect.

The features of this argument are demonstrated by examining data collected by the authors in play and learning contexts for children birth to three years—in particular, the play context of Bailey, a child who has...
become known through attendance at a university playgroup. This data is examined in ways that expose how understanding of agency in the learning process not only enhances the quality of young children’s experiences but also adds richness to their relationships. The authors use an interpretive and theoretical bricolage to conceptually unpack how play and learning is occurring in this particular example. Bricolage (Levi-Strauss, 1966) is understood as a ‘pieced together’ set of representations that are fitted to the specifics of a complex situation where ‘the choice of research practices depends on the questions that are asked, and the questions depend on their context’ (Denzin & Lincoln, 2003, p. 6). The researcher, as bricoleur, utilises whatever resources—cultural objects, signs, texts, practices, theoretical perspectives—are available in addressing the task at hand (Levi-Strauss, 1966). Such a process allows for an ‘emergent construction’ (Denzin & Lincoln, 2003, p. 5; Weinstein & Weinstein, 1991) to be produced, adding ‘rigour, breadth, complexity, richness and depth’ (Denzin & Lincoln, 2003, p. 8) to theorising (Macfarlane, 2006).

The use of bricolage in theoretical work is a complex process. Although bricolage creates a patchwork of conceptual understanding, it should not be seen merely as a licence to bring together antithetical information to make an argument. Rather, the theory and literature used, while disparate and diverse, should also display a level of epistemological coherence. Thus bricolage provides an opportunity to examine and analyse information through coherent lenses that highlight multiple perspectives. In this paper, the bricolage of theory and literature used is taken from disciplines such as early childhood education and care, education, sociology, human services and psychology. Additionally, the authors use applications of poststructuralist theory, particularly that of Foucault, to seek to understand how practice with infants and toddlers might be seen from different perspectives. Recently, such theory has informed practice in early childhood (Ailwood, 2003; Davies & Banks, 1995; MacNaughton, 2005; Moss, 2006), allowing researchers to reconceptualise approaches and unpack taken-for-granted assumptions. The characteristic approach to truth and governance (Ailwood, 2003; Tyler, 1993), indicative of this theoretical approach, will add dimension and rigour to the bricolage of theory and literature that will be used in this instance.

The aforementioned theoretical tools, then, provide a new perspective on the notions of play and learning for the birth to three age group by highlighting how play and learning are actually enacted as opposed to how it is perceived that these notions ‘should’ be enacted or be expected to be enacted. Thus, the authors seek to demonstrate how ‘playgrounds of learning’ might play out ‘in the real’ (Foucault, 1981, p.13).

### Problematising practice

**Sarah and Bailey**

Sarah is a teenage mum who lives with her partner Adam and her daughter Bailey. Bailey is four years old at present, but the authors’ contact with this family has been in place since her birth. Bailey has always presented particular skills in terms of language and literacy development. Observations of this family have indicated that the communication between family members is sound and that Bailey and her parents have a relationship that privileges listening, explanation and communication. Bailey’s attachment to her parents is also extremely positive.

Sarah reported that from an early age—around 18 months to two years—Bailey had shown an interest in spelling. Sarah would sometimes observe Bailey with her alphabet puzzle, spelling out her own name, ‘mummy’, ‘daddy’, ‘gran’, ‘grandad’ and the names of her friends. As she approached the age of two she began to be very interested in spelling names on a computer keyboard. She would ask someone to detach the keyboard from the computer, ask an adult how to spell a particular name, and then hit the correct keys with a finger.

Bailey had been attending an organised weekly playgroup since she was 11 months old. Observations of Bailey and her family had been collected in the playgroup situation and at her home, as part of a wider study into the play and learning of birth to three-year-olds. Semi-structured interviews were also conducted with her parents, Sarah and Adam, and with her grandparents, in order to gain a focus on the adults’ perceptions of Bailey’s play and learning at this stage of her development.

This particular observation of Bailey began on a Sunday afternoon in her grandparents’ lounge room. Bailey had asked for the computer keyboard to be detached and her uncle had obliged. She sat in front of her mother, asking her to spell particular words, and typed the letters as her mother spelled. This went well until she asked her mother to spell ‘daddy’. Sarah spelled ‘d-a-d-d-y’. When Sarah came to the ‘y’, Bailey began to scream, shout ‘No!’ and throw a tantrum. Sarah asked her what was wrong, to which she replied, ‘Spell daddy’. Sarah went through the process again, and was again faced with a tantrum. Sarah tried a couple more times but still had the same result. She tried to talk to Bailey about why she was distressed, using her communication skills and the good relationship with her daughter in an endeavour to find out what the issue was. However, Bailey still only said, ‘Spell daddy’. At that point the observer intervened, asking Bailey what was wrong, but again she replied, ‘Spell daddy’. The adults then engaged in conversation and spelled out ‘d-a-d-d-y’, to which Bailey said ‘No – m’.
The adults then realised the problem. Bailey’s daddy’s name is Adam. She was confusing the spelling of ‘daddy’ with the spelling of ‘Adam’. Sarah explained the situation to Bailey, stating that ‘Adam’ and ‘Daddy’ were different words and were spelled differently. Bailey asked Sarah to spell ‘daddy’. Sarah complied, saying ‘d-a-d-d-y’. Bailey threw another tantrum. Sarah then said, ‘Bailey, if you want to spell “daddy” d-a-d-d-m, then you can, but that is not right so I am not going to spell it that way’. Bailey threw another tantrum, saying, ‘No, Mummy—spell with me.’ Sarah again spelled out ‘d-a-d-d-y’. Another tantrum. Sarah said, ‘OK, Bailey; you spell it your way but I will not play, because “daddy” is d-a-d-d-y’. Bailey then became distressed again and asked Sarah to play, but Sarah would not. Eventually Bailey was forced to renegotiate Sarah’s participation in the game.

**Playgrounds of language**

As part of this interpretive bricolage, it could be beneficial to examine the events and circumstances of this scenario by using some elements of poststructuralist understanding to unpack or deconstruct these points, positioning them as problematic, breaking down taken-for-granted categories and thinking about how things might be otherwise (Foucault, 1984). To do so, particular aspects of theoretical understanding about how young children learn and think are opened up for scrutiny.

First, it is intended to explore notions of competence in very young children. In the aforementioned scenario, Bailey is spelling words at the age of two, which demonstrates a reasonably high level of metalinguistic and metacognitive ability for a child of that age. These words include not only those that might be expected, such as her own name, but also other more complex terms such as ‘mummy’ and ‘daddy’ and, in some cases, her friends’ names. It could be argued that this represents an unusual situation and challenges taken-for-granted assumptions about the literacy development and learning of children of this age. For example, Piagetian theory would attest that Bailey would be too young to be able to comprehend and construct words in this way. Similarly, researchers such as Bredekamp and Copple (1997) and Elkind (1981) would argue that developmentally-appropriate practice with such young children is necessary, and that to expect and promote practices and understandings outside of this developmental realm creates stress for children and hampers rather than enhances development.

These theories have been heavily critiqued in early childhood circles, and other theoretical approaches are now privileged in relation to practices with very young children. Certainly, Fleer (2005) and Mosier and Rogoff (2003), have focused heavily on the importance of sociocultural theory in their research, citing this approach as providing a more complete picture about how young children might think, learn and develop.

Other theorists, such as Bronfenbrenner (1979), seek to highlight the importance of sociocultural context and the impact of the different social and systemic practices that might influence the rate of development of these very young children. Using these approaches, it could be argued that Bailey’s parents might simply be responding to her interest in the most positive way.

Both developmental and sociocultural theoretical approaches have their proponents and all still demand respect in the field of ECEC. While there is contention about these approaches, such perspectives are still used to determine what constitutes effective practice and care for very young children. In considering the above scenario, all aforementioned approaches can be used to help us deconstruct what is happening for this mother and child and to determine what this tells us about practice and care.

While the perspectives of Bredekamp and Copple (1997) and Elkind (1981) would highlight concern about young children being stressed by the participation in activities that some might consider developmentally inappropriate, in this scenario Bailey does not appear stressed by the spelling itself. In fact, the reverse is true—she actually appears to enjoy it. However, she is stressed by the fact that her mother will not play the game the way she wants it to be played. Her mother does not appear concerned by this stress but uses it to communicate with her child. Untroubled by the constraints of propriety in early childhood practice, Sarah’s communication tells us that she has particular expectations of Bailey and of her interaction with her. These expectations include the following:

- An understanding that Bailey’s activity, spelling, is perfectly appropriate. There is no assumption that Bailey should not spell or could be stressed by the process. Bailey has the right to spell if she so chooses.
- The notion that Bailey is entitled to express her frustration in an age-appropriate way. For toddlers, this could be tantrum-throwing.
- The notion that Bailey is entitled to express her frustration in an age-appropriate way. For toddlers, this could be tantrum-throwing.
- The notion that Sarah had the responsibility to find out what Bailey’s problem was. She did not demonise Bailey’s attempts to communicate or become upset with her in the communication process.
- An understanding that Bailey had the right to disagree with her mother, even at age two, but a concomitant expectation that Sarah had the right to disagree with Bailey and that it was not her responsibility to necessarily make Bailey feel better about the experience.
- An acceptance that Bailey had the right to choose but that Sarah also had that right. Bailey could choose to play the game her way but Sarah could
also choose to remove herself from the game, letting Bailey know why she did not want to play.

- A view that it is okay to be wrong, and that being wrong did not necessarily mean that the game was over. It did, however, mean that individuals had the choice to proceed.

- A realisation that spelling is a game, and that learning can be fun but it also can be a struggle.

Developmental theorists might argue that Sarah’s response was stressful for Bailey, and that a child of that age need not be exposed to this distress and could be more appropriately engaged in an activity that ‘properly’ demonstrated her success (Macfarlane, 2006). Bailey might be categorised as not developmentally ready for such a situation (Foucault, 1979, 1984). Sociocultural theorists might argue that Sarah is privileging interaction with Bailey and that she is taking Bailey’s interests and context into account by engaging with her in this game. They may or may not agree with Sarah’s approaches to Bailey in this instance. However, whatever the theoretical underpinnings here, it is clear that communication and learning are taking place, and that particular aspects of practice are impacting on the way this is playing out ‘in the real’ (Foucault, 1981, p. 13). It is also clear that the above-mentioned expectations are underpinning this ‘playing out’.

Understanding agency and resilience: Deconstructing the expectations

These expectations should be deconstructed and considered in terms of what they bring to the notion of young children’s learning and, in particular, how they might contribute to an understanding of agency and resilience. The notion of agency is an interesting and well-researched concept (Davies & Banks, 1995; Malaguzzi, 1993; Mosier & Rogoff, 2003). This notion has its roots in the discourse of social justice where it is produced as an essential component of a just and equitable existence. Agency is seen as the ability to assert subjectivity and to exercise power. Thus, it is likely that those individuals who adhere to such a discursive position would argue that Bailey’s rights were imposed upon in this scenario and she was not able to exercise power or exhibit agency. As authors, we choose to take a different view, arguing that Sarah’s approaches to Bailey—allowing her to use the computer keyboard for spelling, drawing her mother into whatever the theoretical underpinnings here, it is clear that communication and learning are taking place, and that particular aspects of practice are impacting on the way this is playing out ‘in the real’ (Foucault, 1981, p. 13). It is also clear that the above-mentioned expectations are underpinning this ‘playing out’.

The authors’ position is that, in this scenario, a sound level of practice is being undertaken. Not only is Sarah allowing Bailey to exhibit agency, but she is also consolidating her child’s ability to be resilient. Such a notion is highlighted in the work of researchers from the fields of education (McWilliam, 2006) and psychology (Rofe, 2004). By exploring their perspectives on this subject, much can be learned about the play and learning of very young children, which will assist in developing an interdisciplinary position that is less delimiting and will thus inform practice ‘in the real’ (Foucault, 1981, p. 13).

For example, in her work relating to performance and schooling, McWilliam (2006) refers to Carol Dweck’s (2000, 2006a, 2006b) theories about social learning and resilience. McWilliam cites Dweck as arguing that there needs to be a balance between learning and performance so that children are encouraged to try and, McWilliam argues, to risk. If children are only encouraged to perform rather than to negotiate the processes of learning and understanding, they can quickly revert to a state of ‘learned helplessness’ which ties them very quickly to failure. Such a situation impacts substantially on a child’s sense of self and ability to succeed. In the scenario highlighted here, it was Bailey who chose to perform—she chose to spell. Sarah encouraged this performance but also did not inhibit Bailey’s learning. While allowing choice and negotiation, Sarah pointed out to Bailey that there was a right way and a wrong way. Although this upset Bailey to some degree, Sarah did not overreact to this upset or try to make it go away. She focused on her own position without denying her child a position. McWilliam (2006) supports such a standpoint, stating that children need to ‘fail without shame’ and become resilient learners. Thus, they need to be told where there is an error and be encouraged to try again.

Claxton (2004) supports the notion of the resilient learner, stating that, when learners don’t know what to do, they need to learn what to do. Claxton (2004, p. 2) speaks to this point in terms of teaching children to develop ‘learnacy’. He suggests that:

- growing more intelligent is not just a matter of learning a few techniques, or even mastering some new skills, like ‘critical thinking’. It is as much to do with attitudes, beliefs, tolerances and values. And these change more slowly (Claxton, 2004, p. 2).

Moreover, Claxton (2004) states that the way we think of intelligence tends to lead people to feel ashamed when they find things difficult. Children’s understanding of themselves as learners can be viewed in negative terms if they are ashamed, rather than challenged, when they do not know the answer (Macfarlane & Noble, 2006). The
development of resilience becomes an important factor in determining how children understand themselves as intelligent. Understood in this way, intelligence is viewed in terms of resilience and determination rather than in terms of performance success (Macfarlane & Noble, 2006). As such, resilience can be viewed as a skill that can be taught in terms of ‘attitudes, beliefs, emotional tolerances and values’ (Claxton, 2004, p. 2). Sarah is teaching this to Bailey, as her expectations show. This is particularly evident where she behaves as if it is ‘OK’ to be wrong and where she demonstrates that ‘learning is always a risky business’ (McWilliam, 1999, p. 7).

From certain early childhood education and care perspectives it is possible to argue—and indeed it has been when earlier versions of this paper have been presented—that Sarah’s reactions to Bailey were perhaps inappropriate. Did Bailey’s distress come from being incapable of understanding or communicating her position? Is she unable to comprehend at her age that she can fail but still be thought well of? It can be argued that to consider Sarah’s responses inappropriate is to perhaps underestimate the metalinguistic and metacognitive ability of such young children. It may not be that young children are incapable of understanding, but that adults do not always understand their competence and so delimit what they can do. Clearly, what matters most in such a scenario is the quality of interactions and attachment (Rolfe, 2004). If Bailey is positively attached and her interactions with her mother are sound, then Bailey will know that she is loved (Rolfe, 2004). She will not be as likely to view failure as devastating, but as part of learning. In Rolfe’s (2004) terms, there are clear links between secure attachment and resilience; and professionals, practitioners and parents can be confident that securely-attached children can ‘bounce back’ from disappointment.

Further early childhood education and care perspectives may situate the rights of the child as paramount, and so there might be some discomfort about Sarah’s position. In contrast, it can be argued that the rights of the child should be understood in relation to other discursive positions. Social and systemic practice with infants and toddlers requires a focus on, and an acknowledgement of, the variety of discourses that produce practice. Such an acknowledgement allows space to be created for multiple perspectives to enable learning, rather than adherence to taken-for-granted notions that are never challenged and constrain how young children might learn.

What can be seen from this research is that certain elements of practice become imperative when privileging the notion of agency in this way. These include the following:

- The possibility of choice and negotiation for children and adults. This is highlighted in the scenario, as both Bailey and Sarah are making choices and Sarah is attempting to negotiate a solution with her daughter.
- Notions of rights and responsibility. Bailey and Sarah have rights here but they both also have responsibilities. Sarah has the responsibility to negotiate a solution to the problem with her daughter, to communicate and to engage. Bailey has the responsibility to understand that the spelling game has a particular framework that includes rules. Here choice is not eliminated but it is framed.
- A sense of ‘belongingness’ where both mother and daughter belong in the game and seek pleasure in being together.
- A focus on interactions and relationships. Both Sarah and Bailey have the responsibility to privilege these. Sarah has to engage and Bailey has to learn how to engage.

Additionally, there is an unspoken communication between these two individuals that underpins how the interaction ‘plays out’ in this case ‘in the real’ (Foucault, 1981, p. 13). There is a sense of justice (not necessarily social justice) in Sarah’s responses about what Bailey could and should do and is entitled to, and what she herself is entitled to. It is this sense of justice that represents the essence of the whole interaction. This is illustrated in the following figure.

Figure 1. Practice framework

Deconstructing the ‘sense of justice’

The notion of a sense of justice is more closely examined in analysing an interview with Sarah. Sarah was asked how she managed interactions with her daughter. She replied:

*She gets frustrated if you can’t interact with her properly, like turn around and look at something. Or she wants a cuddle in the car and you can’t really do that. I think one day I had to drive with one hand the whole way to playgroup because she wanted to hold my hand.*

Here, Sarah clearly understands the importance of interaction and communication. Sarah privileges interaction and sees it necessary to respond. In Sarah’s eyes, Bailey is entitled to this attention. However, Sarah also ‘thinks otherwise’ about how to give this attention. She is unconstrained by ‘taken-for-granted’ and so she drives with one hand so that she can hold Bailey’s when Bailey needs her.

This understanding of ‘just entitlement’ is also present in responses from Bailey’s father, Adam. He states:

*I go to playgroup often and I tend to follow her around and try to get involved with what she is doing. I talk to her while she is doing things. I guess it is a different kind of need for playgroup from my perspective as opposed to the mother’s perspective. Traditionally, a lot of the mothers would be doing most of the care and the fathers don’t get involved as much … I try to make time on Friday to specifically have that morning off so I can go to playgroup, so that I can have that interaction time with her and just to see how she is going. A lot of the other kids know me too.*

These young parents, despite their age, have a confident understanding of how they need to relate to their daughter. Their relationship with her, as represented by the scenario and these comments, is strongly driven by choice, notions of rights and responsibility, a sense of ‘belongingness’ and a focus on quality interactions and relationships. These characteristics are producing results—in the eyes of some, accelerated results. It is not whether this acceleration is good or bad that is at issue. Rather, it is how particular understandings underpin practice and how relationships actually play out ‘in the real’ (Foucault, 1981, p. 13) that determines outcomes and understanding in many crucial areas of young children’s development and learning.

What is also apparent in such an argument is that notions of justice naturally privilege agency. Agency cannot exist in relationships and practice unless there is a balancing of power relations. This is demonstrated in the scenario and in the interviews with Sarah and Adam:

*She needed more space, so we ended up moving the lounge chair around to give her more … Now the whole room is kind of set up for her to play happily and to make sure she has the space that she needs … After all, we all share this space and her needs are no less important than ours. There are three people who live here, after all.*

The parents rearranged their residential space so that Bailey could have full access to space for play. They are balancing their needs with Bailey’s needs in a democratic way. It is apparent from the data that, in this family context, each person is considered to be of equal importance. The child and her needs are no more important than the parents’ needs, but neither are their needs any more important than those of the child.

This sense of justice is what is underpinning all of Sarah and Adam’s expectations in the scenario. A focus on choice and negotiation, positive interactions and relationships, ‘belongingness’, and rights and responsibilities all stem from the notion of a strong sense of justice. However, this notion of justice requires further deconstructing. Here, justice does not refer to social justice, or necessarily to rights. Rather, it is more aligned with ‘suspension of judgement’ (Penross, 2006, p. 1), which suggests that professionals, practitioners and parents are not able to view young children as capable learners unless they can work within and against taken-for-granted notions, understandings and positions (Lather, 1996). A suspension of judgement enables an opening of the mind, promotes tolerance, and thus enhances the possibility of becoming informed by multiple perspectives and understandings. In McWilliam’s (2006) terms, it allows adults to become ‘meddlers in the middle’ rather than the ‘sage on the stage’ or the ‘guide on the side’. It creates the possibility of enablement rather than constraint (Foucault, 1979, 1984). These notions are illustrated in the authors’ diagram of practice. This diagram does not represent a fixed or immovable model. In this model, it is the sense of justice that presupposes constant evolution and flexibility.

Conclusion

This paper argues that parents, professionals and practitioners can underestimate the abilities of young children when assisting with their learning. The authors take the position that young children are capable contributors to their own learning and development and should be acknowledged as such. There is a focus on the role of agency in the learning and development of young children and on its relationship to building resilient learners. Finally, a model of practice is suggested that takes into account these notions and allows space for multiple perspectives to inform understanding about new ways to enhance practice with young children and their families.
References


The award was established by Early Childhood Australia in 1995 to:
• encourage Australian early childhood research
• recognise the excellence of early childhood research undertaken by doctoral students in Australia.

The award will comprise:
• a citation delivered with the presentation of the award at the ECA Conference, Canberra, 3 – 6 October 2008
• a return airfare to the 2008 ECA Conference
• the engraving of the awardees name on the perpetual trophy, to be held in the ECA National Office
• an invitation to present the findings of the research at the 2008 ECA National Conference.
Accessing the musical intelligence in early childhood education

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THIS PAPER ADDRESSES HOW and why the musical intelligence can be used to aid students in the learning process. It explores the brain research, several short vignettes and an informal case study. Conceptually, the author suggests that music can and should be used to help students learn and retain curricular content, may be matched to tasks in preschool as an auditory reminder, and should serve as a link for cultural growth and preservation. Music in the classroom also addresses the students’ emotional wellbeing. Suggestions of application for classroom teachers and learning disabilities practitioners are provided.

Introduction

EVERY STUDENT LEARNS in a different manner. Just as a student’s learning style may differ, so must the teaching style differ to allow the student to capitalise on the teachable moment. Students may hear the same information from a teacher or read the same information in a text, yet they process that information in unique ways. Teachers are faced with the age-old problem of how to reach a final destination, an outcome, with a class of 20–30 students so that each individual student has essentially learned the same material at some ‘benchmark’ level. At best this is a challenge. In today’s schools, with inclusion being the norm, the challenge is even greater. Inclusion students, those with learning disabilities who are placed in regular education classrooms, frequently have processing problems which may add to their learning difficulties and cause additional stress for both teacher and student.

It is widely known that most learning environments are geared towards the verbal/linguistic and mathematical intelligences of our students. This is how students are tested and evaluated, particularly once they progress beyond preschool. Teachers may prepare students for the test, but have students really internalised the material? Teachers who were taught through the verbal/linguistic and mathematical intelligences tend to perpetuate this style—perhaps because it requires less effort and preparation, or perhaps because those teachers with strong verbal skills teach in the style which emulates their strengths rather than move to a less personally comfortable style which uses their other, perhaps dormant, intelligences. As more and more schools in the United States, and world-wide as well, are moving towards outcomes-based assessments with full accountability, it may be more difficult to define the dispositions we wish our students to exhibit and to devise appropriate measurements for them, particularly for those skills outside the standard repertoire of verbal/linguistic and mathematical proficiency. Howard Gardner, a researcher at Harvard University, sums up the dilemma:

Lest one think behaviorist ideas are dead, consider such current practices as standardised national tests and outcomes-based education. Proponents as well as opponents of both focus entirely on the test score achieved by a student or on the specific outcomes mandated by a jurisdiction. Rarely is attention paid to the means by which these behaviors are achieved, let alone to the specific or general patterns of thought that might give rise to, or thwart, the emission of the desired behaviors (Gardner, 2000, p. 65).
Educators are becoming better attuned to what Gardner (1983) refers to as the Multiple Intelligences Theory as a means to improve student learning. ‘Gardner points out that intelligence isn’t a singular phenomenon, but rather a plurality of capacities’ (Armstrong, 2003, p. 12). He also refers to each person as having a spectrum of intelligences, varying levels of each of the identified intelligences. These other, multiple capacities can provide a point of entry for students with certain learning disabilities as well as for the ‘average’ students. Further, these intelligences are cross-culture, cross-race, cross-gender. Specific to this paper is the musical intelligence. For current purposes, it may be defined as the ability to appreciate and use rhythm, pitch and timbre and to compose tunes. As an aside for those interested in Gardner’s views on music, Chapter 8 of his book The Disciplined Mind (2000) gives a unique approach to music in education.

It is often noted that one can remember songs of childhood, even in a foreign language, but may have difficulty remembering other specific material. This author frequently challenges her graduate education students by asking how many of them can look up a name in a phone book, or file documents in alphabetical order, without singing their ABCs. The result is always a room of giggling and blushing adults. The message is clear. Somehow, a silly little song, courtesy of Mozart, helps content to stick in the mind.

The purpose of this paper is to look at how musical intelligence can be used to aid students in their literacy fluency and their content learning process. It will briefly explore the brain research associated with this kind of learning. Several vignettes will be presented, followed by an informal case study. Finally, suggestions will be made for educators, both in the regular classroom and in special needs settings.

**Brain research in education – An overview**

The brain is an amazing organ. While many may think it is a single organ which controls the body, research has shown that different parts of the brain control different functions, particularly as it relates to learning. Studies of the brain by educational researchers and educational psychologists give the informed teacher new insight into learning (Eisner, 1997; Marzano, 1992; Caine & Caine, 1991; Gardner, 1991). Using Gardner’s eight multiple intelligences, brain researchers have been able to link linguistic intelligence to the left temporal and frontal lobes, logical-mathematical intelligence to the left frontal and right parietal lobes, and musical intelligence to the right temporal lobe (Armstrong, 2003, p. 16). This current article will not address in any depth the remaining intelligences or their processing centres.

According to Armstrong (2003), injury to any particular area of the brain seems to show selective impairment to both the intelligences and to student performance academically. This means that a student may have damage to the left frontal lobe, leaving the student’s language impaired in terms of reading and speaking; however, they may still be able to hum, whistle, or even paint. The right temporal lobe of the brain allows a person to speak, read and write. Armstrong goes into some depth in describing which areas of the brain are associated with which of the eight intelligences and the processing of both the written and spoken word.

Certain distinctive brain structures, particularly in the left hemisphere for most people, are particularly important when it comes to processing the phonological, semantic, and syntactic aspects of words. In sum, there are strong reasons for literacy to be regarded as part and parcel of linguistic intelligence ... When we look at how the brain processes the actual experience of reading and writing, we can begin to see how all of the eight intelligences have important parts to play (Armstrong, 2003, p. 17).

Research by Horwitz, Rumsey and Donohue (1998) indicates that individuals who have difficulty reading and writing may show a problem in an area of the brain called the angular gyrus. This area is the ‘association cortex that combines visual and auditory information necessary for reading and writing. [It is] designed for storing the memory of the “rules of translation” from written to spoken language’ (Long, 2001). Further, research has shown a connection with the angular gyrus and dyslexia (Horwitz, Rumsey & Donohue, 1998). The interest in the angular gyrus is expressed by Armstrong as ‘many different types of information are brought together or associated with each other in creating linguistic information, including visual-spatial configurations, [and] musical and oral sounds’ (Armstrong, 2003, p. 17).

Fluency in reading is paramount for reading comprehension. LaBerge and Samuels (1974) discuss the process by which reading becomes fluent. They suggest that there is a need for the lower level skills such as letter recognition and phonemic awareness to become automatic before comprehension can advance. Discussing the work of Dahl (1974) and Samuels (1985), Wolf states that ‘repeated reading speeds up fluency, and fluency contributes to comprehension’ (n.d., p. 2). She further states that ‘the goal [sic] of fluency has little to do with speed, but a lot to do with the time it provides for comprehension, the ultimate goal’ (Wolf, 2003, p. 6). When a student is struggling to sound out a word, that student loses sight of the greater goal, the information or story to be learned. As students listen to the spoken word, there is a fluency needed to aid processing. How often have we as adults noted that a
given speaker drones on and on, whereas the speaker who presents material mellifluously grabs our attention and the material seems to make more sense and stays with us longer?

One suggestion made to connect music and literacy is that ‘music educators are the BEST [sic] reading teachers [because of their] constant work with aural discrimination, sequential learning, and mid-line development’ (Marshall, 1999). Both singing and listening to music helps a child with aural discrimination. The importance is not just to hear the sounds, but to listen to them and to analyse them. Secondly, music has an inherent sequencing of sounds. This is true for a phrase of music and for the sequencing of many phrases to form a whole composition. As the music is sequenced, so are words to songs which have the added association and reinforcement of the music itself. As for the issues of mid-line perception, it is critical for reading fluency. Music teachers (and perhaps physical education teachers who use music in their classes) not only teach the music itself, but also integrate body-kinesiastic action into the lessons. By having students move with the music, work with instruments requiring large motor skills, and waving ribbons or scarves to the music (across the mid-line), students are developing the basics for transference of ‘fluid eye movement [needed] for reading’ (Marshall, 1999, p.10).

Another concept which links music to reading is that of decoding. Clearly, both reading in a given language and the ability to read musical notation require decoding. Unlike music, reading is not generally described in terms of having rhythm—that is, not until students begin to study poetry. Rubin and Wallace (1989) discuss the value of consistent rhythm and rhyme. An ability to hear a rhythm during reading and to read to a rhythm can enhance the reading process and perhaps further embed the material in the mind of the reader. Additionally, since the writing process and reading go hand-in-hand, a good author knows there is a rhythm and flow to writing as well.

A study of language-delayed preschool children showed that, when children were given singing instruction, not only did their musical abilities develop but so did their spoken expression (Hoskins, 1988). In a 1990 study by Wood, research showed that ‘music and music education majors had the highest reading scores of any major on campus, including students majoring in such areas as biology, chemistry, mathematics, and even English’ (Nierman, 1995, p.11). Other researchers have written about using music to improve recall of text (Bottari & Evans, 1982; Chazin & Neuschatz, 1990; Yalch, 1991).

Johnson and Memmott (2006) researched students in the United States who had varying quality of instrumental music education. Their findings showed that: Students in high-quality school music programs score higher on standardised tests compared to students in schools with deficient music education programs, regardless of the socioeconomic level of the school or school district. Students in top-quality music programs scored 22 per cent better in English and 20 per cent better in math than students in deficient music programs. Students in top-quality instrumental programs scored 19 per cent higher in English than students in schools without a music program. Students in top-quality instrumental programs scored 17 per cent higher in math than children in schools without a music program. Students at schools with excellent music programs had higher English and math test scores across the country than students in schools with low-quality music programs. Students in all regions with lower-quality instrumental programs scored higher in English and math than students who had no music at all.

Similar findings are reported by Texas Coalition for Quality Arts Education. ‘In Texas, students selected as All-State musicians have scored on average 238 points (22%) higher than the state average and 206 points (18%) higher than the national average’ (Texas, 2007). Canadian-based researcher Laurel Trainor reports ‘that not only do the brains of musically-trained children respond to music in a different way to those of the untrained children, but also that the training improves their memory as well’ (Oxford University Press, 2006).

A brief look at a cultural/religious practice may give the early childhood educator additional insight into the use and effectiveness of the musical intelligence. In this case, the author looks at the use of ‘music’ in Judaic studies. From the time a young child enters the Hebrew school (that facility which teaches Hebrew language, Jewish liturgy and advanced religious texts), music is used to help the child enjoy the studies, remember the material and assist in fluency. Traditionally, a sing-song type of melody is used for even the most basic of skills—learning the alphabet and the accompanying vowels. The Hebrew alphabet consists of 22 consonants. Consequently, many texts, particularly more advanced ones, have no vowels. Elementary-level texts may have vowels added as a series of dots and dashes below the letters. These vowel points, or vowelisation, differ from the neuma used in Gregorian Chant and Hebrew trope. Neuma are added to some texts in addition to the vowel points for the express purpose of providing ‘musical notation’. Different, but consistent, melodies are used to practice reading and reciting Psalms, Torah (Bible), and even Talmudic text (in Aramaic). Students are taught to sing the prayers, and by the time they are five years old many children can chant a multitude of the liturgy from memory. The memorised material is then used anew as reading is taught. The concept is that the student is familiar with the text and can now join the visual clues (reading) with the auditory clues (the music and words). This type of practice has been in effect for more than 2000 years (Am Hayam, 2005) and is generally referred to as trope.
The Catholic Church also has a liturgy which is supported by trope. The oldest known piece of trope from the church dates back to the 10th century (New Advent, 2003) and some suggest it may date back to the 9th century (Planchart, 2007). Catechism classes may be taught using choral readings. Most certainly, children are taught many Bible stories through the use of song. Why is this music-based practice not applied in the public school sector? The author suggests that many teacher preparation programs no longer require teacher candidates to take courses in music (neither in performance nor in theory) and therefore teachers may be quite unprepared to use music in their classrooms. Some teachers are self-conscious when it comes to singing or playing music in front of others, even if it is only their young students. A third possibility might be that, with the increased demands to cover required curricula in ‘academic’ content areas, music and other fine arts are often overlooked.

Harp (1988) reminds us that ‘children’s language naturally has rhythm and melody’ (p. 454). Further, when children learn to read, the material must have meaning, ‘accurate and satisfying meanings’ (Holdaway, 1980, p. 13). Because children need to construct rules and relationships to develop language skills, ‘the more that children can hear language, especially “book” language, the more opportunities they have for constructing their own rules’ (Harp, 1988, p. 454).

Language and music converge conceptually as ‘discrete elements are organized into hierarchically structured sequences according to syntactic principles’ (Patel, 2003, p. 674). ‘Syntax may be defined as a set of principles governing the combination of discrete structural elements (such as words or musical tones) into sequences’ (p. 674). For language, words, phrases and sentences combine in hierarchical order to form syntax. For music, notes, chords, chord progressions and keys form the syntax. Sequencing is important for both language and music to make sense. Patel (2003) reports that there is growing evidence from neuro-imaging to the ‘overlap in the processing of linguistic and musical syntax’ (p. 675).

There is a growing, yet insufficient, body of literature which suggests that music is a perfect and natural support for the whole language classroom (Kolb, 1996; Lamme, 1990). What becomes clearer to us now is not new thinking. Holt (1983) suggested that:

*We do things backwards. We think in terms of getting a skill first and then finding useful and interesting things to do with them. The sensible way, the best way, is to start with something worth doing, and then, moved by a strong desire to do it, get whatever skills are needed* (p. 164).

If this is so, then that which is useful and interesting may well be that which students do naturally. Music is ‘a part of their everyday life. They sing along with cassette tapes; they hum as they work’ (Lamme, 1990, p. 295). Would not the students be best served if we as educators went with their strengths?

**Vignettes**

In this section, several small examples of the use of music or chanting are given to support the positive results which may be achieved.

**General concepts**

Children are quite good at memorising nursery rhymes and jump rope ditties. Why is this? It may be the rhythm, the rhyme, the melody or the combination, but it should come as no surprise to any elementary school teacher that students remember these ditties long after content material has left their heads. Three favourites are given at this point:

* Make new friends, but keep the old. One is silver the other gold.
* In fourteen hundred and ninety-two Columbus sailed the ocean blue.
* Sticks and stones may break my bones But names will never hurt me.

These particular examples are given for the following reasons: The first example is a classic way to work on character education. The second example has stuck with hundreds of American students over the years as a way to remember an important date in United States history. Sadly, this may be one of the few dates that most students have committed to memory. The third example is again related to character education. However, this time it is a method of building self-esteem. There are, of course, many more examples.

Another way in which music is helpful is when learning a foreign language. Students are inclined to learn the lyrics to songs with the accompanying music. Once the songs have been learned, the lyrics can be dissected for meaning and grammar—at an age-appropriate level. An astounding number of English-speaking students have learned the French words to Frère Jacques, with or without being able to translate the words. Moreover, song lyrics may serve as a reference source for a student seeking a particular vocabulary word. The student may not have exactly the correct conjugation, but with the root available to him/her, the chance to use the new language improves dramatically.

Within one’s native language, lyrics also provide vocabulary enrichment. A student reading a passage with an unknown word may be able to learn new vocabulary through context clues. These context clues become further reinforced when there is musical accompaniment. A word shown in isolation on an exam may trigger a song
in the student’s mind. The connection is made and the vocabulary term further cemented for future use.

Classroom teachers have found that using musical cues for specific tasks works well. There is ‘clean-up music’, ‘get ready for math music’, ‘you have five minutes left for this assignment music’, and so on. Teachers, especially those of the younger grades, have trained their students to recognize specific music and associate it with a desired behavior. Similarly, so has the military. Bugle calls have been specified for reveille, mealtime (soupy), assembly, and lights out (taps). Many children's camps have adopted these same bugle calls for the same purposes. In these cases, music is used to elicit specific behaviors rather than specific content. Nonetheless, it is effective.

Some teachers have used selected ‘quiet’ music during rest period and silent reading time to calm the students. Mothers around the world know the value of a lullaby. In similar fashion, ‘mood’ music and other more stimulating selections have been used during creative writing, art, and exercise time to help set the tone.

The reader is asked to reflect on the images evoked by music such as Tchaikovsky’s Nutcracker Suite, Strauss’s Till Eulenspiegel, and Humperdinck’s Hänsel and Gretel. The very concept of the musical tone poem is to suggest visual images. Christmas carols send lasting messages to children of all ages. Music can tell a story, and this author suggests that children can also create their own stories through music.

Specific examples

Larry was a student with a stutter. It was so severe that he was virtually unable to carry a conversation with any of his peers. Remarkably, when Larry sang, the stutter disappeared. Larry was encouraged to use a sing-song approach to his reading of textual material, conversation, and any other time he needed to communicate verbally. This approach was quite successful. The student gained friends, was able to function academically, and had a good presence on stage when asked to participate in a talent show—he played guitar and sang.

A more general example of using music to enhance the reading, comprehension and recall process would best be demonstrated through the uses of read-along books. While at times these are individual tapes and books for emergent readers, at other times the literature and music connection are purely a listening activity. Prokofiev’s Peter and the Wolf comes to mind. How rich the language becomes when supported by the music, each character having its own melodic line. If one wishes to ‘play’ with language and conjure up images, Saint-Saëns’ Carnival of the Animals merged with Ogden Nash’s lyrical poetry will evoke tremendous response from young listeners.

Case Study

This researcher found an unusual application of the musical intelligence with a sixth grade student. With the understanding that this journal is directed towards those in early childhood, this case study is presented here to show the impact that music, learned at an early age, can have on a student later on in the educational process.

Joseph3 was a student in an all-boys Yeshiva (Jewish day school). He had always had some type of unusual learning difficulties but nothing that the teachers or administration could formally identify. The parents would not agree to formal testing, but did take the child to a religious therapist who assured them that Joseph was quite bright and would one day succeed in his learning.

The school Joseph attended was small, with only about 200 students. Classes met six days per week (Sunday–Friday). Two-thirds of the nine-and-a-half-hour school day was devoted to religious studies, which were taught in English using Hebrew and Aramaic texts.

The predominant symptomatology of Joseph's learning issues took two forms. At first this child seemed sad, perhaps depressed, throughout his schooling. He was withdrawn, did not participate in peer activities such as recess games, rarely initiated any conversations, and was perpetually tired. When the classwork became a challenge, Joseph took a nap—literally. (He did not have narcolepsy.) The second and more relevant educational concern was that Joseph seemingly could not recall information. He would be able to answer a question immediately upon learning something new, but an hour later the ‘learning’ was gone. Even with homework reinforcement, nothing seemed to stick.

Joseph was in a small class, about 16 students, so there was plenty of one-on-one attention available. Additionally, Joseph went to the resource room in the morning for reinforcement help from a state-certified special education teacher. This particular teacher also happened to be an ordained rabbi, which enabled him to work with special needs students on their Hebrew and religious subjects. The time Joseph spent with this resource room teacher ranged from one to two hours daily. In the afternoon, he also received attention from a second resource room special education teacher, a reading specialist, to help him with recall/memory issues and to boost his self-confidence. Joseph had a wonderful relationship with his classroom teacher and both resource room teachers. However, he still had major issues with recall.

It happened that the principal, also trained in special education, attended the Bar Mitzvah of Joseph’s older brother. At this event, Joseph got up in front of about 200 people, took the microphone and sang with the band for
well over half-an-hour without missing a word or a note. He sang exclusively in Hebrew, mostly liturgical text. An hour later he sang for an extended period with a different repertoire. The principal sat there in awe and wondered how such a withdrawn child (in school) with such poor memory was able to accomplish this feat.

In school the next week, the principal took the morning resource room teacher aside and related the story. She suggested that perhaps, as odd as it may sound, the teacher might try to get Joseph to put his Talmudic studies to music—sing the text he was to learn. Further, Joseph should select the music himself, preferably something he knew well and enjoyed. The intent was that, by putting the words to music, perhaps there would be better recall of the material.

This technique was tried for a week. Instead of only learning one to two lines of text, Joseph was able to read and translate three to five lines. At the end of the week, he was tested on the week’s lessons. As expected from past experience, he froze and ‘couldn’t remember’ any of the words. The teacher urged him to sing the text to himself, even out loud if necessary—testing was done in the resource room so other students would not be disturbed. Sure enough, the text, translation and explanation came flooding back. Joseph earned an 85 per cent score on his weekly test. Subsequent weeks produced the same results, with test scores between 80 and the high 90s. Additionally, Joseph seemed somewhat happier during his morning class time.

A similar technique was tried in the afternoon for social studies. Results showed improved memory/recall; however, Joseph enjoyed his religious studies far more and put more effort into them, with greater success.

Suggestions for the practitioner

There are several ways the practitioner can use music to improve both fluency and content recall. These suggestions are given in an outline form, as each educator will need to adapt the general suggestions to the specific needs of the individual student(s).

Specific applications

- Students may be encouraged to sing (read) a book to others.
- Older students can write a song and put it to music to help them remember facts. This has been done quite successfully with math tables.
- Students can read along with a book on tape.
- Desired factual material can be rewritten in poetic form so that the rhythm and rhyme aid in the mastery of the material.
- Students can read to music. This music might be used to set a reading pace, a rhythmic pattern, or a mood.
- All oral presentations, both by teacher and students, should encourage voice inflection and emotion so as to naturally promote a melodic quality.

General applications

- Setting the mood
  Educators should be encouraged to use music in their classroom in several ways. First, consider using music to set the mood for a lesson or activity. Music can calm students and help them to relax during reading and writing activities. Appropriate music may stimulate creativity by helping students to form mental pictures to inspire their creative writing.

- Music and physical activity
  Second, music should be used with physical activities such as exercising and movement drills. The addition of music will help students to improve their rhythm, balance and fluidity. Such simple exercises as walking on a balance beam to a drum-beat will help improve both physical and reading dexterity. Using a variety of rhythms with long and short sounds, legato and staccato notes, and lento and presto tempos may aid students in reading fluency as a connection is made and internalised between visual (length of words), auditory (sound of words and drum beats), and kinesthetic (body movement). Further, discrimination in reading voice inflection and punctuation is reinforced by the musical rests, volume, intensity and style of the drum beats.

- Musical transition cues
  Transition from one activity to another has always been a potentially chaotic time in the classroom. Setting instructions to music in preschool helps to indicate the desired behaviour. Along with the verbal instructions, students learn that a particular melody is associated with an activity such as ‘gather at the rug’, ‘clean up the toys’, or ‘eyes and ears on the teacher’. Students who process verbal instructions slowly might respond much faster to the music, knowing that it also represents a directive.
Reinforcement of content and facts

Fourth, as students begin to acquire knowledge in the various subjects, music can be used to reinforce and cement certain basic facts. In the United States, Schoolhouse Rock, which played on network TV from 1973 to 1985, was designed to help students learn their multiplication tables, science facts and basic grammar. Long before Schoolhouse Rock, children learned their powers of two through Frank Loesser’s song Inchworm. For those educators who may have difficulty with music, the use of poetry can serve a similar purpose. On a national level, consider what can be learned from Waltzing Matilda. History, vocabulary—and a lesson on folk songs as well.

Expanding the child’s horizons

Fifth, growth of cultural capital. Sheer exposure to music on multiple levels helps our children to grow and expand their horizons. Comparison of sounds of various instruments helps students to fine-tune their listening skills and auditory discrimination. Listening to music and asking students to discuss what they hear, even at a very young age, encourages reflective processing. Exposure to non-traditional instruments also broadens the child’s knowledge. How fortunate the child who has seen, touched and played an instrument.

Conclusions

It is not the intent of this researcher to echo or support Don Campbell’s 1997 work on the Mozart effect. On the contrary, the proposal of this paper is not to suggest that Mozart, or music in general, will make one smarter. Instead, the research suggests that music can be used to support and enhance the learning environment and opportunities.

Music is a powerful force in the lives of students. It is, in general, something to which children can truly relate. As such, music can be a strong influence on student performance of tasks such as reading fluency and comprehension. Additionally, it can be used as a tool to promote recall of factual material. While music is generally seen as an add-on course to be taught by a music specialist, it can and should be used by regular classroom teachers, resource room specialists and learning disabilities teachers as a natural and integrated part of instruction. The music used can be either teacher-selected or student-selected and may be part of the published music repertoire or created by students. It is critical that we, as responsible educators, explore this path ‘less travelled’ (Frost, 1920) as an option in responsible and responsive teaching because it can make ‘all the difference’.

Endnote

1 Gardner began with seven intelligences, moved on to identify an eighth and a ninth intelligence, and recently has retracted his views about the 9th.
2 Torah is specifically the first five books of the Old Testament. In Judaism, Bible refers to Torah, Prophets, and the Writings – all Old Testament.
3 Name has been changed to mask student identity.

References


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**Young bilingual learners at home and school**

Rose Drury
Staffordshire, UK: Trentham Books (2007)

**THIS IS AN IMPORTANT** book for all educators working with bilingual children and families. On the basis of sound ethnographic research practices, the author powerfully illustrates how competent the bilingual children in her study are at home, and how less than competent they are judged to be at nursery school and in subsequent grades.

The book is organised into two parts: Part 1 sets the context for researching and understanding young children’s learning through the stories of Nazma, Samia and Maria; Part 2 introduces the sociocultural perspectives which emphasise the child as an active agent in their learning.

There are a number of insights, including how perceptive the girls are about what is going on in their schooling, both at the time and in retrospect; how aspirational each mother is for her daughter and future prospects; and how invisible the children’s learning is to most observers both at home and at school.

To recognise repetitive patterns of behaviour and interaction and to understand the values, culture and social life underpinning children’s learning requires prolonged, intimate contact with children and families. The research methodology therefore includes participant observations, audio recordings, interviews and documentary data.

Linguistic diversity is often viewed by the education system as a barrier to listening and learning, and children are ‘marked down’ in early assessments. In some cases, a child’s behaviour may be regarded as ‘stubborn and recalcitrant’, when, in fact, the child may be in the ‘silent period’ of learning a new language and accommodating to the new culture of schooling. The author acknowledges these behaviours as intelligent responses to new situations and evidence of children taking control of their own learning. She also points out that a child’s apparent lack of engagement reflects the fact that they have just been socially, culturally and linguistically dispossessed through the move away from their mother tongue and home practices.

In Part 2, the book valuably examines a range of sociocultural approaches and concludes that Gregory’s (2001) model of ‘reciprocity’ most accurately describes the relation between novice and experienced learner. This captures the ‘synergy’ of quality mediation and includes peers and siblings as legitimate mediators of learning.

A bilingual adult is also recognised as a crucial mediator of the new language and culture. Yet, the author suggests, bilingual staff are often professionally isolated and not incorporated in planning and pedagogical delivery. Finally, the book explicates six implications for practice:

- develop home understandings
- make the rules and routines explicit
- support mother tongue development
- provide opportunities for one-to-one interaction with adults
- provide opportunities for language learning in teacher-led small group work, and
- seek ways of supporting social interaction (between children).

This detailed picture of young bilingual children’s learning provides a significant new perspective to inform educational practice in our increasingly culturally diverse society. While the research occurred in the UK, the findings are extremely pertinent for all practitioners working in multilingual environments. Thoroughly recommended.

**Jenni Connor**

Jenni Connor has worked in the fields of early childhood and literacy education for many years. She has managed programs relating to ESL, Indigenous education, gender and special needs.
THOSE WHO WORK with young children will welcome the third edition of Dr Louise Porter’s text, *Young children’s behaviour*. As in the previous editions, Porter advocates a guiding rather than a controlling approach to discipline, and draws on current evidence-based research to support her thesis.

An outstanding feature of this text is that it challenges the reader to reflect on whether they guide or control behaviour. According to Porter, those who employ a guidance approach to discipline trust children and use preventative measures to teach behavioural skills. Importantly, they acknowledge that behaviour is driven by needs and accept that the adult in the child’s life should be an expert and caring leader.

Conversely, those who employ a controlling approach to discipline distrust children, punish behaviour in an effort to gain compliance, and believe that control lies solely in the adults’ sphere.

In her first chapter, Porter states that this edition:

> presents a system for guiding children’s behaviour that uses no rewards or punishments (which are sometimes referred to as consequences) to control children’s behaviour, but instead teaches children to act thoughtfully, using the same skills that we would employ to teach them to read and write or balance on climbing equipment (p. 9).

The second chapter demonstrates, through a discussion of the extant literature, why the guidance approach to discipline equips children to become masters of their own behavioural interactions, and why the controlling approach fails to do this.

The disadvantages of punishment and rewards are examined within this chapter and, while the majority of what Porter has written is indisputable, I cannot agree completely with her view on the use of praise. She classifies praise as a form of reward and states that it can be ineffective because it is likely to be an automatic and often superficial response. She argues that those giving such praise will soon lose credibility in the eyes of the child. I suggest that the use of praise is a powerful strategy in guiding behaviour and that adults can be taught to use it so it is genuine, timely and effective. It is a pity that the author is rather fundamental on this important issue.

Porter does stress the need for a purist theoretical approach to discipline which is an excellent point as it requires the reader to reflect on not just what they are teaching, but more importantly, *why* they are teaching what they are teaching.

In this 2008 edition, just as the evidence-based research is current and useful, so are the topics under discussion. In particular, the chapter dealing with the demands of the workplace is excellent. In the chapter entitled ‘Nurturing staff’, Porter draws on her extensive knowledge of early childhood environments to impart practical advice on managing professional and personal demands such as work overload and developing self-efficacy.

The chapter entitled ‘Collaborating with parents’ is equally useful. Early childhood professionals meet most of their parents and caregivers on a daily basis, and need to be highly competent communicators. Porter’s commonsense advice in this chapter relating to engaging parents’ confidence and their expertise is impressive. We need to remember that parents are equal partners in the education of their children.

I must comment briefly on a matter of style that lies with the publisher rather than the author. I found it frustrating that the first references to three or more authors were in the truncated ‘et al.’ style, a method normally used at the second and any further reference. This detracted from the subject matter, as I constantly had to turn to the reference list. Nonetheless, I strongly recommend Porter’s third edition of *Young children’s behaviour*. It is one of those rare texts that will meet the needs of pre-service, beginning and experienced educators as well as caregivers and parents.

June Slee
Charles Darwin University

Dr June Slee has worked with early childhood professionals for many years, sharing her expertise in the field of guiding behaviour.
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