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‘May you live in interesting times’ is supposed to be an old Chinese curse (according to folklore and Wikipedia) reflecting the sentiment that change is the antithesis of security. I wonder, in our modern world, if we can (or even should) aspire to a time of stability with no change. Perhaps change is necessary to prevent stagnation and an uncritical acceptance that what we have in the now is as good as it ever could be. Certainly early childhood in our part of the world is subject to significant change. We are moving from the shadows and into a world of accountability and high expectations where our taken-for-granted assumptions about what is good and right are challenged every day. Perhaps as early childhood professionals we need to become more able to manage change, to accept that what we do today might not be considered good enough for tomorrow, and to constantly question ourselves about what we do, why we do it, how we ought to do it as best we can today and what that might mean for tomorrow. Keeping up-to-date with what our colleagues around us are thinking and doing is a crucial part of that process. AJEC provides you with the opportunity to hear others, think about what their work means for us, and maybe try out new things. You have a feast in front of you in this issue.

Accompanying the increasingly professionalised approach to early childhood services evident across Australasia, comes the new role of early childhood educational (or pedagogical) leader. Research from the UK (Mathers et al., 2011; Siraj-Blatchford, Sylva, Muttock, Gilden & Bell, 2002) identifies how important these leaders can be in influencing practice across a whole centre, however, Grarock and Morrissey demonstrate within Australia, educators feel uncertain of their ability to reach outside their own classroom and influence the practice of others. Garvis, Pendergast, Twigg, Flückiger, Kanasa, Phillips, Bishop, Lockett and Leach also explore the theme of implementing change as we move towards increasing professionalisation. This project looks at the implementation of the Victorian Early Years Learning and Development Framework (VEYLDF) through the lens of the Educational Change Model (Pendergast et al., 2005). They conclude that change can be implemented more successfully if there is a focus on building teams, having strong leadership and supporting the effective use of research in evidence-based planning. In Hong Kong moves towards professionalisation are supported by the Pre-primary Education Voucher Scheme, part of which provides support for staff to upgrade qualifications and/or to participate in professional development. Whilst the scheme is successful in increasing participation, participants in the study reported by He and Ho felt that the need to participate put them under significant pressure and stress. The additional accountability requirements of their job added to their stress and there was concern that they were unable to effectively improve quality of service delivery in such conditions.

Professionalisation is aimed at improving quality. Tayler, Ishimine, Cloney, Cleveland and Thorpe discuss findings from their Australian E4Kids study relating to the quality of just over 250 preschool classrooms attended by their participating children as measured by the CLASS and ECERS-R. They found differences in quality scores across different service types (long day care, kindergarten and family day care). International comparisons suggest that the quality of Australian early childhood services is, on average, similar to that in the USA and the UK.

One key component in quality is that of transitions: how they are managed so children are best able to benefit from the learning opportunities provided. Turunen and Dockett look at transitions and how these are influenced by the experiences of several generations of family members. Sometimes families reproduce past experiences and at other times, families deliberately seek to provide different experiences for their children compared to those of other (and earlier) family members. The study demonstrates how not only experiences within the school itself, but family stories and experiences influence the transition of children into services today.

High-quality early childhood services are positioned as inclusive but, as Grant points out, there are differences in the experiences of children who are gifted, particularly in relation to transitioning into the service. There is a risk that early childhood educators may respond negatively to behaviours arising from children’s gifts, and this can impair the development of secure relationships with long-term consequences for children’s ability to participate in, and benefit from, the programme. Chen Zhang also discusses inclusion, looking at the history and reality of inclusive services in Hong Kong. This provides a particularly interesting case study where the ideology of inclusion from the west meets the high academic achievement focus from the east. Not surprisingly the authors conclude that government commitment to rhetoric but not actual resources, community indifference and a strong societal focus on high achievement have combined to create a unique experience limiting inclusion in Hong Kong.

Children need to feel safe in a service in order to benefit from the learning opportunities provided. Thus, issues such as bullying, addressed by Neilsen-Hewett, Goryl and Sweller are important in the development of a high
quality service. The more highly trained early childhood educators are, the more likely they are to be able to identify examples of bullying behaviour and develop strategies to manage them. Having service policies around bullying also helps educators in identification and management of bullying behaviours.

How services are organised structurally, and the impact of this structure on children, has been a cause of debate for many years. In Australia peer age groupings are most common. Rutherford and Whitington compare their infant and toddler programmes organised in peer groups, with the integrated approach they developed from January 2011. They found significant improvements associated with the integrated approach in the amount of time educators spent with the children, the extent of assessment and documentation of children’s learning (using learning stories) and the interactions in which educators and families shared during transitions. These are all components widely accepted as important contributors to children’s learning. However, Blaiklock asks us to reflect on a difficult question: how are we actually measuring that learning? Certainly learning stories are very popular ways of documenting learning but do they provide us with the best way of determining what children are learning in our services? Blaiklock suggests they are not.

Malaguzzi (1994) is highly respected in Australasia and his ideas are used to guide our understanding of quality practice. He argues that the environment is important as children’s third educator. Bone introduces the idea of animals as children’s fourth educators. Using ideas from posthuman theory they argue that the relationships children develop with animals, materials and machines create opportunities for rich learning experiences.

Understanding different areas of curriculum, and how best to offer quality learning experiences in these areas, is also an important component of overall service quality. MacDonald asks us to reflect on how we can support children in learning mathematics by focusing our attention on how they represent their mathematical experiences and understandings. Asking children to draw or talk about their maths helps us identify through their external representations, how they are constructing their internal concepts. Kim compared the beliefs of pre-service teachers in South Korea and the USA about music and how it related to developmentally appropriate practice in early childhood. Although the curriculum in Korea was strongly influenced by the USA in its early days, there are now differences in how pre-service teachers in the two countries think about music and its relationship to developmentally appropriate practice with a stronger focus in the USA on literacy and numeracy. O’Neill, Fleer, Agbenyega, Ozanne-Smith and Urlich look at the impact of an injury prevention program (SeeMore Safety) on the safety behaviour and reasoning of children aged 4 to 6 years. The knowledge and reasoning related to safety of both children and parents improved significantly after participating in the programme.

I hope you enjoy the feast of ideas spread out before you. Of course not all of it will tickle your tastebuds but I hope that you can distil gems that will inspire your work and help you grow and flourish as the important early childhood professional you are.

Margaret Sims
University of New England


Introduction

Both the previous Victorian Children’s Services Regulations, Department of Education and Early Childhood Development (DEECD, 2009), and the newly-released Education and Care Services National Regulations (2012) require childcare centres to employ a degree-qualified early childhood teacher by 2014 (Australian Children’s Education and Care Quality Authority [ACECQA], 2011b). In justifying this requirement, the Victorian Government’s Regulatory Impact Statement identified a range of research, pointing to a higher quality of care and better outcomes for children when centres employed degree-qualified early childhood teachers (DEECD, 2009, pp. 63–65). Responding to concerns about costs, the then Victorian Minister noted that there were compelling arguments for retaining it, ‘particularly in terms of the benefits that such a level of expertise would bring to all children, not only to those receiving a kindergarten program’ (Morand, 2009, p. 2).

The Minister’s statement thus identified a role for teachers in improving quality across all programs within childcare centres, a role implying a capacity to lead change within the centre. This sort of educational leadership role has now been mandated as part of the new Education and Care Services National Regulations, which state that each service must designate a suitably qualified individual as an educational leader who will ‘… lead the development and implementation of the educational program (or curriculum) in the service’ (ACECQAa, 2011, pp. 85–86).

Research has identified teacher leadership as an important factor in program quality, over and above their qualifications and presence in a service (Sammons et al., 2002; Sylva et al., 2003). For a teacher to use their enhanced knowledge of child development and educational theory to effect positive change within their centre requires both leadership from the teacher and a support structure that enables this (Crowther, Kaagan, Ferguson & Hann, 2002; Early et al., 2005). It is as yet unknown how teachers in Victorian childcare services would enact educational leadership, and whether the support structures are there to enable them to do so. A number of factors operating in the Victorian (and wider Australian) context suggest these teachers may encounter challenges in enacting an educational leadership role in childcare centres.

One factor is the historical education–care divide within children’s services in Victoria. Stand-alone kindergartens have traditionally been seen as the providers of preschool education, whereas childcare centres have focused on care (Elliot, 2006). Two UK studies indicate that this differential history could be a potential area for tension between teachers and other staff in childcare settings. Anning (2008) found that childcare staff dealing...
leadership derives from the authority invested in a formal hierarchical of leadership that can operate within early childhood their educational leadership role. Without formal authority, teachers in mandating their employment are unlikely to be the staff other than the coordinator. Teachers employed limited the growth of leadership from shared leadership within the playrooms, the focus on education. The nurseries placed greater emphasis on care and avoidance of harm than did the nursery schools, where a greater level of autonomy was afforded to children through greater flexibility and openness in physical and social contexts and daily timetables. Penn also found more shared leadership within the nursery schools compared to an emphasis on hierarchical authority in the nurseries (Penn, 2000).

Another potential challenge is an absence of strong educational leadership models in the early childhood field. The idea of an educational leadership role is a largely untried one in Australian early childhood services, particularly in Victorian childcare contexts where centre directors or coordinators are unlikely to have early childhood teaching qualifications (only 14 per cent in Victoria in 2006) (Department of Education, Employment and Workplace Relations [DEEWR], 2009). Waniganayake et al. (2000) found that staff in childcare services identified leadership as resting with the director or coordinator of their service. This may reflect a level of confusion around the concept of leadership identified by Rodd (2006), where the terms leadership, management and administration were used interchangeably by educators.

Waniganayake et al. (2000) also argued that, while staff in their study appeared to feel there was a degree of shared leadership within the playrooms, the focus on positional authority limited the growth of leadership from staff other than the coordinator. Teachers employed in Victorian childcare centres under the new policy mandating their employment are unlikely to be the person in charge. Without formal authority, teachers in child care would potentially need to find ways to validate their educational leadership role.

Nupponen (2006) has examined the different styles of leadership that can operate within early childhood contexts. As well as hierarchical models, where leadership derives from the authority invested in a formal role or title (the positional leadership described above), she describes shared leadership, where leadership exists on a flat line and is shared by all (Fletcher & Kaufer, 2003; Pearce & Conger, 2003), and distributive leadership, that can still exist in a hierarchical model but involves staff being empowered to make decisions relating to their work. An influential model is transformational leadership, based on the work of Burns (1978) and Bass (1985). This model involves leaders’ personal capacities to influence others through relationships, and to inspire and empower them to higher levels of performance and collaboration. Nupponen argues that leadership styles based on relationships and collaboration, such as transformational leadership, are more reflective of feminine leadership styles, an important consideration in the female-dominated workforce of early childhood education and care. These styles differ from the traditional forms of trait theories of leadership. Trait theories are among the earliest models of leadership, and have a long history. They posit leadership as embodied by the personality or attributes (often traditionally masculine in nature) of the leader. While there has been a move away from trait theories, with their central focus on the individual characteristics of leaders, recent arguments suggest that the development of more complex models of trait-based leadership could be useful (Zaccaro, 2007).

There are other models of leadership that may be appropriate for early childhood settings. Crowther et al. (2002) call for the emergence of teacher leaders in educational settings, a form of distributed leadership, where leadership need not be invested in those with the title, job description or pay packet typically associated with formal leaders. Deakins (2007) proposes management models based on Learning Organisation Theory. He defines a Learning Organisation as being ‘… organic and has an organisational structure, information system and culture capable of learning from collective experiences to improve decision making and competitiveness’ (p. 39). Effective enactment of these latter two models is highly dependent on management consent and support.

Workplace cultures can also impact on leadership enactment. In interviews with early childhood staff, Hard (2006) identified a culture characterised by staff propensity to pull down those seeking to enact leadership, described as ‘Crab Bucket Mentality’, a concept introduced by Duke (1994). In Hard’s study, participants identified situations where they or their colleagues had been discouraged from leading change in their services because of this culture. Hard surmises that:

… If such elements are part of the ECEC culture then the outcome is likely to be limited leadership activity. Participants felt constrained in their activities in case they draw undue attention to themselves as individuals. (p. 46)
Methodology

Qualitative methodology was used to provide insight into the experience of teachers ‘… as it is “lived” or “felt” or “undergone”’ (Sherman & Webb, 2001, p. 7). A semi-structured interview technique was chosen to allow exploration of responses (Cohen et al., 2007).

The participants and their centres

Childcare centres offering a funded kindergarten program with a degree-qualified teacher were identified through a Victorian Department of Education and Early Childhood Development website (DEECD, 2010). An invitation addressed to ‘The Kindergarten Teacher’ was sent to the centres, with a follow-up telephone call one to two weeks later. Teachers were invited to participate in an interview to explore their experiences as a teacher in a childcare setting. Thirty childcare centres were contacted and 11 degree-qualified early childhood teachers were recruited as participants.

All participants were female. Five of the 11 completed their qualifications overseas (one each in Africa and Europe, and the other three in New Zealand). Of the remaining six, one trained interstate and the other five within Victoria. Five participants originally studied for the two-year diploma childcare qualification (or equivalent), before upgrading to a degree qualification. The other six participants had undertaken undergraduate teaching degrees. Length of teaching experience varied between four and thirty years. Pseudonyms are used to protect participants’ privacy.

Table 1 provides information about the teachers’ settings. Centres were evenly located across inner, middle and outer Melbourne suburbs. Ratios and staffing models varied across centres. Two worked alone with up to 15 children while the remainder worked as part of a team. Staff–child ratios give maximum numbers of children, but participants reported that child numbers could sometimes go down to between five and eight.

The interviews

Interviews took place at times and locations chosen by participants. Two chose coffee shops near their service, while all other interviews took place in administrative areas of the participants’ centres. In one case the centre coordinator was within earshot of the interview and two others took place with the coordinator repeatedly entering and leaving the interview location to access files or equipment during the course of the interview. Semi-structured interviews were conducted by the first author, using a range of open-ended questions designed to gauge the teachers’ experience, qualifications, recollections of any changes they’d introduced, and feelings about how easy it had been to effect change within their centre (Barbour & Schostak, 2005). Participants were initially asked to reflect upon a change they’d made to the curriculum in their room. An extract from the federal government’s Early Years Learning Framework (DEEWR, 2009) was read to participants in an attempt to create a shared understanding around the word ‘curriculum’, defined as including ‘… all the interactions, experiences, routines and events, planned and unplanned, that occur in an environment designed to foster children’s learning and development’ (p. 9). The participants were asked to detail any problems they’d had in implementing the change, and also whether there were other changes they’d like to make but were unable to, and what stood in the way of the changes.

The final set of questions revolved around changes on a centre-wide level. Again participants were asked if they had made any changes across the whole centre, to explain these changes, to detail any barriers that prevented them from making changes, and to discuss what caused those barriers and what would need to change to remove them. Transcriptions of interviews and results were sent to...
participants, and an opportunity provided for correction or clarification of their comments.

**Findings**

**Analysis**

Each interview was audio-recorded and transcribed, and punctuated to represent participants’ actual speech. Coding was done using the software package TAMS Analyzer (Weinstein 4.01b2, 2010). Codes were not predetermined but developed during the coding process itself (Corbin & Holt, 2006). Some of the initial codes produced limited data, and consequently it was decided to report on the findings involving those codes where the richest data was available. These were then organised under the following themes for reporting the findings:

- Making changes within their room
- Change across the centre
- Barriers to change
- Presence or absence of a title and/or authority

### Making changes within their room

The most frequently reported changes participants made in their own rooms involved eating and sleeping routines, room layouts, and program documentation. Many changes around routines were designed to allow children greater choice and autonomy, including: introducing a buffet-style lunch (Sharon); progressive morning and afternoon teas (Belinda); and letting children decide when they had had enough to eat (Monika). Monika also discussed how she had introduced flexibility around sleep routines, and saw this as linked to a wider push for child-choice.

Monika: ‘… it’s fine with younger children but the older children can’t sleep they just sit there going bananas, so I said, ’Fine, no sleep, if you want to have a rest have a rest. If you want to sleep, sleep. If you don’t, have a quiet play.’ We’ve given them more choice, we’ve changed it that way …’

Some participants described changing the physical layout of their rooms to better reflect their curriculum approaches and philosophies. For example, Pat introduced permanent learning areas in her room, along with some documentation for families: ‘… [A]nd I just have little brief statements about each of those broad areas and the benefits of them for families to read if they want.’ Christine saw the physical organisation of her room as a means to achieve her goal of giving children choice and autonomy within the program: ‘I’ve always believed in giving children freedom to make choices and we go along with what they want.’

With regard to program documentation, Helen thought making the planning process more visible was very important, rather than having observations ‘tucked away in folders …’. She was in the process of ‘bringing it all out and letting parents see what was going on’. Tara and Sally described how they took the lead in their centres in implementing the new Victorian Early Years Learning and Development Framework (VEYLDF) with their documentation.

Sally: ‘Yeah, I think I’m the only person doing under the new framework. Mine is very different from theirs. I’m quite happy with what I’m doing and the co-ordinator has been speaking to me and has said everybody is encouraged to do their planning under the new framework.’

In contrast, Rachel was looking to introduce more structure into a program that already allowed a lot of choices, explaining that she didn’t think that the previous approach was working for the children at the centre.

### Table 1: Characteristics of teachers’ settings

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Management structure¹</th>
<th>Staff:child ratio (max.)</th>
<th>Role beyond teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td>Louise</td>
<td>NFP (multiple sites)</td>
<td>(unreported):30</td>
<td>None</td>
</tr>
<tr>
<td>Monika</td>
<td>NFP (multiple sites)</td>
<td>1:15</td>
<td>None</td>
</tr>
<tr>
<td>Sally</td>
<td>Private</td>
<td>2:30</td>
<td>None</td>
</tr>
<tr>
<td>Michelle</td>
<td>Private</td>
<td>4:25</td>
<td>None</td>
</tr>
<tr>
<td>Belinda</td>
<td>Private</td>
<td>(unreported):30</td>
<td>None</td>
</tr>
<tr>
<td>Pat</td>
<td>Community</td>
<td>3:30</td>
<td>None</td>
</tr>
<tr>
<td>Helen</td>
<td>Community</td>
<td>3:17</td>
<td>None</td>
</tr>
<tr>
<td>Sharon</td>
<td>NFP multiple sites</td>
<td>2:19</td>
<td>None</td>
</tr>
<tr>
<td>Rachel</td>
<td>NFP</td>
<td>3:25</td>
<td>Second in Charge</td>
</tr>
<tr>
<td>Christine</td>
<td>Private</td>
<td>2:19</td>
<td>Owner</td>
</tr>
<tr>
<td>Tara</td>
<td>Private</td>
<td>1:14</td>
<td>Coordinator</td>
</tr>
</tbody>
</table>

Note: NFP=Not for profit organisation; Community=Community managed service; Private=Privately owned centre
Teachers were less able to readily identify examples of helping to effect change across the centre. More probing was often required to find an example of such a change, and some were not able to identify any. Those who had instigated change across the centre appeared to have done so through informal, somewhat *ad hoc* means such as making changes or introducing practices in their own rooms that sparked the interest of other staff. Louise, for example, organised her room environment into ‘corners’, such as a ‘multicultural corner’ and a ‘nature corner’. She felt this gave other staff ideas for their own rooms: ‘... If we see something different we can get ideas and incorporate them.’

Helen recalled how changes to the way she documented her program and the children’s learning appeared to inspire others in the service to begin to change their documentation.

Helen: So we started doing it and the other two rooms, ‘No, we’re going to keep going with the fortnightly planning.’ ... I think over time they just sort of looked at different aspects and could see ... and even now, each room still has their own unique style but they’ve taken on, like the room next door has taken on that planning ongoing rather than shifting everything every two weeks.

For Pat, supporting change across the service involved a combination of informal demonstration, unofficial support and official (but *ad hoc*) support for other staff. She recalls how she worked with other staff to help them document their programs:

Pat: So this year the coordinator actually asked me to sit with the staff in the three- to four-year-old room. Which I felt a bit uncomfortable with ... I just said to them, ‘Look, I don’t use that format anymore and I showed them some of mine. I think they’re now doing it differently.’ Someone actually came to me today and said, ‘Can I have a look at your learning stories?’ and I said, ‘Sure, go for it’ and I think they might change theirs too. It’s never been formally discussed. It probably should be.

Belinda, too, used her program as an example and acted as an unofficial and official mentor, supporting staff to incorporate the outcomes of the VEYLDF with the learning stories staff placed in children’s portfolios.

### Barriers to change

For the most part, the teachers encountered little or no resistance when introducing changes within their own rooms. There appeared to be an implicit recognition in many centres that the teachers’ qualifications equipped them to competently run the preschool program within the centre, including implementing the VEYLDF. For example, Sally was very confident she would not find those in positions of authority within her service to be a barrier to implementing changes in her own room. She points to her qualification and ability to interpret the VEYLDF as empowering her:

Sally: There’s nothing that I can’t do here ... If I need to change stuff I can always talk to them ... Whatever I come up with they’re flexible. As long as it’s under the framework.

Helen described feeling like she was given flexibility in how she documented her program: ‘... [I]t wasn’t as if the coordinator had said, “You have to do it this way.”’ Some participants, however, did report needing to justify changes in their own programs. For example, Pat discussed changing a routine to allow for better supervision of the children, but felt pressure to justify this to her coordinator.

Pat: ... [E]very now and then she’ll sort of say, ‘Why don’t you do this?’ or, ‘Have you thought about doing that?’ and I, yeah I’ve got used to it, I don’t like it. She’s pretty good, most of the time ... But yeah, she sort of queries little things sometimes but not to push it, I don’t think she’d ever stop me doing something.

Belinda, who wanted to introduce more flexible eating routines, was initially prevented from making the change by management, who worried that children would miss out. When another organisation and manager took over her centre her ideas were deemed acceptable by the new management.

In contrast, participants described challenges and barriers to instigating change outside their own rooms. These fell broadly into three categories:

- Lack of time
- ‘Qualifications don’t buy authority’
- Lack of an official title.

Some participants cited more than one of these.

### Lack of time

One identified barrier towards initiating change across a whole service related to a lack of time owing to the teachers’ responsibilities for their own group. Sally expressed a desire to support staff across the service and was interested in spending time in the babies room, but was only able ‘to just go for two minutes and then that’s it’. Belinda expressed similar sentiments: ‘I’ve no time to walk through the whole centre. I’ve got 28 children so ...’

Qualifications don’t buy authority
Teachers also reported feeling that their qualification didn’t earn them an automatic right to suggest or implement change, especially as they often saw the work they did as fundamentally similar to that of the other staff. This was particularly the case with those teachers who had a prior diploma and had worked in child care previously.

Monika: Sometimes I don’t feel any different from the other qualified childcare workers. I used to do it anyway as a qualified childcare worker and I feel like it’s sort of the same job, the only difference is with the transition reports and the thinking of school …

Sharon also felt that the work she did was similar to what she had done before she acquired her degree. She felt strongly that any authority she carried in her service rested more heavily upon her experience and professionalism than upon her qualification.

Sharon: Yeah, so when I do need to say something they do listen and take on board what I say. They might take it on board rather than someone else … yeah.

Interviewer: Do you think that that weight that your opinion carries, do you think that’s more related to the way you conduct yourself or the fact you’ve got a certain level of training and that gives you the language to use?

Sharon: No, yeah I just think it’s just because of who I am and the way I do things … the experience rather than … Coz I know myself from when I did do my degree a few years after I started working I’ve done what I’ve done the whole time sort of thing. So I don’t think ‘Oh I’m like this because of my Bachelor [degree]’ … I think just from experience from the sort of person that I am. I think in this job you either have it or you don’t. So no matter how much training you do if you haven’t got it you haven’t got it.

Lack of a formal title

A number of the teachers identified a lack of a formal title or role as a barrier to their wider contribution to the service. Leadership was identified with a formal position such as coordinator or director, or second-in-charge. As Belinda commented: ‘… [W]e have two directors to do that.’ Pat expressed similar views:

Pat: So when you have the position of the coordinator above you, I think she’s the leader … I don’t feel that it’s my responsibility. I don’t mind doing it if people want some help. I’m always happy to help but I’m not going to go in and tell people how to do things.

Participants also linked administrative and management responsibilities to the leadership role. Monika spoke of how the combination of administrative space, leadership responsibilities and administration duties rested with the centre coordinator, and she contrasted this to a time when she taught a three-year-old program in a sessional kindergarten and the leadership and administrative duties that entailed.

Monika: We don’t have an office, but we don’t really need one. We don’t do any admin or anything so, it’s you feel like a leader but because you don’t have to do all those other things, you don’t really feel like a leader. Because I still look up to my director and think of her as the leader. Whereas at the other kinders I felt more of a leader because I’m running everything I’ve got to make sure, you know, people are paying fees, make sure all my enrolments are up to date, that and you know I’ve got to talk to the parents …

Sharon also felt that having staff with formal leadership titles indicated her role was to work with the children in her group.

Sharon: … [I]f I was in sessional [kindergarten] I guess I would have a more leadership role and that sort of thing. Whereas in this environment I do have the director that is you know, the main person—and there’s a 2IC [sic] as well so I … I guess you could say I’m the third in line I suppose but I don’t see it like—I’m the kindergarten teacher, that’s my job, I don’t have that responsibility.

The experience of those with official authority

Three of the participants did have formal positions of authority. Christine was the owner of her service. Tara had the official title of ‘Centre Coordinator’ but was not invested with complete authority since the two owners of the service also worked at the centre. Both of these participants were confident in their ability to effect change across the centre, with Christine understandably feeling the most freedom to do so.

Rachel’s position was unique. She had been granted a ‘Second in Charge’ title with a defined focus on pedagogical leadership, a role she sees herself as fulfilling. She, along with the centre director, had worked to change the documentation of the program and the children’s learning across the service. Rachel saw herself not only as a mentor, ‘… but also to oversee everybody else and answer all their questions’. When asked what changes she’d been able to effect across the whole centre Rachel was readily able to discuss the changes to documenting children’s learning that she and the centre director had drawn up and the way she was implementing them.

Rachel: Yes I designed the program with [the Director] and I am directly going into people’s rooms and saying, ‘What do you need help with, what can we talk about and let’s plan together.’ [The Director] has said, ‘Rachel will come and see you if you’re doing the right thing.’ My attitude has been ‘Let’s have a look and see what we can work out. Let’s look, let’s pool our ideas together.’ And that’s what we’ve been trying to do. Not ‘This is wrong.’
Rachel also seemed to emphasise that her authority did not come from her qualification:

Rachel: So it’s a prompt to make us all a little on the same level because there’s no ‘I’m qualified and I know what I’m doing and you have to do what I say.’ There’s not that feeling at all here. Everybody’s got something to offer.

Rachel was consulted by other professionals and included in project management planning. She felt that, along with her title, this level of respect from other professionals empowered her in her role. Rachel also identified being given time specifically devoted to her leadership tasks as another reason she’s able to take on this role. She saw her program as a model, and emphasised her experience over her formal qualifications. By providing a ‘demonstration model’ she was acting as a ‘pedagogical leader’:

Rachel: And that’s the way, I think that’s the way … I see it. Not as better than but as ‘Here, if I can’t explain it I can show you.’ And people will come to me all the time and say ‘I want to do this, how can we do it?’ I think the fact that I’m older and I’ve got a fair bit of experience also makes a difference.

Discussion

The findings indicate that degree-qualified teachers in Victorian childcare centres feel able to introduce change into their own programs, but face constraints in initiating change across their centres. Reported barriers included lack of time, a lack of authority attached to their qualification, and the lack of a formal role or title. The small number of participants was a limitation to the study, particularly the small subgroup of teachers with formal leadership titles. The lack of privacy during some of the interviews may also have constrained those interviewees in what they felt they could say.

Educational leadership by teachers did occur, but was dependent on other staff being ‘inspired’ to take up what were often one-off ideas or strategies. The teachers themselves appeared reluctant to see their knowledge and expertise as a basis for leadership, even though most were their centre’s most highly (formally) qualified staff member. They did not see their qualifications as making them ‘better’. Some commented that others followed their lead because of their personal traits or experience.

The teachers did see their qualifications as buying them freedom to make changes in their own rooms. They recalled successfully justifying these changes when required. This aligns with the findings of Waniganyake et al.’s study (2000) where staff saw freedom within their own rooms but regarded the leadership across the service as a function of positional authority invested in the service coordinator or director. Despite the limitations they faced beyond their room, it’s clear that the teachers interviewed were undertaking changes that were supporting quality practice.

The focus on child autonomy reflected Penn’s findings (2000) that teachers in UK nursery schools were also likely to promote these values.

While the teachers’ expertise was acknowledged in relation to the preschool program, as in Anning’s (2008) study, these teachers may have been working in a culture that sees ‘education’ as being for older children, and ‘care’ for children under three. Such a view might be reinforced by Victorian state government funding being attached to a qualified teacher working with four- to five-year-olds. This may help explain why teachers’ expertise was not more widely accessed by staff. Their ‘education’ expertise may not have been seen as relevant to the care of younger children.

This could also underlie the emphasis that the teachers put on ‘everyone being equal’, with differently qualified staff being regarded as having their own areas of expertise. This would fit with the ambiguity and uncertainty in the perception of the teacher’s role in programs for children under three as described in the literature (Rouse, Morissey & Rahimini, 2012), and despite the fact that early childhood teaching degrees in Victoria qualify graduates to work with children from birth. As in UK studies (Penn, 2000; Anning, 2008), centres’ historical backgrounds and a residual education/care divide could be preventing these teachers from having an impact outside their own rooms.

An intriguing finding was the perception of teachers with prior diploma qualifications that the acquiring of a degree had made, at best, only minor changes to their practice—despite their initiating the type of changes in their own program that have been associated with a teaching degree. It is interesting to speculate whether these participants wished to emphasise their egalitarianism within a culture that Hard (2005) describes as discouraging staff from placing themselves above one another, rather than identifying knowledge and skills they had acquired through a degree, which were not necessarily possessed by other staff. This egalitarian positioning may have deterred teachers from enacting leadership across their centres. While acting as inspirational models to introduce quality changes within their services, these teachers often didn’t see themselves as educational leaders but rather as someone ‘always willing to help out’.

Also interesting was the finding that the absence of administrative or management duties reinforced teachers’ perceptions that they were not the leaders in their centres. Here, the study participants appear to be caught in an identified confusion between the roles of manager, administrator and leader (Rodd, 2006). The fact that teachers without formal leadership titles struggled to identify an example of where they had effected change across their service, or that many noted that they ‘did not feel like a leader’, is of concern given the importance of teacher leadership as identified by research (Sammons et al., 2002;
Sylva et al., 2003). While many participants could identify instances where they had informally impacted on quality, the fact that this was not systematic or ongoing means their potential for educational leadership was diminished.

What model of leadership could work for these participants? While learning organisation theory would provide a powerful model for these teachers to contribute their specialist knowledge to their services, none presented a picture of a centre engaged in this type of deep, shared thinking. These participants appear potentially able to take on the challenges of becoming teacher-leaders (Crowther et al., 2002), but they were concerned about overstepping their place in the centre hierarchy. The only realistic option available to the teachers appeared to be a minimalist version of the trait model: to become an inspiration for others to follow. In this light, Sharon’s belief that it was ‘… who I am and the way I do things’ that gave her opinion weight, rings especially true. She was explicit about her belief that her individual traits gave her far more authority than did her qualification, and that staff either ‘have it or they don’t’.

From a ‘follower’ perspective, there may have been personal traits in some of these teachers that led other staff to follow their example. They may have trusted their years of experience (rather than their qualifications), and seen them as respected models to follow. On the other hand, staff may simply have made a pragmatic decision to copy strategies that appeared to work, and to seek advice from the teachers in areas where they obviously had more expertise. It is not clear that they would acknowledge these teachers’ leadership in their own specific areas of program responsibility, or in a situation where they were challenged to significantly change their practices.

In this study, those teachers with formal titles of authority were most secure in making change across their services, giving them the permission to take a leap beyond their own rooms. A formal title made a significant difference to the teachers’ confidence in recalling changes they’d worked to enact, appeared to make initiating this change easier, and gave them a clearer professional identity. No other mechanism of delivering permission to engage with the rest of the service on an ongoing basis was identified.

Although this finding of the effects of a formal title is based on the experiences of only three participants (one of them the centre owner), their comments are suggestive of the sense of authority and confidence that a formalised role gave them. This was particularly the case with Rachel. It is also consistent with the sense that the other teachers felt a lack of authority, and that their teaching qualifications did not ‘buy authority’. This suggests that in the absence of collaborative leadership models, and the apparent dominance of hierarchical models, teachers or others who are expected to take up educational leadership roles in childcare programs will need the support of a formal title.

Teachers in this study were leading positive change in their childcare centres, particularly in their own rooms. But the findings also indicate that, in the absence of a formal title, the capacity to lead change across the centre was limited.

This lends support to the new national regulatory requirements for every service to have a formally designated educational leader. The regulations do not, however, stipulate minimum qualifications or the number of hours these educational leaders should work (ACECQA, 2011, p. 85). The authority granted to the educational leader to make decisions or direct the work of other staff is also not stipulated and is likely to be enacted differently across services, with centre policies or industrial agreements filling in this blank. The findings here indicate that time may be an important factor in enabling educational leadership across a centre, and regulators may need to ensure that, in practice, designated leaders have sufficient time to undertake the role effectively. Future research could also inform policymakers on whether teachers have specific contributions to make as educational leaders in childcare settings, in comparison to those with other qualifications.

In conclusion, we can say that the teachers in this study demonstrated educational leadership by drawing on their expertise to advise and support other staff in using mandated learning frameworks, and by introducing quality practices into their own room, some of which were then taken up by other staff. In addition, some of the teachers described persisting with these changes, even in the face of scepticism or opposition from management. On the other hand, the teachers were not able to demonstrate leadership to any extent across their centres. Outside of their own rooms, they appear more like a class of followers described by Rosenbach, Pittman and Potter (2012), who embrace change and can act as a vanguard for leaders looking to implement change: ‘… [These followers] can be extremely effective as agents for change, by explaining to their co-workers the advantages of doing things differently, and showing by example ... ’ (p. 83).

The findings also raise questions about the role of centre coordinators in this time of change. Do they promote positive educational change by acting as educational leaders themselves? By supporting the educational leadership of teachers or other staff (as some appeared to do in this study)? Or do they focus on their managerial role, concerned for effective management of the status quo while meeting regulatory requirements? What are the consequences if teacher educational leadership is not supported in a centre, or if that support is limited to the teacher’s own program? How can teacher educational leadership be supported and enacted in order to be most effective within a childcare context? The answers to these questions will have implications for the future playing out of teacher educational leadership in Victorian childcare centres.
References


The quality of early childhood education and care services in Australia

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THIS PAPER REPORTS CONCLUSIONS about the quality of early childhood education and care (ECEC) services from E4Kids, a large-scale longitudinal study of three types of ECEC services in two Australian states. A little more than 250 preschool classrooms had complete data in 2010; two measures of ECEC quality were applied—the CLASS and selected subscales of the ECERS-R. Overall, Australian ECEC averaged in the medium range on most measured components of quality, with the exception of personal care routines and instructional support. We found evidence that average quality in ECEC in the E4Kids study varies systematically across the type of service, with kindergartens having significantly higher quality than long day care centres. Australian ECEC quality was found to be broadly similar to that in the United States and United Kingdom: slightly weaker in terms of the developmental appropriateness of classroom practices assessed through ECERS-R, slightly stronger than the United States in the areas of classroom organisation and instructional support.

Introduction

In 1993, Australia became the first country to compel providers of long day care (i.e. child care centres) to complete a quality accreditation process known as the Quality Improvement and Accreditation System (QIAs). This country-wide system of quality assurance was later extended to family day care, outside-school-hours care and occasional care. In 2012, a more extensive and innovative national quality assessment system commenced for all services, including preschools. There have been differences of opinion about program quality and the success of the Australian quality-assurance system to date, but no direct empirical tests of its effects across service types. The system was lauded internationally (Love et al., 2003; OECD, 2002), but domestic opinion has been mixed (see Harrison, Skouteris, Watson & Ungerer, 2006, for a positive view; and Ishimine, Tayler & Bennett, 2010 and Rush, 2006, for critiques).

This paper is based on the first year of data from a large-scale longitudinal study of the effects of early childhood education and care experiences on the development of Australian children as they mature from age three to eight years. The study follows a stratified random sample of 2596 children who, in 2010, were engaged in approximately 300 ECEC classrooms in two Australian states—Queensland and Victoria—and another randomly selected sample of 162 children who were not in an ECEC program in the same year. The quality of the education and care in each of these classrooms is assessed using two instruments—the Classroom Assessment Scoring System (CLASS) (Pianta, LaParo & Hamre, 2008) and three subscales (Space and Furnishings, Personal Care Routines and Activities) of the Early Childhood Environments Rating Scale–Revised (ECERS-R) (Harms, Clifford & Cryer, 2005).

The data from just over 250 classrooms analysed in this paper provide evidence about several aspects of the distribution of quality scores in Australian early childhood education and care services, prior to adoption in 2012 of the new, higher-level National Quality Standard. Three main research questions are addressed in this paper:

1. What is the average value and range of quality levels observed in 2010 ECEC services used by three- and four-year-old children in (two states in) Australia?

2. How does observed quality vary by the type of early childhood education and care service provided; are there significant differences in measured quality by ECEC type in Australia?
3. How does the quality of ECEC found in Australia in 2010 compare with observed quality in other countries?

This paper explores the variation in average quality by type of early childhood education and care service. Funding, regulation and participation in accreditation were different for preschools versus long day care versus family day care homes. We find evidence in the E4Kids 2010 data that quality in preschools is higher on average than in other services.

There are three main types of ECEC services in the study—long day care, family day care, and kindergarten. Long day care provides centre-based care (similar to child care centres in the United States), for-profit or not-for-profit organisations providing full-day care throughout the year to children below school age; however, many Australian children are in care programs for only part of the week. Family day care is provided in the educators’ homes; the educators are organised into care-providing licensed schemes that provide support and some monitoring. The ‘kindergartens’ are similar to American ‘preschool’ programs; kindergarten provides early childhood education aimed at children in the year or two before they commence full-time schooling (e.g. when a child is three or four years old). At the time of data collection regulations required teachers to hold at least a Bachelor’s degree in kindergarten classrooms, a diploma (or equivalent on-the-job training) in long day care settings, and basic first aid and child care certificates or equivalent in family day care provision.

In previous studies, Australian ECEC services were reported to have higher average quality than in some larger English-speaking countries such as the United Kingdom and the United States (Fenech, Sweller & Harrison, 2010; Harrison et al., 2006; Love et al., 2003). This was attributed, in part, to the positive effects on quality of the near-universal participation of child care centres and family homes in Australia’s accreditation system, with more than 90 per cent being successfully accredited. However, this paper presents contrary evidence, suggesting that the average quality in Australian ECEC services in 2010 was actually similar to that in the United States and United Kingdom.

Table 1. Counts of children in E4Kids study

<table>
<thead>
<tr>
<th>Service type</th>
<th>Brisbane–urban</th>
<th>Mt Isa–remote</th>
<th>Melbourne–urban</th>
<th>Shepparton–regional</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child care (LDC)</td>
<td>637</td>
<td>67</td>
<td>741</td>
<td>170</td>
<td>1615</td>
</tr>
<tr>
<td>Preschool (K)</td>
<td>298</td>
<td>93</td>
<td>242</td>
<td>122</td>
<td>755</td>
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<tr>
<td>Family day care (FDC)</td>
<td>26</td>
<td>8</td>
<td>49</td>
<td>20</td>
<td>103</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>0</td>
<td>12</td>
<td>54</td>
<td>57</td>
</tr>
<tr>
<td>Total</td>
<td>961 (37.8%)</td>
<td>168 (6.61%)</td>
<td>1044 (41.18%)</td>
<td>366 (14.41%)</td>
<td>2539 (100.0%)</td>
</tr>
</tbody>
</table>

**Background: The E4Kids study**

This paper is based on initial results from an Australian study (E4Kids—Effectiveness Early Educational Experiences) that commenced in 2010 and tracks the multi-dimensional developmental progress of young children in the context of the child’s family, ECEC programs and the social and economic community. A primary aim is to evaluate the independent effects of programs, at three–four years, on children’s learning, cognitive and social development and wellbeing.

Our design studies the effectiveness of ECEC programs within a stratified sample of metropolitan, regional and remote communities in Australia. The sample of services was randomly selected from four communities in two states in Australia—Victoria and Queensland. The communities included were greater Brisbane, greater Melbourne, Shepparton (a large regional centre in Victoria) and Mount Isa (a remote city in Queensland). The four sites were selected to represent different types of communities in Australia; most of the population lives in large metropolitan areas (68.4%), many others live in regional towns (29.2%) and 2.8% live in remote areas (ABS, 2006). The ECEC services were randomly sampled, explicitly stratified by location, service type and socioeconomic status (SES). Services that refused to participate were replaced in the sample based on the above stratification. High- and low-SES areas were intentionally oversampled to ensure adequate response rates. The proportion of services broken down by location and type is given in Table 1.

Inside the selected services, classrooms with more than five children aged three to four were selected as intact clusters; all children and their families in these classrooms were invited to participate. A total of 141 services were recruited in 2010. Nearly 300 rooms participated, 146 rooms from long day care centres, 79 from kindergartens, and 59 from family day care schemes. In addition, two rooms came from limited-hours and other centres; these rooms are included in overall E4Kids analyses but excluded from this article owing to their small sample size.
Of the rooms in the study, 258 were used for analysis of ECERS-R and 254 for the CLASS. Classrooms were excluded owing to incomplete data collection, a minimum of four observations being required in every classroom.

Instruments: CLASS and ECERS-R as measures of ECEC quality

Quality is a constructed, and much debated, concept (Burchinal & Cryer, 2003; Dahlberg, Moss & Pence, 1999; Fleer & Kennedy, 2006; Ishimine, 2009; Ishimine, Taylor & Bennett, 2010; Mooney et al., 2003; Moss, 1994; NICHD Early Child Care Research Network, 2002; Raban, 2000; Sylva, Siraj-Blatchford & Taggart, 2003). Despite differences in curriculum, philosophy and policy, there is widespread consensus, especially in countries with Anglo-Saxon heritage that overall quality in ECEC consists of two broad dimensions: structural quality and process quality (e.g. Burchinal & Cryer, 2003; Howes et al., 2008; Ishimine 2009; Ishimine, Taylor & Thorpe, 2009; Mashburn et al., 2008).

Structural quality refers to measurable features of quality that constitute the organisation or structure of the ECEC services/rooms, for example: staff qualifications, staff–child ratio, room sizes, physical environments both indoor and outdoor, health and hygiene practices, the ECEC program features and resources/materials. Process quality, on the other hand, is the nature of children’s interactional experiences, such as teacher–child interaction, peer interaction, teacher–family interaction and, importantly, teachers’ instructional and pedagogical skills. High process quality means positive and meaningful interactions between teachers and children, harmonious peer interactions and clear teacher communication with children and their families (Ishimine et al., 2009).

When compared with structural quality, process quality requires more in-depth observation to capture it sufficiently; a systematic observation technique is required to achieve and maintain high inter-rater reliability. Indeed, the core of process quality, namely teacher–child relationships, is crucial to promote effective teaching as Howes and colleagues (2008) describe:

Teacher–child relationships that provide young children with a sense of acceptance and security and through which teachers and children are actively involved with one another are more likely to support engagement in and cooperation with the activities and instruction provided by the teacher (p. 30).

The quality of a child’s experience is therefore a function of the input from teachers, with high process quality reflecting effective teaching. Effective teaching in early childhood settings can be considered as ‘sensitive interactions with adults around instructional content within a positive social and emotional classroom climate and specific instructional content’ (Howes et al., 2008, p. 29). This raises the issue of a positive classroom climate which Hamre and Pianta (2007) define as an environment where ‘teachers and children laugh and play together, share stories about their lives outside of the classroom, and work together to create an environment in which all learning occurs’ (p. 60). Activities such as reading to children, listening to their reading, oral language activities, quality feedback, language modelling and mathematical activities are all features of effective teaching that can produce positive outcomes for children (Hamre & Pianta, 2007).

Selection of instruments

The E4Kids study utilises a number of instruments to effectively measure quality in ECEC sites. To measure process quality, the Classroom Assessment Scoring System: CLASS (Pianta et al., 2008) measures the interactions and relationships of adults and children as well as between children. The CLASS Pre-K and K-3 instruments can be used to assess room-level quality in preschool through third grade settings (Pianta et al., 2008). CLASS consists of three domains, Emotional Support, Classroom Organisation and Instructional Support, informed by 11 dimensions. Emotional Support includes: 1) positive climate (PC); 2) negative climate (for analysis the score is reversed, therefore in this paper it is called reverse negative climate (RNC); 3) teacher sensitivity (TS); and 4) regard for student perspectives (RSP). The Classroom Organisation domain includes: 5) behaviour management (BM); 6) productivity (P); and 7) instructional learning formats (ILF). Instructional Support consists of: 8) concept development (CD); 9) quality feedback (QF); 10) language modelling (LM); and 11) literacy focus (LF). LF is a new item in the CLASS that is not currently published in the instrument manual. The CLASS instrument primarily focuses on teacher–child interaction using these 11 teaching dimensions to capture process quality comprehensively. The authors agree with the Burchinal, Vandergrift, Pianta & Mashburn (2010) observation that quality measures in general ‘need more psychometric development based on a wider set of items and on more advanced psychometric methods’. Nevertheless, CLASS was chosen because process quality is measured systematically and the published measure has been demonstrated to be psychometrically sound.

The ECERS-R was developed by researchers in the United States (Harms et al., 2005). This tool is organised into seven sub-scales measuring features associated with both structure and process: Space and Furnishings; Personal Care Routines; Activities; Language and Reasoning; Interaction; Program Structure; Parents and Staff. Each item is scored on a scale ranging from one (inadequate) to seven (excellent). To measure the structural dimensions of early childhood environments in the E4Kids study, we selected the first three sub-scales.
Data and results: New evidence on ECEC quality in Australia

The E4Kids study used the ECERS and CLASS instruments to assess quality in 258 child care and preschool classrooms. Figures 1 and 2 and Table 2 describe the distributions of quality in ECEC services involved in the first year of the E4Kids study (2010). Also presented are means and median scores, minima and maxima, and standard deviations for the CLASS and its domains and for the ECERS-R average across three selected subscales. In addition, Table 2 shows the percentage of classrooms that are measured as demonstrating low-, medium- or high-quality programs in the E4Kids study in 2010 (based on the low, moderate and high ratings for the CLASS and inadequate, minimal and good ratings on the selected ECERS-R subscales).

Figures 1 and 2 show boxplots of the scores on each quality measure, and its components across all ECEC rooms. The box for each scale shows the 25th, 50th and 75th percentile of each distribution. The whiskers show either the lowest and highest value of the distribution or the value which is 1.5 times the interquartile range away from the 25th or 75th percentile (whichever is less). Dots show values outside this range. The dashed vertical lines indicate the division between low, medium and high levels of quality.

Across all ECEC rooms in this study, the CLASS (Figure 1) average across all three domains had a mean value of 3.93 and a standard deviation of 0.78. Emotional Support had a mean of 5.13 and standard deviation of 0.92. Classroom Organisation had an average value of 4.60 and standard deviation of 0.92. Instructional Support results were much lower, with a mean of 2.07 and standard deviation of 0.76 (it should be cautioned that these scores are based on un-weighted measures). Using threshold values suggested by the authors of the CLASS measure (Pianta et al., 2008), these estimates would suggest that Emotional Support and Classroom Organisation are typically of medium quality and Instructional Support is of low quality. The average CLASS value over three domains is of medium quality.

Most services were recorded as performing reasonably well on the Emotional Support and Classroom Organisation domains; 62 per cent and 39 per cent respectively scored in the high range of quality values, with nearly all the remaining services scoring in the moderate-quality range. However, 87 per cent of services scored in the low-quality range on the Instructional Support domain, and 13 per cent moderate, with no services ranked in the high range. As a result, when we calculated an average value for these domains, the overall CLASS measure of teacher–child interaction quality found about 13 per cent of classrooms averaged at low quality, 80 per cent at moderate quality, and only 7 per cent at high quality. If high-quality services are desired for promoting child development, these results are troubling. The distribution of qualities in these Australian ECEC services is similar to that in the United States (LaParo et al., 2009).

The average ECERS-R (Figure 2) value aggregated over the three subscales was 3.50 with a standard deviation of 0.83. The Space and Furnishings sub-scale had an average value 4.10 with a standard deviation of 1.02. The scores on the Personal Care Routines sub-scale were lower, mostly because table-cleaning routines in Australian ECEC are different from those in the U.S. The Routines ratings also had a wider spread, having a mean of 2.94 and a standard deviation of 1.30. The results of the Activities sub-scale had a mean value of 3.46 and a standard deviation of 0.89. The average of these scales, essentially the average classroom ECERS-R score, is of medium structural quality.
The percentage of low, medium and high structural qualities for ECERS-R, as noted above, is recorded in Table 2. The majority of Australian services scored low quality (inadequate) on the Personal Care Routines sub-scale (54 per cent), with 38 per cent medium (minimal) and 8 per cent high (good). For Space and Furnishings, 12 per cent have low quality, 69 per cent medium and 19 per cent high. For the Activities sub-scale, 28 per cent of ECEC services were measured as providing low quality, 66 per cent medium and 6 per cent high quality care. Averaging across these three sub-scales placed 24 per cent of services in the low-quality category, 72 per cent in medium quality and about 4 per cent in high.

Discussion: Quality differences within Australia

Among different types of early childhood education and care services, there are substantial differences in funding, resources, child and parent characteristics, and organisation. The 2010 quality measurements reflected some of these differences. The Ordinary Least Square regressions of quality scores against type of ECEC, presented in Table 3, show that average quality scores in long day care centres and family day care are lower than average quality scores in preschools; these differences are statistically significant.

A similar discrepancy between preschools and child care was found in the Child Care Choices Longitudinal Extension Study conducted in one state of Australia from 2002–2006. This study, using the Infant/Toddler Environmental Rating Scale (ITERS), the ECERS-R and Family Day Care Rating Scale (FDCRS), found that the average quality was higher in preschools (5.8 out of 7) than in long day care (5.1) or family day care (4.9) (Bowes et al., 2009; Fenech et al., 2010). Likewise, Ishimine, Wilson and Evans (2010) conducted a small study in urban Sydney, New South Wales and found an average score of 4.91 (just below ‘good’) on the ECERS-R, but, interestingly, a much weaker score of 3.60 using the ECERS-E, an extension to the ECERS-R designed to test the curricular aspects of quality in ECEC services. There have been only a few observational studies of child care focusing on three- and four-year-old children in Australia using standard instruments for evaluating quality (Tayler, Wills, Hayden & Wilson, 2006). Table 4 shows the results from these three studies, analysing data from two distinct data sets, along with comparative results from the E4Kids study.
Discussion: International comparisons

The overall Australian picture indicates a medium level of ECEC quality in 2010, with slightly lower scores in areas such as Personal Care Routines and Instructional Support. But how does Australia measure on an international scorecard? Based on previous empirical studies of Australian ECEC and the reported quality results of the QIAS (NCAC, 2010), it has become commonplace to conclude that the quality of care provided in Australia is superior to the average levels provided in the United States and the United Kingdom (e.g. Bowes et al., 2009; Fenech et al., 2010; Harrison, Skouteris, Watson & Ungerer, 2004; Love et al., 2003; Rush, 2006).

Further, it has been concluded that the QIAS was partly responsible for this superior average performance, largely through raising up the bottom-end of quality in Australia above that observed in the United States and United Kingdom (Fenech et al., 2010).

We found the academic quality of Australian preschools to be strong by international comparison. For instance, when looking at preschools, we found that Australian preschool sites—despite recording low Instructional Support scores—achieved significantly higher scores on measures of classroom organisation and instructional support, and had similar scores on measures of emotional support when compared to their US counterparts. Using ECERS-R, the average global quality in preschools in 11 US states was found to be 3.85 (Mashburn et al., 2008), almost exactly the same as the 3.89 average for preschools found in the E4Kids study. Preschools from the United States were also assessed (LaParo et al., 2009; Mashburn et al., 2008) using various domains of the CLASS (Emotional Support and Instructional Support for five states and all three domains including Classroom Organisation for six additional states). The mean United States score on Emotional Support across 11 states is 5.57; E4Kids finds a nearly identical reading across its 78 state-funded preschools. A two-sample t-test assuming unequal variance (Welch’s t test with degrees of freedom corrected using the Welch–Satterthwaite equation) confirmed that the Australian averages were not significantly different: $t(91) = 0.33$, ns. The average United States score on Classroom Organisation across six

<table>
<thead>
<tr>
<th>Location</th>
<th>Source</th>
<th>Data set</th>
<th>Type of ECEC service</th>
<th>Quality–measure</th>
<th>Quality–mean</th>
<th>Quality–SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia (New South Wales)</td>
<td>Fenech, Sweller and Harrison (2010)</td>
<td>Child Care Choices Longitudinal Extension Study, urban and rural New South Wales. 74 centres over 2002–06</td>
<td>Long day care (children 0–2.5)</td>
<td>ITERS</td>
<td>5.17</td>
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<td>Long day care (children 2.5–6)</td>
<td>ECERS-R</td>
<td>5.09</td>
<td>0.56</td>
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<td>Bowes, Harrison, Sweller, Taylor and Neilsen-Hewett (2009)</td>
<td>Child Care Choices Longitudinal Extension Study</td>
<td>Preschool (children 3–6)</td>
<td>ECERS-R</td>
<td>5.3–5.8a</td>
<td>0.6</td>
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<td>Family day care (children 0–6)</td>
<td>FDCRS</td>
<td>3.6–4.9a</td>
<td>0.2–1.2a</td>
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<td>Ishimine, Wilson and Evans (2010)</td>
<td>35 centres in Sydney, New South Wales</td>
<td>Long day care (children 3–5)</td>
<td>ECERS-R</td>
<td>4.91</td>
<td>1.01–1.44a</td>
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<td>Long day care (children 3–5)</td>
<td>ECERS-E</td>
<td>3.60</td>
<td>0.96–1.39a</td>
</tr>
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<td>Australia (Queensland and Victoria)</td>
<td>2010 E4Kids study data</td>
<td>E4Kids Study (metropolitan, regional and remote locations in QLD and VIC)</td>
<td>Long day care (children 3–4)</td>
<td>ECERS-R</td>
<td>3.52</td>
<td>0.72</td>
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<td>Preschool (children 3–4)</td>
<td>ECERS-R</td>
<td>3.89</td>
<td>0.74</td>
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<td>3.71</td>
<td>0.77</td>
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<td>CLASS total</td>
<td>4.26</td>
<td>0.68</td>
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<td></td>
<td></td>
<td></td>
<td>Family day care (children 3–4)</td>
<td>CLASS total</td>
<td>4.04</td>
<td>0.75</td>
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</tbody>
</table>

Notes:
a – original article provided means and standard deviations by single year of age
b – original article provided means and standard deviations by degree of disadvantage in local area

Table 4. Comparison of previous Australian and E4Kids findings on quality by type of ECEC service

Discussion: International comparisons

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The Australian average was significantly higher than in the United States. The t-test was significant, t(131) = 4.58, p < 0.001: this equates to a medium effect size (\(d = 0.60\)) as described in Cohen (1988). The average result across 11 states for the Instructional Support domain was 2.08; the corresponding value in E4Kids was 2.32, again significantly higher t(98) = 2.55, p < 0.05 than the United States result. However, this is a small effect size (\(d = 0.29\)). Further, the E4Kids results included Literacy Focus as one of the dimensions of the Instructional Support domain for the analysis. Literacy Focus is a newly developed dimension and most US studies do not include it, and our result without this dimension show a higher mean score (M = 2.35, SD = 0.76) since most rooms obtained a score of one on the literacy focus dimension with little variation across a variety of ECEC services, including kindergarten classrooms. By excluding literacy focus, the difference between US and Australian scores is greater: the effect size is moderate to large (\(d = 0.74\)).

In both United States and English day care centres, ECERS-R scores are significantly and substantially (over 0.8 points on a seven-point scale) higher than in Australian long day care centres. Table 5 shows average scores in recent studies of quality in ECEC services in the United States and England in comparison to the 2010 E4Kids findings for Australia. The Cost, Quality and Child Outcomes Study observed quality for three- and four-year-old children using the ECERS in 400 childcare centres in four US states, chosen to reflect a range of qualities and regulatory situations in the United States. The average observed quality of 4.38 compares to an average quality finding of 3.52 (using three ECERS-R subscales) in long day care centres in two Australian states in the E4Kids study. In other words, the Australian quality score in child care centres was significantly lower than that in the United States. However, since E4Kids scored three ECERS-R subscales whereas the US and UK studies included additional subscales, the relatively lower Australian results may in part be owing to this difference. In other non-academic domains, such as Emotional Support, average results were the same as in a United States study.

The quality of early childhood education and care services for three- and four-year-old children has recently been assessed (Sylva et al., 2006) in England by the Effective Provision of Pre-school Education study (EPPE). The sample consisted of 141 services of different kinds. Observational quality was measured using both the ECERS-R and the Early Childhood Environment Rating Scale—Extension (ECERS-E). This latter instrument was developed specifically for assessing the curricular aspects of quality, including pedagogy, in pre-school centres subject to the English national Early Childhood Curriculum. The four subscales of ECERS-E are Literacy, Mathematics, Science/Environment and Diversity.

<table>
<thead>
<tr>
<th>Location</th>
<th>Source</th>
<th>Data set</th>
<th>Type of ECEC service</th>
<th>Quality–measure</th>
<th>Quality–mean (SD)</th>
<th>E4Kids comparable data</th>
</tr>
</thead>
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<tr>
<td>United States</td>
<td>Peisner-Feinberg et al. (2001)</td>
<td>COCO</td>
<td>400 child care centres in 4 states (3–4 years old)</td>
<td>ECERS</td>
<td>4.38 (1.07)</td>
<td>3.52 (0.72)</td>
</tr>
<tr>
<td>Mashburn et al. (2008)</td>
<td>NCEDL and SWEEP</td>
<td>671 state-funded prekindergarten classrooms in 11 states</td>
<td>ECERS-R</td>
<td>3.85 (0.82)</td>
<td>3.89 (0.74)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Emotional Support–CLASS</td>
<td></td>
<td>5.57 (0.68)</td>
<td>5.54 (0.78)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Instructional Support–CLASS</td>
<td></td>
<td>2.08 (0.83)</td>
<td>2.32 (0.78)</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>Sylva et al. (2006)</td>
<td>EPPE</td>
<td>All (6) types of ECEC service used by children 3–4 years (n = 141)</td>
<td>ECERS-R</td>
<td>4.34 (1.00)</td>
<td>3.50 (0.83)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ECERS-E</td>
<td></td>
<td>3.07 (1.01)</td>
<td>N/A</td>
</tr>
</tbody>
</table>

states is 4.42; the E4Kids score was 4.91. The Australian average was significantly higher than in the United States. The t-test was significant, t(131) = 4.58, p < 0.001: this equates to a medium effect size (\(d = 0.60\)) as described in Cohen (1988). The average result across 11 states for the Instructional Support domain was 2.08; the corresponding value in E4Kids was 2.32, again significantly higher t(98) = 2.55, p < 0.05 than the United States result. However, this is a small effect size (\(d = 0.29\)). Further, the E4Kids results included Literacy Focus as one of the dimensions of the Instructional Support domain for the analysis. Literacy Focus is a newly developed dimension and most US studies do not include it, and our result without this dimension show a higher mean score (M = 2.35, SD = 0.76) since most rooms obtained a score of one on the literacy focus dimension with little variation across a variety of ECEC services, including kindergarten classrooms. By excluding literacy focus, the difference between US and Australian scores is greater: the effect size is moderate to large (\(d = 0.74\)).

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As Table 5 shows, the average score on ECERS-R in England was found to be 4.34 (between minimal and good, medium quality on our scale). The closest comparison in the Australian E4Kids study may be the average ECERS-R (three subscales) score on all services: a score of 3.50. In other words, the program provided in British preschools may be of higher quality than in Australian ECEC centres. This finding runs contrary to the previously discussed international comparative reviews of Australian settings. We question standing interpretations of superiority for Australian ECEC service results that were based on the QIAS accreditation system (see, for example, Fenech et al. 2010), especially given our finding that the ECEC service with the highest quality scores was preschool, a service that was not included in QIAS.

Although United States and English child care services appear to be rated higher in global quality than Australian long day care, Australian preschools still outscore their American counterparts on the instructional and organisational domains. A partial explanation of Australia’s slightly stronger performance in the academic measurement is a recent federal initiative that prescribes a learning framework and levels of quality for all ECEC services across Australia. In 2008 a partnership between Australian Federal, state and territory governments announced significant reforms in ECEC, with particular focus on addressing improvements in quality. The National Early Childhood Development Strategy (COAG, 2009a) heralded the new National Quality Standard (NQS) (COAG 2009b) addressing standardised staff-to-child ratios, streamlined and integrated regulatory arrangements, development of a suitable workforce, and a quality rating system that assesses all ECEC services according to their observed quality (ACECQA, 2012), being implemented progressively from 2012.

Conclusion

The recent spate of Australian ECEC reforms has further fortified Australia’s reputation in the ECEC field. Although it is tempting to unilaterally laud these reforms, it is important to recall our general conclusions about ECEC quality in Australia in 2010 (i.e. mostly of medium quality, with instructional support quite low). Indeed, the quality assessments reported in this paper present a distinctly different picture of the quality of ECEC services in Australia than the relatively high results from the prior QIAS system and some previous empirical work. Whereas Australia was reported as having higher-quality services than elsewhere, comparing United States and English studies with the 2010 E4Kids data, the results are similar. We found evidence that Australian preschool settings are slightly stronger in the areas of classroom organisation and instructional support, yet even in these areas our standardised, internationally validated rating tools returned overall scores that averaged in the low-to-medium range. Our findings, observed at the outset of the new Australian Quality Framework, suggest that no ECEC service type or setting can be complacent about the pedagogy and practice within their everyday programs. Services might reconsider the quality of interaction within programs, particularly since the new NQS rating system (ACECQA, 2012) heralds a strong focus on process quality through the educational program and practice.

E4Kids is the first study of its kind in Australia where the CLASS measure has been applied to assessing teacher–child interactions. The study provides some interesting results across the three domains of the CLASS (emotional, organisational and instructional support) and its findings should contribute significantly to Australian ECEC policy and practice by raising the level of interest in how and why teaching and learning behaviours captured by the CLASS dimensions are manifest in this way in the rooms observed. Most importantly, it is giving us perhaps a more realistic picture of where Australian early childhood programs stand in the international arena.

Clearly there is potential for deeper understanding of how children’s learning is facilitated within ECEC settings. An international research effort toward advancing interactions measurement systems is underway, alongside further study of the interactions within everyday early childhood programs. Global cooperation and interest in early childhood provision does not solely focus on the adult worlds of economics and politics; rather it extends to the advancement of all children’s social and academic achievements.

Acknowledgements

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The E4Kids team thanks the ECEC services: directors, teachers and educators, children and their families for their ongoing participation in this study.

References


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Introduction

Transition into a formal educational program is a major change in children’s educational lives (Vogler, Crivello & Woodhead, 2008). Established views in the literature suggest children’s later achievement, or lack of achievement, within the school environment is related to their early school experiences, including transition (Brooker, 2002; Dockett, Perry, Howard, Whitton & Cusack, 2002; Hamre & Pianta, 2001; Pianta & Rimm-Kaufman, 2006). The gifted education literature stresses the importance of early recognition of the learning needs of young gifted children (Harrison, 2005; Sankar-DeLeeuw, 2004). Yet little attention has been paid to the educational experiences of young gifted children (Koshy & Robinson, 2006), particularly their experience of transition into a formal learning environment. As a consequence it is difficult to ascertain their learning needs, as well as the influences that contribute to a positive learning environment for them. The research reported here draws on a study of the transition experiences of seven young gifted children as they adjust to preschool, followed by transition into primary school, in suburban Melbourne, Australia (Grant, 2011).

Background on transition

Transition—where young children move from one learning environment to a new one—is accepted as requiring significant adjustment for the individual (Brooker, 2008). The transition into school has been consistently reported as having long-term implications for a child’s school life (Vogler et al., 2008). Follow-up investigations of children’s academic competency at school, three and five years after starting, indicate a strong and positive correlation between early experiences in the transition period and academic achievement (Birch & Ladd, 1997; Hamre & Pianta, 2001). Transition between learning environments is also reported to influence a child’s social and emotional development. It requires re-orientation of a child’s sense of self (Lam & Pollard, 2006), which can impact on social and emotional development so that interaction between all developmental domains needs to be considered if children are to experience transition in a positive way (Griebel & Niesel, 2003). Some reports of early experiences at school for young gifted children illustrate that, when planning for intellectual learning is unsatisfactory, these children also experience social and emotional difficulties in adjusting to the learning environment (Harrison, 2005).
Continuity is consistently presented in the transition literature as an essential element in children’s successful transitions into a formal learning environment. Specifically, the extent to which children make a positive adjustment to a new learning environment is influenced by three significant aspects of continuity:

- continuity of opportunity to learn
- continuity of relationships
- continuity in the form of communication between learning environments (home and formal) (Brooker, 2008; Brostrum, 2005; Dockett et al., 2002; Vogler et al., 2008; Yeboah, 2002).

The influence of continuity is also apparent in reports of transition difficulties resulting from discontinuity (Margetts, 2002). However, the few studies available on the experiences of young gifted children in a formal learning environment (Harrison, 2005; Hodge & Kemp, 2006; Sankar-DeLeeuw, 2004; Whitton, 2005) do not directly address the influence of continuity or discontinuity. This paper is an effort to bridge the gap in the literature by reporting findings on young gifted children’s experience of transition within the three aspects of continuity above.

**Methodology and methods**

In this research project qualitative case study methodology was chosen, because it supported understanding the qualitative characteristic of searching for the meaning given by participants to transition into a formal learning environment (Pianta & Rimm-Kaufman, 2006). A case study encompasses a whole situation (Stake, 2005). Therefore, investigation into the meaning for the children, as well as by the early childhood educators and the children’s parents about transition experiences, was important in this study. The curriculum and pedagogy are also proposed as a critical influence on gifted children’s experiences, so data collection included the characteristics of these elements in the environment (Harrison, 2005).

A ‘natural boundary’ is present in case study (Stake, 2005), and in this research was exemplified in the context of a single preschool class and three beginning-school classes. Such a boundary also applied to the duration of data collection—over the span of one academic year—as well as indicating that all main participants in the case be included—the children, their parents, and their early childhood educators. Observations, as well as semi-structured interviews with all participants were the major focus of data collection, but valuable contributions were provided by informal conversations between the researcher and participants. Analyses of data involved intensive content analysis of all sources of data leading to development of conceptual categories, and eventually themes relevant to transition (Richards, 2005). Continual interrogation of the emerging themes and the data eventually allowed a synthesis of the particular influences on the children’s experiences in a new learning environment.

When gifted children are the focus of a study, the number of potential participants is limited, therefore selection cannot be random. For these reasons the participant children were a ‘purposive sample’ where, as Stake (2005) advises, the aim is to select worthwhile examples of the case. While the resulting sample group was small, the design of the study allowed for in-depth gathering of data, providing ‘rich and thick’ description of the children’s experiences (Merriam, 1998). The findings of particular influences on the transition experience of the young gifted children are reported in a narrative form allowing the reader to assess the credibility of the description and explanation as well as the usefulness of the findings in relation to their understanding of the topic. This approach to reporting is used in some qualitative studies as a form of substantiation of the trustworthiness of the findings (Janesick, 2003).

The identification of advanced cognitive ability in these seven children occurred through the following assessment approaches: Stanford Binet IQ test (SB5) (Roid, 2003); Peabody Picture Vocabulary Test (PPVT) (Dunn & Dunn, 1997); and Ravens’ Coloured Progressive Matrices (RCM) (Raven, 1996). The reliability of these measures in assessing general intellectual functioning is well accepted (Smutny, Walker & Meckstroth, 1997).

**Results**

Findings about the young gifted children’s experience of transition into a new formal learning environment suggested three important areas where the presence or absence of continuity influenced their adjustment.

1. Experiences of the learning environment.
2. Experiences of relationships.
3. Communication between learning environments.

The following narrative presents the experiences and influences on the children’s adjustment to a new learning environment.

**Experiences of the learning environment**

**Home**

Home learning experiences for each participant child illustrated an enriched environment with many opportunities for high levels of intellectual stimulation. For instance, Michael displayed an early interest in mathematics and between the ages of two and three years he largely taught himself to count forwards and backwards to 100 and to calculate simple addition and subtraction.
At about age three Michael had become so eager for new mathematical learning that his parents decided to become more involved. They offered him learning goals and direct instruction, hoping to ensure his new learning was correct.

The characteristics of enriched learning at home varied for each child. Some were focused on academic activities while others were more ‘playful’, but all the children engaged with obvious enjoyment in complex cognitive activities. Justin, four years of age, relished in-depth conversations with his father about possible constructions—specifically, how they could build a real rocket ship. Stephen, at age three, was recruited by his older sister (aged six years) to ‘play at school’. He thoroughly enjoyed this, and from his sister’s ‘teaching’ rapidly learned to read and do simple maths. All parents reported their child’s eagerness to learn as well as the effort required to respond to their child’s interest in high levels of intellectual stimulation. Such characteristics of home learning form a home-learning mode (Bernstein, 1996).

Preschool

The learning environment at the children’s preschool was also an enriched one, albeit with a different philosophical focus from that of home. The environment provided a wide range of materials, which were beautifully presented. The curriculum represented a developmental approach to interpreting children’s learning needs, with largely non-interventionist teaching strategies (Arthur, Beecher, Death, Dockett & Farmer, 2012). Thus, in a typical day, child-initiated play was the main activity. Observations of teaching goals or interactions with these young gifted children did not provide examples of interactions or activities comparable to the intellectual level available at home.

The marked cognitive and learning-mode difference between home and preschool prompted differing responses from these young gifted children. Michael became extremely emotional about attending his preschool. He cried as he arrived each morning and frequently throughout the day. His preschool educator evaluated such behaviour as emotionally immature, but also stated she was confident Michael would mature if ‘he was just allowed to play like the other children’. However, Michael’s tears only ceased when his parents were directive in a way that was familiar, from his home-learning mode. At end of term one, they requested he ‘stop crying all the time [at preschool]’, and they offered him a specific goal: he should learn to be a friend at preschool. The next day there were no tears, and Michael declared he now knew what he had to do at preschool—make a friend.

Lily, Susan, Cathy, Justin, Peter and Stephen showed more resilience in coping with the different learning environment. Observations indicated they had only a desultory interest in engaging with available age-typical learning experiences; however, they did show interest in interacting with their age-peers. Where Michael’s response to the intellectual and learning-mode difference was extremely emotional, the others appeared to cope by maintaining a separate sense of self between home and preschool. The findings indicate that at home they had a well-established ‘cognitive-learner identity’, while at preschool, where their advanced intellectual ability had not been acknowledged, they had a ‘social-emotional identity’, as a member of a peer group.

School

All seven children started school feeling confident about themselves as learners. Lily stated, ‘I’m coming to school to learn lots of new things: I’m good at learning.’ Their confidence persisted, identifiable in observations of high levels of intrinsic motivation to learn. Such motivation, which was evident in their home learning environment, continued as a characteristic of the children’s engagement with school throughout the year. In the last month of the school year, Justin declared, ‘I have learnt to read this year and I have now read 200 books.’

Table 1. Assessment results of participant children

<table>
<thead>
<tr>
<th>Child – age at assessment</th>
<th>PPVT</th>
<th>RCM</th>
<th>Age equivalent based on PPVT norms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michael: 4 years 10 months</td>
<td>N/A</td>
<td>Equivalent SB5 subscale of visual/spatial was 114—82nd percentile</td>
<td>SB5 equivalent (approx.): 5 years 9 months</td>
</tr>
<tr>
<td>Stephen: 3 years 11 months</td>
<td>N/A</td>
<td>On 90th percentile</td>
<td>SB5 equivalent (approx.): 6 years 11 months</td>
</tr>
<tr>
<td>Peter: 4 years 10 months</td>
<td>91st percentile</td>
<td>Above 95th percentile</td>
<td>6 years 7 months</td>
</tr>
<tr>
<td>Cathy: 5 years 1 month</td>
<td>93rd percentile</td>
<td>Above 95th percentile</td>
<td>6 years 2 months</td>
</tr>
<tr>
<td>Lily: 5 years 2 months</td>
<td>96th percentile</td>
<td>Above 75th percentile</td>
<td>7 years 8 months</td>
</tr>
<tr>
<td>Susan: 5 years 4 months</td>
<td>96th percentile</td>
<td>Above 95th percentile</td>
<td>7 years 11 months</td>
</tr>
<tr>
<td>Justin: 5 years 4 months</td>
<td>99th percentile</td>
<td>On 90th percentile</td>
<td>8 years 10 months</td>
</tr>
</tbody>
</table>
The extent of assessment of prior learning by their school’s teachers varied widely. Michael’s level of learning was individually assessed by his teacher in order to find the upper limits of his current ability and skills, and an individual learning program was provided in response. However, with the other six children, learning program responses were confined within normative expectations of children’s progress. This was true of initial school assessment of early learning—simple baseline assessment of core literacy and numeracy skills. Despite remarking during the year on the excellent academic progress made by these children, most of the teachers made no further assessment of potential levels of learning.

The learning program in the early weeks of school largely consisted of free choice, play-like activities for all but Michael, because the teachers understood this practice maintained continuity with preschool. This had an adverse impact on a number of the children; for instance, Peter became very disillusioned with school as a result and his parents had to enforce that he go each day. Only when stimulating learning was provided about four weeks later did Peter’s opposition start to disappear. Over the year, learning opportunities at school for most of the young gifted children were offered within the normative learning program and thus were only ever an estimation of levels of learning. While all the children continued to express eagerness for new learning, by the end of their first year the extent to which their adjustment at school was positive correlated to the availability of new learning.

The children’s feelings about school ranged accordingly. Michael was most enthusiastic, and his father commented:

At school, Michael’s started learning Greek and is keeping up his Italian. He is learning to spell long words that are new to him, and he is continuing his maths at grade-four level. He has been made the class representative for the school council. He feels so good about himself at school.

In contrast, Justin expressed his increasing frustration with the lack of new learning. He wrote to his teacher:

Well I think that [beginners] should have harder work. Because they have work that you don’t have to do. I have been taught how to spell ‘cat’, I learnt this last year.

Each teacher reported that a high priority in their program was that each child feels emotionally secure at school, as well as establishing social connections. Except for Michael’s teacher, they all said socio-emotional adjustment was more important than intellectual progress in the first year, and observations indicated the socio-emotional emphasis remained prominent throughout the year. This caused adjustment difficulties, for most of the children at different times during the year (for instance, Peter’s early reluctance to go to school). However, despite this, at the end of the year these children maintained some enthusiasm for school. Why was this enthusiasm preserved? It appeared that the relationship with their teacher was very important, and this contributed to continuity within the transition experience.

**Experiences of relationships**

**Young gifted child and educator**

Those child–educator relationships observed to be most supportive of the young gifted child combined emotional security and high levels of intellectual stimulation. Where both elements were present the child reported the relationship as important and they liked going to preschool or school. But where both were not present or satisfactory intellectual stimulation was intermittent, then attendance was correspondingly less satisfying for the child. A prominent feature in these relationships was a form of exclusive conversation on topics not typical of their age-peers. For instance, Michael played chess on his home computer and brought a book on strategies to school to show his teacher, to discuss with her how she could improve her chess game. Such opportunities for exclusive conversations on intellectually stimulating topics were only occasionally observed at preschool, and only in the gifted child–educator interactions. The school-teachers reported such conversations as characteristic in their interactions with these young gifted children, and that they enjoyed this aspect of the relationship. For instance, Cathy’s teacher commented, ‘Cathy will have a joke with me and she has enough intelligence [at five years] to understand my jokes.’

While the teachers acknowledged the children’s advanced cognitive development, opportunities for highly stimulating topics were only ever offered in informal conversations. That is, with the exception of the learning program for Michael, the teachers were not prompted by their awareness of the children’s advanced intellectual ability to plan appropriate stimulating learning for the gifted children. The apparent contradiction in the children’s strong positive feelings for their teacher and also that they wanted ‘new learning’ can be explained by the apparent similarity in the relationship between child and parent at home, and that of child and teacher. In other words, at school intellectually stimulating conversations between adult and child provided a form of interaction that was familiar from home and as such provided a feeling of continuity. Specifically, this aspect of the relationship was supportive of the children’s sense of self, as they made the adjustment required within the transition experience.

**Young gifted child and age-peers**

Observations of peer relationships for the children in this study indicated that these ranged from close friendships which continued from preschool (for Peter and Justin),
to Stephen, who had no continuing peer relationships from preschool. The teachers judged that all the children had made a successful emotional transition into school and established satisfactory friendships, although they also noted that the gifted child behaved in ways different from their age-peers. Justin’s teacher commented:

Justin usually has better ideas about how to do things than the others, but despite his bossiness [about this], the other children are very attracted to him and he is highly popular. He has the ideas and the other children are drawn to him for that, I think.

The literature suggests that established peer relationships provide important social continuity for children as they transition into school (Brooker, 2008). Early analysis of the data about peer social interactions for the gifted children indicated little continuity in this form, initially suggesting that this understanding may not be relevant to the experience of young gifted children. However, reflection on the data suggests continuity was present but required a different interpretation.

Friendships for all children can be evaluated on the basis of their ability to offer three qualities:

- social validation
- exclusivity (having a special friend)
- low levels of conflict (Ladd, Kochenderfer & Coleman, 1996).

Through this lens of ‘quality’, several or all qualities were identifiable in the continuing and newly established friendships of these gifted children. Thus, in these relationships (where different behaviours characteristic of gifted children were observable), continuity was enabled by peer acceptance of these children for who they were. Social continuity existed not simply because of the presence of children they already knew, but because peer-relationships validated the gifted child’s sense of self.

Communication

The preschool-educators were diligent in enquiring about the children’s home environment, and established open and two-way communication with the parents of these children. But the data indicate that, although they were informed, they did not satisfactorily understand the learning needs of these children.

Michael’s educator was especially thorough in communicating, but the information unsettled her rather than reassuring her that she understood Michael’s prior learning. Hearing about advanced academic learning and skills that featured in Michael’s home experiences raised concerns for his educator about the absence of a breadth of age-typical activities in his everyday life. This concern only grew as Michael struggled to adjust to the preschool learning environment, and his educator concluded that Michael’s different mode of home learning was the cause of his difficulties. When other parents described their child’s markedly advanced behaviours at home, the pre-school educators subsequently focused on planning for learning and skills that were identifiable as not advanced in the child. This is a deficit view of learning. One conclusion is that it was not a satisfactory ‘partnership with parents’ that was lacking, but an understanding of the available information.

As the children transitioned from preschool to school, different perspectives on communication were discernible. An extensive portfolio of each child’s learning at preschool had been created and parents were encouraged to share this with their child’s new teacher. But communication in this form did not occur. Parents reported that early interactions with schools implicitly conveyed a message—information to assist their child with entering school was confined to topics prejudged by teachers to be pertinent. Immature behaviour or skills and health issues were relevant, but information about current levels of learning, and in particular a parent’s awareness that their child was developmentally advanced, were not invited. Peter’s teacher commented:

I don’t ask [parents or preschool teachers] for any background. Apart from any health issues, I like to see them with new eyes.

Only the existence of a formal IQ assessment of Michael and Stephen’s ability appeared to circumvent this barrier to communication. The parents of these two boys and their teachers met before school started, to discuss prior learning and an appropriate school response to different learning needs. However, amongst those parents who did not have a formal identification of their child’s advanced ability, it was understood that any communication from parents to teachers was restricted to socio-emotional or health problems.

Arguably the teachers had little idea of what their new students had experienced at preschool. None ever visited the preschools and neither did the preschool-educators initiate contact or propose visits to their students’ prospective schools. Unless a child had social and emotional difficulties, the flow of any information about the child’s levels of learning was restricted. Overall, the approach to communication acted to exclude information about the child in prior-to-school, home or preschool settings and resulted in a flow of information mostly from teachers to parents.

Discussion

The concept of continuity as a significant contextual influence in children’s experiences of transition has been detailed in the literature as the importance of continuity in communication between environments, in learning.
cultures, and in relationships (Brooker, 2008; Brostrom, 2002; Dockett & Perry, 2004). The extent of continuity or discontinuity is accepted as predictive of a child’s successful engagement with learning in a formal learning environment (Vogler et al., 2008). The evidence from this current study on young gifted children confirms continuity and discontinuity as significant influences, yet it also indicates that the children’s advanced development resulted in different experiences of continuity from those suggested in the literature as important. To date, the nature of continuity in the experience of transition for the young gifted child has not been raised elsewhere, and this is the focus of the following discussion.

How might giftedness affect continuity in experiences of the learning environment?

The parents’ reports of home-learning modes described intense and enthusiastic child–parent learning opportunities including guidance about learning goals and intentional interactions to develop specific understandings or skills. Such learning support is identified as typical of the home lives of gifted children, but not so of more age-typical children (Gottfried, Gottfried, Bathurst & Guerin, 1994). An example of such learning opportunities can be seen in Justin’s conversations about building a real rocket ship. However, while home-learning modes were responsive to advanced cognitive abilities there was little similarity between these and the preschool learning mode. This difference introduced a discontinuity between learning environments. Such discontinuity provides an explanation for the observed lack of engagement by the participant children in preschool learning experiences, and Michael’s intense emotional distress.

‘Culture shock’ is a descriptor employed by Brostrom (2005) to highlight a potentially detrimental effect on children when preschool and school hold markedly different expectations of intellectual learning and pedagogical approaches to learning. Included in current early childhood policy is the recommendation that educational practice should support similarities between learning environments (DEEWR, 2009). Practices that reflect understanding of similarity were observable; for instance, in the prevalence of free-play activities in the school classrooms at the beginning of the year. However, the outcome of these understandings were practices which resulted in a de-emphasising of intellectual learning which, rather than supporting continuity for young gifted children, perpetuated a gap between home and school learning already experienced at preschool. Observations of the children’s level of engagement illustrated that the availability of opportunities for new and intellectually satisfying learning coincided with the children’s general view that they liked going to school. While all the participant children expressed a high level of anticipation of and continuing interest in school learning, their adjustment was correspondingly negative when intellectual content was not new or interesting—as illustrated in Peter’s adverse response to play activities at school.

In the nexus between home, preschool, and school learning, the positive influence of continuity in the transition process for the young gifted children was found in the similarity of the home and school learning environments. In contrast, the preschool learning environment, with its different approach to learning and pedagogy, did not provide cognitive continuity with either the children’s home-learning mode or with that of the beginning-school class. This finding indicates continuity was present for the young gifted children only when the new learning environment contained elements familiar from their home mode of learning—in particular family supported opportunities for new intellectual learning.

When accelerated intellectual concepts and skills and a particular approach to learning have been characteristic of learning at home, continuity requires these characteristics also be present in the new formal learning environment. Brooker (2002) noted the importance of such provision in regard to differing ethnic and cultural expectations of formal learning environments. However, it has not been previously remarked on in considering transition experiences for young gifted children. This may require all early childhood educators to provide for modes and levels of learning that are markedly different from their usual understanding of good educational practice, as occurred with the preschool educator’s view of Michael’s early formal academic learning. Nonetheless, good practice as noted in the Early Years Learning and Development Framework (DEEWR, 2009) is to be aware of the individual perspectives, expectations and experiences of all children as they make the transition into a new learning environment. This requires a professional awareness of the curriculum content and pedagogical practices which are familiar to a young gifted child.

How might giftedness affect continuity in experiences of relationships?

The literature emphasises the importance of continuity of relationships as children transition from their preschool setting to school (Hamre & Pianta, 2001), although the discussion primarily focuses on the importance of maintaining peer relationships. In this study the relationships with their preschool educator, school teacher and other children were all important to these children. Again, continuity was most evident when interactions were responsive to the children’s giftedness. The children’s reports of relationships with their preschool-educator, and school-teachers highlighted those responses by educators which conveyed an implicit acceptance of behaviours in practice, very different from those of age-typical children. Such acceptance emerged as significant in supporting the gifted children’s
developing sense of self in a new learning environment. As a quality in the child–adult relationship it echoed that of home, and thus enabled a feeling of continuity.

The gifted education literature suggests educators, unaware of different although characteristically gifted behaviours, respond negatively to these differences with subsequent consequences for the child’s engagement with learning at school (Gross, 1993). Harrison (2005) suggests this effect on adjustment to school may be ameliorated by a close relationship with their educator. In the research reported here, the finding of acceptance of these behavioural differences by educators provides details of how a close relationship may be established, and thus engender a positive feeling of continuity for gifted children.

Making the transition with children who are friends or acquaintances is emphasised in the literature as a most significant contributor to children’s feelings of continuity (Dockett & Perry, 2004; Yeboah, 2002). However, the findings described here indicate that continuity is not provided for the gifted child simply in the continuing presence of other children who are known. What emerged as important for these young gifted children in peer-relationships were the responses by other children, which affirmed the gifted child’s sense of self. Typically this included peer acceptance of the child’s intellectual ability, notwithstanding very different behaviours from age-peers. The young gifted children expressed the feeling that they were able to ‘be themselves’ with other children. This characteristic of peer relationships was identified as supporting positive friendships and thus social continuity, regardless of whether these were long-term or newly-developed friendships.

How might continuity in communication influence adjustment?

As children transition into school, good communication channels are emphasised as making an important contribution to continuity in their experience of new learning environments (Pianta & Rimm-Kaufman, 2006). The findings reported here indicate continuity in communication between home and preschool, and the beginning grade of school, was most significantly influenced by educator practice of being selective about what they ‘could hear’. This was illustrated at preschool, where difficulties occurred in understanding the significance of information supplied—not as a result of closed or unsatisfactory channels of communication.

At school, the channels of communication between parents and teachers, as well as between preschool and school, were also restricted. Such communication was characterised by being open to information about deficit learning but selective and unidirectional about other developmental learning. The research reported here indicates that such attitudinal barriers to communication between school-teachers and parents about a child’s ability became academic barriers to the child’s learning. Initially this was present because educators were unaware of the level of cognitive engagement at home, but then continuity was further compromised by assessment approaches that focused on normative expectations of children’s learning. This finding indicates particular problems for the learning progress of young gifted children, and provides an emphasis on the need for extensive and open communication.

Current policy and practice guidelines (DEEWR, 2009) direct educators to establish partnerships with parents, and to formally communicate between preschool and school about relevant learning and developmental characteristics of children in transition. But such requirements can support transition only if teachers are able to interpret behaviours that indicate advanced development. The findings in this current study indicate that most of the educators were not effective at doing this. It is probable that educators at both preschool and beginning-school level continue to know little about the characteristics and learning needs of young gifted children. Thus, it is understandably difficult for them to evaluate information about behaviours indicating giftedness. Significantly, this has implications for continuity in the transition experiences of this sector of students.

Implications and final thoughts

The evidence in this paper, combined with the dearth of attention to young gifted children in the early childhood literature, suggests educators do not know about young gifted children and are therefore not well prepared to satisfactorily support them in their experience of transition. The implication of this situation is that a change in professional awareness of this group of young children is required. This would necessitate increased professional understanding about characteristic behaviours and the concomitant different learning and developmental needs of young gifted children. As this paper has illustrated, it also requires educator understanding of the influence of cognitive continuity for young gifted children, simultaneously with support for their social and emotional development. Such professional understanding involves inclusion of appropriate information into pre-service education, as well as in-service opportunities for practising educators.

At the heart of a focus on young gifted children is a concern about equity of provision. While they exemplify only one aspect of the diversity of children in early childhood programs including the early years of school, they are a sector that has been largely absent from professional discussion. If educational provision is to be truly responsive to diversity, then there is a need for professional awareness and knowledge about how
to ensure full participation for young gifted children alongside their peers. Satisfactory understanding of the learning needs of a young child supports their positive adjustment to a new learning environment and thus contributes to later achievement outcomes in their school life (Vogler et al., 2008). When this provision also encompasses the learning needs of a young gifted child it offers the opportunity for that individual to develop in a holistic way and to their fullest potential. ‘This is what matters.’

Glossary (*)

*1 ‘Early childhood educators’ refers to both preschool educators and teachers in the first year of school. Where appropriate, distinguishing terms are used.

*2 The label ‘gifted’ is commonly used to describe a child demonstrating advanced development in one or a number of areas of learning. As a label it provokes debate in the gifted education literature and is accepted as not always a useful descriptor for young children (Porter, 1999). However, it has become the default term and is used accordingly in this article.

*2 ‘Preschool’ and ‘school’ are used to distinguish these two areas of education, although collectively they are referred to as a formal learning environment.

References


Teacher education, teaching experience and bullying policies: 
Links with early childhood teachers’ perceptions and attitudes to bullying

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This study aimed to examine early childhood teachers’ understanding and attitudes towards bullying and investigate whether anti-bullying policies were utilised in early childhood services. One hundred and eighty eight early childhood educators in Queensland, Australia were surveyed about bullying among young children. The majority of early childhood teachers (93 per cent) believed young children were capable of bullying, and felt confident to identify and manage incidences of bullying. Results revealed a significant relationship between teacher education and perceived confidence in identifying bullying, with university-qualified educators feeling more confident than TAFE-trained educators. Findings are discussed in respect of the importance of anti-bullying policies in early childhood educational contexts.

Introduction
Since the pioneering research of Olweus (1978) into the prevalence of bullying within Scandinavian schools, there has been a significant increase in the examination of bullying in schools worldwide (for a review, see Jimerson, Swearer & Espelage, 2010). Findings from these studies underscore both the short- and long-term negative effects of bullying on children’s psychological wellbeing and academic adjustment (Bonanno & Hymel, 2010; Gladstone, Heilbron & Prinstein, 2010; Klomek, Sourander, Niemelä, Kumpulainen, Piha, Tamminen, Almqvist & Gould, 2008; Kshirsagar, Agarwal & Bavdekar, 2007). Comparatively fewer studies have focused on the early childhood domain as a context for bullying. The few studies that have examined the impact of bullying in the early childhood years underscore the negative effects, with victims and bullies exhibiting negative symptoms similar to outcomes reported among older samples (Arseneault, Walsh, Trzesniewski, Newcombe, Caspi & Moffitt, 2006; Garner & Lemerise, 2007; Ostrov, Woods, Jansen, Casas & Crick, 2004; Perren & Alsaker, 2006). Attempts to counter the negative consequences of bullying have resulted in increased research focus on developing effective methods of intervention. Current intervention efforts reflect an ecological perspective which targets both individuals and the wider school context (Ahtola, Kärnä, Poskiparta & Salmivalli, 2012; Bauer, Lozano & Rivara, 2007; Rigby, 2002). Researchers have also argued for a systemic approach to intervention which is grounded and defined within a school-based policy (Rigby & Johnson, 2005; Samivalli, Kaukiainen & Voeten, 2005). The goal of this study, therefore, was to extend on this research by providing an examination of early childhood teachers’ understanding and attitudes towards bullying and to investigate whether anti-bullying policies were evident among early childhood services in Queensland, Australia.

Bullying in early childhood
Bullying refers to physical or psychological aggressive behaviours that intentionally cause hurt or harm to another child, are typically repeated over time, evolve from a position of power, and are often used to establish dominance within the peer group (Olweus & Limber, 2010). Researchers who have examined bullying among
children differentiate among the different forms. Direct bullying involves face-to-face encounters between the bully and the victim. This includes physical aggression such as punching and kicking as well as direct verbal aggression such as name-calling (Ostrov, 2006). Indirect bullying involves more covert means of aggression and includes harm caused through the damaging of peer relationships through social exclusion or spreading rumours (Monks & Smith, 2006; Ostrov, 2006).

Early childhood teachers’ understanding and attitudes toward bullying

Within the early childhood field bullying or ‘aggressive’ behaviours have been viewed by some teachers as a normal part of child development (Bullock, 2002). Some argue that young children are incapable of such acts and therefore should escape the label of ‘bully’ (Tikkaken, 2004). This lack of awareness is often translated into a lack of response, as evidenced by research reported by Humphrey and Crisp (2008) where parents of preschool-aged children found early childhood staff to be completely unaware of bullying incidents until the parents themselves brought it to the attention of their child’s teacher.

A recent Australian study involving early childhood staff employed across three Brisbane childcare centres showed that staff were hesitant to label children as bullies or victims, instead opting for such terms as ‘inappropriate or unacceptable behaviour’ when describing negative interactions (Farrell, 2010). A similar pattern was reported by Tepetas, Akgun and Altun (2010) who found Turkish preschool teachers were unable to recognise bullying and usually defined it as physical violence and disobedience and did not take into account verbal or psychological characteristics of victimisation. Findings such as these are concerning, given the significant role teachers play in the prevention of bullying.

Early childhood teacher qualifications in Queensland

The qualifications for entry into the early childhood sector in Australia vary widely. For example, childcare centre managers generally hold a diploma in children’s services, while preschool teachers must have a degree (Productivity Commission, 2011). Degree- and diploma-qualified teachers may be the head in classrooms catering for children aged three–five years. In contrast, no formal qualifications are required for employment as a childcare or preschool assistant; however, assistant educators must be enrolled in a Certificate III course in Children’s Services and be actively working towards its completion (Australian Children’s Education and Care Quality Authority, 2011). Diploma-qualified teachers have completed either one or two years of paraprofessional training in early childhood through a tertiary college, while degree-qualified teachers have completed a minimum of three or four years at a university.

At the time of this study, the main qualifications for staff working in Queensland childcare centres were a one-year Certificate III in Children’s Services (for assistants) and a two-year Diploma in Children’s Services (for group leaders) (Office of the Queensland Parliamentary Counsel, 2002; Office of the Queensland Parliamentary Counsel, 2003). Centre directors were required to hold a minimum qualification of Advanced Diploma in Children’s Services, while services providing a kindergarten program were required to have a registered four-year early childhood university-trained teacher to implement the program for a minimum of 15 hours per week and 40 weeks in the year (Queensland Government, 2012). The content of these programs regarding coverage of bullying in pre-service teacher education is largely unknown; however, it is believed that university-based courses would provide more detailed and comprehensive coverage compared with TAFE-related qualifications (Watson, 2006).

Anti-bullying policies

Research has found that teachers do not always identify bullying correctly nor respond to bullying acts appropriately (Farrell, 2010; Yoon & Kerber, 2003). Having clear anti-bullying policies is important to provide guidance to educators, staff and parents as well as ensuring that children’s wellbeing and safety is maintained while attending educational facilities (Queensland Department of Education Training, 2010; Rigby, 2007). The Queensland Government has developed a detailed document aimed to counter bullying in Queensland schools; it provides primary and secondary school educators with practical tools to develop strategies needed to address all forms of bullying (Queensland Department of Education Training, 2010). One recommended strategy aims to encourage schools to develop clear anti-bullying policies in a collaborative effort between staff, students and parents, and is encouraging in its focus on bullying, targets only school-aged students and does not include children in prior-to-school settings such as pre-preps, kindergartens or long day care centres. These services recently shifted from the jurisdiction of the Department of Communities and now fall under the Queensland Department of Education, a shift which has not been reflected in policy commitment or regulations, particularly in the area of bullying.

At the time of this study, the governing agency of quality assessment of services for children aged birth–five years was the National Childcare Accreditation Council (Australian Government, 2005). Since 1 January 2012, all Australian states have moved to a new system of regulations and assessment procedures which are overseen by the newly-formed Australian Children’s Education and Care Quality Authority (ACECQA). Although

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1 However this will not become mandatory until 2014 (The Ministerial Council for Education, Early Childhood Development and Youth Affairs, 2011).
the new Guide to the National Quality Standard does recognise bullying among young children, it too is limited in a commitment to bullying policy. Standard 5.2 of the National Quality Standard addresses how assessors may discuss with educators the ways they support children who are bullied, including social isolation (Australian Children’s Education & Care Authority, 2011). While this represents a move in the right direction, the new standards still fall short in recognising the need for anti-bullying policies for services which care for children under six years of age.

Research has found a direct link between schools with anti-bullying policies and a reduction in bullying. Orpinas, Horne and Staniszewski (2003) reported a substantial reduction in bullying (19 per cent decrease) among children in kindergarten through to Grade 2 in a large US public school following the implementation of a school-based bullying policy. Bauman, Rigby and Hoppa (2008) investigated strategies used by US teachers and school counsellors (n = 735) to manage bullying encounters. Results revealed that 58 per cent of schools had anti-bullying policies and 31 per cent had developed an anti-bullying program. Educators working within schools with anti-bullying policies were less likely than schools without such policies to ignore bullying and more likely to enlist the help of other adults. Of those schools with anti-bullying policies, researchers described educators as feeling obliged to adhere to the policy’s procedures (Bauman et al., 2008).

While the Queensland Government has acknowledged the need to develop anti-bullying policies within schools, such strategies are noticeably absent in the prior-to-school sector. Findings from the Australian study by Humphrey and Crisp (2008) show further support for the importance of having early childhood bullying policies, with parents expressing an overwhelming need for the development of anti-bullying policies and decrying the apparent lack of concern by many of the teachers in their child’s service.

**The current study**

The aims of this study were (1) to examine more closely the factors that influence early childhood educators’ views and responses to bullying and (2) to develop a better understanding of the procedures and policies to help manage bullying in early childhood educational contexts in Queensland.

It was of particular interest whether early childhood educators believed that young children were capable of bullying and whether they could identify bullying behaviours. Based on previous studies (Bullock, 2002; Farrell, 2010; Humphrey & Crisp, 2008; Tikkanen, 2004) it was expected that early childhood teachers would label bullying as inappropriate behaviour and would be unlikely to distinguish precisely between the two (Tepetas et al., 2010).

Very few studies have investigated experienced teachers’ confidence to manage bullying. Boulton (1997) found that school teachers’ confidence was low, and subsequent studies found that pre-service teachers reported low confidence levels in this respect. This study sought to explore whether teaching experience and qualification levels were linked to teachers’ confidence to identify and manage bullying behaviours.

It was expected that all services would have a policy about behaviour management owing to the requirements under the previous accreditation system; however, it was not expected that all of the services sampled would have specific anti-bullying policies, nor would these policies contain terminology such as ‘bullying’. Instead it was expected that policies would be related to inappropriate behaviour (Bullock, 2002; Farrell, 2010), given the general reluctance of the field to acknowledge bullying among young children. Previous research has found that having anti-bullying policies increases the likelihood that teachers will deal with bullying when these behaviours arise (Bauman et al., 2008), therefore it was expected that services with anti-bullying policies would have teachers who are more confident to identify and manage bullying.

**Methodology**

**Participants**

All early childhood services in Queensland, Australia were invited to participate in the study (n = 1337). They included long day/childcare centres, occasional childcare centres/limited hours care services, stand-alone kindergartens or pre-preps (services children attend two years prior to the commencement of Grade 1 in formal schooling—ages three-and-a-half–four-and-a-half years). The list of services was obtained from the federal government website (www.mychild.gov.au) which lists all registered early childhood services catering for children aged five years and under in Australia. Services were invited to participate via an email invitation which contained a link to an online questionnaire on the Survey Monkey website (www.surveymonkey.com).

Each service contacted was categorised as either urban, inner regional, outer regional, remote or very remote. Regions were categorised based on data collected from the Australian Bureau of Statistics (www.abs.gov.au). Only one participant from each service was invited to respond. Of the 188 responses almost 60 per cent were from urban regions, 23.94 per cent were from inner regional, 13.83 per cent from outer regional, and the remainder were from either remote or very remote parts of Queensland. Table 1 provides an overview of the percentage of responses received across the five identified regions.

The majority of services were long day care centres (99.5 per cent), with the remainder either kindergartens or pre-preps (stand-alone or attached-to schools). Only one service...
Table 1. Percentages of responses received over the five geographical regions

<table>
<thead>
<tr>
<th>Region</th>
<th>n services in QLD per region</th>
<th>% Responses per region (N = 1337)</th>
<th>Responses received (n = 188)</th>
<th>Responses received %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>814</td>
<td>60.88%</td>
<td>112</td>
<td>59.57%</td>
</tr>
<tr>
<td>Inner regional</td>
<td>275</td>
<td>20.56%</td>
<td>45</td>
<td>23.94%</td>
</tr>
<tr>
<td>Outer regional</td>
<td>221</td>
<td>16.50%</td>
<td>26</td>
<td>13.83%</td>
</tr>
<tr>
<td>Remote</td>
<td>16</td>
<td>1.20%</td>
<td>3</td>
<td>1.60%</td>
</tr>
<tr>
<td>Very remote</td>
<td>11</td>
<td>0.80%</td>
<td>2</td>
<td>1.06%</td>
</tr>
</tbody>
</table>

Participants’ years of experience working in early childhood varied across the sample, with some having as little as one-year experience and one participant having a total of 41 years experience (M = 14.77 years, SD = 7.22 years). Participants held a range of positions within the sampled services, including non-contact directors (82.91 per cent), contact directors (31.39 per cent), group leaders (5.23 per cent), and assistant directors (3.49 per cent), with the remainder comprising several licencees or nominees, teachers, one trainer/assessor, one administrator and one assistant.

Of all participants, the highest qualifications were postgraduate degrees (n = 5; 3.4 per cent), the lowest being Certificate III in Children’s Services (n = 2; 1 per cent). The majority of participants held an Advanced Diploma (n = 72; 48.98 per cent) and approximately 28.09 per cent of participants held a diploma qualification (n = 31). Two participants had completed qualifications in disciplines other than teaching or childcare courses (1.36 per cent). Twenty-nine participants (19.72 per cent) held either a three- or four-year early childhood teaching degree and six (4.08 per cent) were primary-trained teachers.

Measures

An online questionnaire was developed specifically for this study and was pilot-tested with two independent samples; first with a group of 18 early childhood educators within a childcare centre, and second with a group of 14 early childhood primary school teachers, administrators and principal. Changes were made to the questionnaire based on feedback from both groups.

Teachers’ perceptions and attitudes to bullying

Three questions were used to assess early childhood teachers’ perceptions about bullying. First, teachers were asked to respond to the question, ‘Do you believe that children aged between three and five years are capable of bullying?’ Second, teachers’ confidence levels in identifying and managing bullying were assessed using a five-point Likert scale (1 being ‘not at all confident’ and 5 being ‘very confident’) in response to the following two questions: ‘How confident do you feel in identifying a bullying incident?’ and ‘If you witnessed a bullying episode, how confident would you be in dealing with children’s bullying behaviours?’

Bullying policies

The final set of questions was designed to see whether the service had an anti-bullying policy and if so, what was the nature of this policy. Participants were first required to respond to the question, ‘Does your service have a policy about bullying?’ by selecting one of five options: (1) no policy at all about bullying; (2) yes, we have an anti-bullying policy; (3) bullying is incorporated into another policy but we do not call it bullying (for example, a behaviour management policy); (4) bullying is addressed in a policy but we do not call it bullying; or (5) not sure. Those services that identified having a policy about bullying were asked additional questions.

From a list of 12 statements, participants were asked to select those elements contained within their policy; eight statements encompassed aspects of bullying drawn from the adopted definition: ‘physical or psychological aggressive behaviours that intentionally cause hurt or harm to another child, are typically repeated over time, evolve from a position of power and are often used to establish dominance within the peer group’ (Olweus & Limber, 2010). The remaining four statements referred to general behaviour management. Statements that did not refer specifically to bullying were: (1) ‘excluding children who display regular aggressive behaviour’; (2) ‘inappropriate behaviour’; (3) ‘aggressive behaviour’; and (4) ‘children physically hurting other children’. Statements which referred specifically to bullying behaviours included: (1) ‘repetitive inappropriate behaviour’; (2) ‘repetitive aggressive behaviour’; (3) ‘intentional inappropriate behaviour’; (4) ‘intentional aggressive behaviour’; (5) ‘use of the words “bullying” or “bully”’; (6) ‘children teasing or targeting particular
higher scores indicated that more aspects of bullying were addressed in the policy. Participants who had identified having some form of bullying policy at their centre were asked to describe strategies contained within it that related to the management of bullying. A content analysis identified main themes. The six most common themes that emerged are listed in Table 4.

Procedure

All Queensland early childhood services registered on the federal government website www.mychild.gov.au were emailed an invitation to participate in the study. The email included an information sheet outlining details of the study as well as participation requirements. Consent was deemed to be received upon submission of the online questionnaire. Further information about the study was provided at the beginning of the questionnaire, and ethics approval was received from the Macquarie University Ethics Committee.

Results

The results are organised into three sections. The first section describes findings relating to participants' understanding of bullying in early childhood and their confidence levels in identifying and managing instances of bullying. The second section provides an analysis of anti-bullying policies and the content of such policies, while the final section examines whether there is an association between the number of anti-bullying elements included in policies and participants' perceived confidence in identifying and dealing with bullying.

Relationship between teacher experience and teacher education and perceived confidence in identifying and managing bullying

The majority of participants (92.8 per cent) believed that young children were capable of bullying. Most felt confident of identifying (M = 3.98, SD = 0.76), and managing (M = 4.01, SD = 0.74) incidences of bullying. For analyses involving teacher education, participants were grouped according to those with a university degree qualification and those without. A Mann-Whitney U test was used to examine the association between teacher education and confidence levels. Results revealed a significant relationship between teacher education and perceived confidence in identifying bullying (Z = -2.43, p = 0.015) but not for managing bullying (Z = -0.88, p = 0.377). University-trained teachers (M = 4.21, SD = 0.71) felt more confident in identifying acts of bullying than did TAFE-trained educators (M = 3.83, SD = 0.92). Both university- and TAFE-trained teachers indicated that they would feel equally confident in managing acts of bullying (M = 3.96, SD = 1.11 and M = 3.83, SD = 1.08, respectively).

Analyses examined whether there was a relationship between years of experience and teachers' perceived confidence in both identifying and managing bullying. Spearman correlations revealed that teachers with fewer years of experience felt equally as confident as teachers with more years of teaching experience.

Early childhood anti-bullying policies

This section provides an overview of the different aspects of anti-bullying policies in the participating centres. Results are presented in five ways. First, an analysis examined whether the early childhood services sampled had (1) specific anti-bullying policies; (2) incorporated bullying into other policies; or (3) did not acknowledge bullying at all. The second sub-section examines types of bullying most commonly included in centre policies. The third sub-section examines how comprehensive the policies were by analysing the number of bullying elements included within each policy. The fourth sub-section provides an analysis of the different strategies included in each policy that relate directly to the management of bullying. The final sub-section examines links between the number of bullying elements contained within each policy and participants’ confidence in identifying and dealing with bullying.

Anti-bullying policies in early childhood services

One hundred and fifty services indicated that they had a policy about bullying that was either a specific anti-bullying policy (n = 22; 14.76 per cent), was incorporated into another policy (n = 106; 70.67 per cent), or addressed bullying in a policy but did not call it bullying (n = 22; 14.76 per cent). Twenty-five services (14.37 per cent) indicated that they did not have any policy about bullying.

Participants were asked to select all elements that were addressed in their policies, from a total of 12 options. Table 2 lists the number of times each element was identified within centre policies. The most common element was ‘inappropriate behaviour’ (in 138 services), followed by ‘aggressive behaviour’ (n = 107) and ‘children physically hurting other children’ (n = 89). Interestingly, the three highest-rated elements did not specifically address bullying, and are typically related to inappropriate behaviour. The least common elements were ‘aggressive children having power over weaker children’ (n = 20), ‘children saying nasty things about other children’ (n = 21) and ‘children teasing or targeting other children’ (n = 27). Other elements which are required for a full definition of bullying did not score well either. Only 36 centres used the terms ‘bully’ or ‘bullying’, 45 referred to ‘intentional aggressive behaviour’ and 68 referred to ‘repetitive aggressive behaviour’.
Table 2. Areas addressed in policies

<table>
<thead>
<tr>
<th>Statements found in policy</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inappropriate behaviour</td>
<td>138</td>
<td>92</td>
</tr>
<tr>
<td>Aggressive behaviour</td>
<td>107</td>
<td>71.33</td>
</tr>
<tr>
<td>Children physically hurting other children</td>
<td>89</td>
<td>59.33</td>
</tr>
<tr>
<td>Repetitive inappropriate behaviour</td>
<td>79</td>
<td>52.67</td>
</tr>
<tr>
<td>Repetitive aggressive behaviour</td>
<td>68</td>
<td>45.33</td>
</tr>
<tr>
<td>Intentional inappropriate behaviour</td>
<td>62</td>
<td>41.33</td>
</tr>
<tr>
<td>Excluding children who display regular aggressive behaviour</td>
<td>50</td>
<td>33.33</td>
</tr>
<tr>
<td>Intentional aggressive behaviour</td>
<td>45</td>
<td>30</td>
</tr>
<tr>
<td>Uses the words ‘bullying’ or ‘bully’</td>
<td>36</td>
<td>24</td>
</tr>
<tr>
<td>Children teasing or targeting particular children</td>
<td>27</td>
<td>18</td>
</tr>
<tr>
<td>Children saying nasty things about other children</td>
<td>21</td>
<td>14</td>
</tr>
<tr>
<td>Aggressive children having power over other weaker children</td>
<td>20</td>
<td>13.33</td>
</tr>
</tbody>
</table>

Note. N = 150. Services which had identified having some form of policy about bullying.

Note. Participants were able to choose as many that applied.

Bullying elements identified within individual centre policies

A score of eight was the maximum any centre could achieve, a total of 110 services had policies that contained at least one of the eight bullying elements. Interestingly, 40 services did not address any aspects of bullying, yet nominated that their service had some form of bullying policy.

Results show that most services (75.43 per cent) had between one and four bullying elements, with almost one in four services (24.53 per cent) incorporating five or more elements. The most common number of elements contained within individual policies was two, with 28 (25.45 per cent) services indicating this. Very few services (n = 5, 4.54 per cent) incorporated all of the eight bullying elements into their policies. Of these, two had a specific anti-bullying policy and three incorporated bullying into another policy. Another five services (4.54 per cent) included seven elements within their policies, with either ‘children having power over other children’, or ‘using the terms bully or bullying’ being the only elements omitted within all five policies. Table 3 provides an overview of the number of elements contained within individual policies.

Table 3. Bullying elements included within individual service policies

<table>
<thead>
<tr>
<th>Number of bullying elements (Maximum 8)</th>
<th>Number of services</th>
<th>% of services</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 elements included in individual service policies</td>
<td>5</td>
<td>4.54</td>
</tr>
<tr>
<td>7 elements included in individual service policies</td>
<td>5</td>
<td>4.54</td>
</tr>
<tr>
<td>6 elements included in individual service policies</td>
<td>9</td>
<td>8.18</td>
</tr>
<tr>
<td>5 elements included in individual service policies</td>
<td>8</td>
<td>7.27</td>
</tr>
<tr>
<td>4 elements included in individual service policies</td>
<td>17</td>
<td>15.45</td>
</tr>
<tr>
<td>3 elements included in individual service policies</td>
<td>13</td>
<td>11.81</td>
</tr>
<tr>
<td>2 elements included in individual service policies</td>
<td>28</td>
<td>25.45</td>
</tr>
<tr>
<td>1 elements included in individual service policies</td>
<td>25</td>
<td>22.72</td>
</tr>
</tbody>
</table>

Note. Percentages are calculated based on the number of services who nominated having a bullying policy (not on the sample as a whole).

Strategies identified in centre policies to manage bullying

Participants who nominated that their service had a bullying policy or addressed bullying within another policy were also asked to respond to the following statement: ‘Please identify the main points in the policy which describe how you could manage bullying.’ Seventy-eight (52.35 per cent) responses were received. Table 4 provides an overview of the main themes of centre policies regarding the management of bullying. The most common theme was to ‘involve children’s parents’ (42 per cent). ‘Behaviour management plans’, ‘positive reinforcement’, ‘redirection’ and ‘guidance for staff’ all scored equally (20 per cent), followed closely by ‘teaching strategies to children’ (19 per cent). Most responses related to inappropriate behaviour and few mentioned bullying. One participant described their policy as ‘… not specifically refer[ring] to bullying but does give tips for managing behaviour such as redirection, conversations with families … ’. Similarly, another participant described that the ‘policy does not refer to it as bullying, but ways to manage inappropriate behaviour is provided’. Only six of the 78 responses included ‘dealing with bullying’. 
Table 4. Strategies identified in policies to manage bullying

<table>
<thead>
<tr>
<th>Strategies for managing bullying</th>
<th>% of policies which included these strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Include children’s parents</td>
<td>42</td>
</tr>
<tr>
<td>Develop behaviour management plans</td>
<td>20</td>
</tr>
<tr>
<td>Positive reinforcement</td>
<td>20</td>
</tr>
<tr>
<td>Guidance for staff (strategies to use)</td>
<td>20</td>
</tr>
<tr>
<td>Re-direct children who display negative behaviours</td>
<td>20</td>
</tr>
<tr>
<td>Teaching appropriate strategies to children</td>
<td>19</td>
</tr>
<tr>
<td>Document children’s negative behaviours</td>
<td>17</td>
</tr>
<tr>
<td>Talk with children about negative behaviours</td>
<td>15</td>
</tr>
<tr>
<td>Contact external agencies for support</td>
<td>15</td>
</tr>
<tr>
<td>Management of inappropriate behaviours</td>
<td>14</td>
</tr>
<tr>
<td>Role play with children</td>
<td>10</td>
</tr>
<tr>
<td>All staff work together—team support</td>
<td>10</td>
</tr>
<tr>
<td>Staff attend professional development training</td>
<td>8</td>
</tr>
<tr>
<td>Staff as role models of acceptable behaviours</td>
<td>8</td>
</tr>
<tr>
<td>Dealing with bullying</td>
<td>7</td>
</tr>
<tr>
<td>Support victim</td>
<td>7</td>
</tr>
<tr>
<td>Observe behaviours</td>
<td>7</td>
</tr>
<tr>
<td>Exclude child from activity</td>
<td>6</td>
</tr>
</tbody>
</table>

The relationship between the number of policy elements and participants’ confidence in identifying or dealing with bullying

Pearson correlations were conducted to examine whether there was an association between the comprehensiveness of the bullying policy and teachers’ confidence in identifying and managing bullying situations. A positive significant correlation between the number of policy elements and participants’ confidence levels ($r = 0.258$, $p = 0.006$) showed that the more elements included in a centre’s policy, the more confident participants felt in identifying acts of bullying.

Discussion

Findings from this study contribute to a small but growing body of research that examines factors influencing early childhood teachers’ attitudes toward bullying. Results show that factors such as teacher education and teaching experience along with the inclusion of bullying policies within centres all relate to individual differences in teachers’ confidence in identifying and dealing with incidences of bullying.

Teacher attitudes to bullying in early childhood settings

The most surprising result of this study was the large number of participants who believed young children between the ages of three and five years were capable of bullying (92.8 per cent). This differs from other studies which found early childhood teachers were reluctant to acknowledge the presence of bullying among young children, preferring to describe these negative interactions and behaviours as inappropriate behaviour or a normal part of child development (Bullock, 2002; Farrell, 2010; Tikkanen, 2004). These current findings are particularly encouraging for the implementation of intervention and prevention practices within early childhood educational contexts. Teachers who acknowledge the existence of bullying may be more conscious of setting up learning environments that discourage bullying, supervise children at play more closely, and intervene more quickly when bullying occurs. The awareness of bullying may also encourage teachers to seek out further education about bullying through professional development opportunities to help them combat such behaviours.

Do teacher qualifications and teaching experience make a difference when it comes to identifying and managing bullying?

Teacher confidence

While university-trained teachers felt more confident than TAFE-trained teachers in identifying bullying incidences, there were no differences between TAFE- and university-qualified teachers in how confident they felt about managing children’s bullying. Findings such as these point to the importance of bullying education for teachers of young children. Future research needs to examine in more detail how bullying is addressed in pre-service teacher education both at TAFE and university as well as identifying how other factors such as professional development training may influence teacher confidence levels and knowledge about bullying.

Confidence ratings for identification of bullying were higher than those for managing bullying, suggesting that teachers, while they feel confident in identifying bullying, may feel less prepared to manage bullying situations when they arise. Very few participants indicated that their policy described bullying intervention strategies, which may explain why teachers did not feel as confident to deal with bullying behaviours.

Anti-bullying policies within early childhood services

Only one in five of the participating centres nominated having a specific anti-bullying policy, with the majority of services addressing bullying within other centre policies. While this is lower than percentages reported in a recent
US study which showed 58 per cent of schools had anti-bullying policies (Bauman et al., 2008), it is still a significant proportion given that anti-bullying policies are not compulsory in prior-to-school contexts, as compared to the school domain. This is a positive step in countering bullying among young children as these policies not only provide evidence that early childhood educators believe that bullying is an important issue, but may also provide educators with a means to understand bullying or handle these behaviours appropriately when they arise. Policies may work to guide staff in their identification and management of bullying in early childhood.

Elements of anti-bullying policies

Although results showed that the majority of policies only referred to aggressive or inappropriate behaviour, a number of the services sampled addressed aspects of bullying within their policies using terms such as ‘bully’, ‘repetitive or intentional behaviour’, and ‘power imbalance’, as well as making reference to social exclusion or relational bullying. Of the 150 services that nominated having an anti-bullying policy, only five indicated that they included all eight bullying elements, with the majority identifying between one and four elements. Interestingly, 40 of the participants who nominated that they had an anti-bullying policy within their service did not nominate any bullying-specific elements, instead choosing elements related to general behaviour management. Rigby (2007) points out that many bullying policies tend to be ‘unwritten’; however, the practices employed within schools often reflect key bullying management strategies. It is possible that some of the individual responses in the present study may have been based on ‘unwritten’ or commonly adopted procedures rather than documented policies.

According to Rigby (2007), one of the key features of an effective anti-bullying policy is to have a succinct definition of bullying. Early childhood centre policies should ensure they include clear definitions of bullying.

Bullying policies and teachers’ confidence in identifying or managing bullying

Rigby (2007) identifies the importance of embedding in any policy clear guidelines as to how the school will counter bullying. Many of the policy elements identified in the current study related to general behaviour management rather than bullying, which may go some way towards accounting for the lack of confidence teachers expressed regarding the management of bullying. Further research would need to incorporate both definitional qualities as well as inherent processes for the management of bullying in order to provide a more detailed account of the factors that shape teachers’ confidence to both identify and manage acts of bullying among young children.

Strategies identified in centre policies to manage bullying

Only nine per cent of participants said their anti-bullying policy specifically described strategies for dealing with bullying behaviours. Development of ‘behaviour management plans’ for children displaying inappropriate behaviour was identified as a common aspect of service policies, as was the ‘redirection’ of children’s bullying behaviours, the use of ‘positive reinforcement’ to praise bullies when they are involved in acceptable behaviours and general ‘guidance for staff’. The lack of attention awarded to management strategies represents a significant limitation of anti-bullying policies in Queensland early childhood services. Research has found that teachers must be well-informed about bullying and learn skills to effectively manage these behaviours, with the adoption of whole-school anti-bullying policies key to this success (Fekkes, Pijpers & Verloove-Vanhorick, 2005).

A whole-school approach has been found to be key in developing and implementing anti-bullying policies, and as such the involvement of parents in this process is crucial (Fekkes et al., 2005; Rigby, 2007). It is therefore encouraging that including children’s parents was the most common theme in the present study, and is not particularly surprising given the general ethos of early childhood education, which views parent–teacher partnerships key to the promotion of positive educational and developmental outcomes (Australian Children’s Education & Care Quality Authority, 2011; Australian Government, 2005). Nonetheless, the lack of bullying management strategies for teachers remains a significant limitation and the goal for future early childhood anti-bullying policy development.

Conclusion

Findings from this study are promising as they underscore a growing commitment to the acknowledgment of bullying within Queensland early childhood contexts. Many of the teachers in this study believed that young children are capable of bullying and felt confident in identifying and managing bullying behaviours. Future research would need to include a range of staff members who experience regular contact with children both in and outside the classroom to ensure that these attitudes and the growing commitment to bullying extend to all early childhood teachers and carers regardless of their position.

While there certainly appears to be an increased focus on bullying in early childhood, policies are still limited in their scope, particularly with respect to the inclusion of strategies for teachers to manage bullying. Future research needs to include a more detailed examination of anti-bullying policies so that a greater understanding of the factors that shape teachers’ attitudes towards bullying can be gained as well as key policy elements that impact on teachers’ confidence to both identify as well as manage young children’s bullying behaviours.
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References


A comparison of segregated and integrated infant and toddler programs in one childcare centre

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TO CREATE AN ENVIRONMENT more conducive to the needs of very young children from January 2011, Gowrie SA replaced age groupings, which separated infants and toddlers with integrated infant–toddler programs. The aim of this study was to evaluate this program change by comparing the two types of infant and toddler programs, before and after implementation. The evaluation focused on those areas considered to have most impact on children’s development (Ackerman, 2008): the overall length of time educators and children spend together, the depth of documentation and assessment of children’s learning as evident in learning stories, and the quality of interactions between educators and families during drop-off and pick-up times. Statistically significant differences were found for the first two areas and higher frequencies in the third area, showing overall improvement under the integrated program. Parents’ and educators’ perceptions about the advantages and challenges of integrated infant–toddler programs were also included in the study.

Introduction

In Australia early childhood education is in the midst of a national change process. A key aim is to improve services for children under five years and their families (Australian Children’s Education & Care Quality Authority [ACECQA], 2011) and long day childcare centres are working to improve the learning environments they provide.

Groupings of children in early childhood programs have often been informed by those most suitable for school-age children, where children are taught with other children in the same age group and moved each year to another room (Cryer, Hurwitz & Wolery, 2003). In this paper such groupings are called ‘segregated’. Yet, as neuroscientist Ross Thompson (2006) observed, optimum learning programs for infants and toddlers look very different from those suitable for school-age children. Other ways of grouping children in the early years may offer benefits. Reporting on a research project at Gowrie South Australia (Gowrie SA), this article argues that current groupings of infants and toddlers in long day childcare need to be reconsidered.

Placing children in ‘integrated’ infant and toddler programs, where they are in the care of the same educators until the age of three years, is likely to provide a context in which secure attachments can be developed over an extended period (Schumacher & Hoffmann, 2008; Theilheimer, 2006). (The term ‘educator’ in this article refers to staff working in long day care.) Research demonstrates that the quality of the relationship formed between educators and children in the very early years can have a significant impact on children’s later functioning (Cooper, Hoffman, Marvin & Powell, 2000; McCain, Mustard & Shankar, 2007). A program that gives children just one transition into a new room at around age three years removes the unnecessary stress of adjusting to new people and environments, and losing a significant attachment relationship already established with an educator (Barblett, Barratt-Pugh, Kilgallon & Maloney, 2011; Gunnar, 2006; Zero to Three Policy Centre, 2008). Furthermore, when children move from room to room according to age, their families experience transition stress, and educators may feel a sense of loss (Cryer, Hurwitz & Wolery, 2003; Theilheimer, 2006).

Mixed-age programs need to be combined with low child–educator ratios and small group sizes, as these are the strongest predictors of positive (that is, sensitive, warm, responsive and cognitively enriching) caregiving (Lally, 2007; National Institute of Child Health and Human Development [NICHD], 1996). Ratios and group size have been found to affect educator capacity to engage with children and meet their individual needs (Fiene, 2002; Lally, Torres & Phelps, 1994).
Irrespective of child–educator ratios, the higher the number of children in a room, the greater the likelihood that caregiving will be unresponsive, resulting in increased biological stress in children. Sustained, biological stress over long periods is harmful to children’s development (National Scientific Council on the Developing Child, 2005).

The context
Gowrie SA comprises a 112-place integrated child centre and preschool, a 50-place integrated child centre and preschool, and a training centre which offers professional learning for early childhood staff across the state. The children’s programs have approximately 450 families and a team of 54 core staff.

Gowrie SA has used ‘primary caregiving’ in its programs since 1996. Primary caregiving means each child is linked to one educator who assumes major responsibility for their care (Lamb, 1998, cited in Davies, 2006). The centre has long recognised the importance of providing a learning and development context for children that promotes a secure educator–child attachment (Bowlby, 2007; Cooper et al., 2000). Gowrie SA has made a priority of employing qualified educators owing to the documented correlation between educator qualifications and the quality of program being offered (Burchinal, Cryer, Clifford & Howes, 2002; Degotardi, 2010; Goelman, 2006; Siraj-Blatchford & Marni, 2006).

After consideration of research evidence concerning optimum environments for infants and toddlers, Gowrie SA made the decision to change the program structure for infants and toddlers, from segregated to integrated, retaining primary caregiving practices. The process from consultation to implementation took 18 months.

Evaluation of this major program change was an essential component. The aim of this study was to compare segregated and integrated infant and toddler programs, focusing on areas considered to have an impact on children’s development (Ackerman, 2008). These areas were the overall length of time educators and children spend together; the depth of documentation and assessment of children’s learning as evident in learning stories; and the quality of interactions between educators and families during drop-off and pick-up times. The study also sought the perspectives of families and educators with the question: What do educators and parents perceive to be the advantages and challenges of integrated infant–toddler programs?

Literature review
The literature on the development of very young children is extensive. This review focuses on research most relevant to the three measures and one research question used to evaluate the program.

Overall length of time educators and children interacted
Previous informal observations of Gowrie SA infant and toddler rooms had indicated that, when educators had even small groups of similar-age children, they were often not directly engaged with children because they were preparing for routines and concurrently undertaking needed tasks. It was considered that the introduction of integrated, mixed-age programs may enable educators to spend more time with children in a less hurried way because routines and needs would be spread across the day.

Relationships are central to young children’s optimum development (Thompson, 2006). They are built over multiple interactions between educators and children, including daily experiences and routines. These relationships are subtle and unforced, and allow children to build an internal model for relationships which enables their interactions with others to be re-created and predictable (Bowlby, 1969, cited in Manning-Morton, 2006; Lally, 2007).

A calm, unhurried atmosphere may also be related to the development of child–educator attachment. The combination of responsive, warm and positive interactions, as well as continuity and consistency in the caregiving process, facilitates the development of secure attachment relationships (Colmer, Murphy & Rutherford, 2011; Lally, 2007). A secure attachment ‘means having a predictable, safe, and affectionate bond with an attachment figure’ (Bowlby, 2007, p. 309). Research has established that secure relationships between infants and toddlers and the adults who care for them ‘are critical to early brain development’ (Schumacher & Hoffman, 2008, p. 1). The literature has demonstrated that, when educators are available to children in consistent and predictable ways, the needs of children are likely to be met through the development of secure relationships (Albrecht & Miller, 2011; Schumacher & Hoffmann, 2008) and children show positive outcomes on a range of mental health indicators (Manning-Morton, 2006, p. 47). It was expected that in small, integrated programs for children under three years, educators would spend more time interacting with children.

Depth of documentation and assessment of children’s learning
Gowrie SA had chosen learning stories (Carr & Lee, 2012) to record and assess children’s learning. Learning stories ‘document the learning culture in this place: this is what we do here, this is what we value here’ (Carr, 2001, p. 103). The stories produced, however, often lacked depth and insight into children’s interests and learning. Although this could partly be accounted for by the few days per week most children attended, it was thought that integrated programs would allow educators
to better know and understand children and their families over a longer period, which in turn would improve the learning stories.

Learning stories were developed in New Zealand to improve outcomes for children by strengthening the relationship between educator and child, and to develop ‘… better observation skills, critical thinking, and self-reflection’ (Carter, 2010, p. 40). Learning stories are powerful ways of recording learning because they locate children’s learning in context, and are valued by children, parents and educators.

To offer opportunities for children’s learning, educators need a comprehensive knowledge of their abilities (Hatherly & Sands, 2002). When educators record the learning of a large group of children, often in part-time care arrangements, this goal can be difficult to achieve. The move to integrated programs was likely to be supportive of educators’ capacity to assess children’s learning in meaningful ways.

**Parent–educator interactions at drop-off and pick-up times**

Previous feedback from Gowrie SA families and educators had revealed that both groups highly valued informal interactions, which generally occurred when children were brought to and collected from the service. Ethical considerations and time constraints meant that investigating family–educator non-verbal interactions may be a useful way to compare segregated and integrated programs.

The expectation that educators work in partnership with families (Morrow & Malin, 2004) has increased, with evidence of positive outcomes for children’s wellbeing when this occurs (Duncan, Bowden & Smith, 2006).

Informal opportunities for families and educators to converse with each other at drop-off and pick-up times develop mutual understanding (Hadley, 2010; Wise, 2007).

Reciprocity is a key issue in family–educator relationships. MacNaughton and Hughes (2006, pp. 1–2) state that it is essential to make time for conversations, ensuring that each partner (educator and family member) ‘… makes an equal but distinct contribution’, and Elliot (2003) reported that parents want opportunities to ask questions and gain understanding of children’s learning.

An aspect of these interactions that has not been well researched in early childhood programs is the non-verbal behaviours of educators and parents. Body language is a key component of interactions and communication quality. Findings from other disciplines suggest that non-verbal communication is less consciously controlled and therefore more valid (Ishikawa et al., 2006). Aspects of interest are mirroring, called a ‘common rhythm’ by Kendon (1990, cited in Frascarolo, Besse & Favez, 2005, p. 682) which is created when each partner in a conversation adjusts their actions in response to and in anticipation of the other. When an educator and parent face or partially face each other they are better able to maintain eye contact.

Torso orientation, eye contact and mirroring in conversations between families and educators may convey information about balance of power in the relationship, and thus successful interactions (Frascarolo et al., 2005; Ishikawa et al., 2006).

**Family and educator perspectives**

The literature concerned with parents’ views of childcare programs has endorsed the value of parents as informants of the early childhood programs in which their children are involved (Albrecht & Miller, 2011; Crais, Roy & Free, 2006; Elliot, 2003). Educator views on integrated programs were sought in several meetings.

In this study it was hypothesised that there would be significant differences between the segregated and integrated infant–toddler programs in:

■ the time educators and children spent interacting
■ the depth of documentation of children’s learning
■ the quality of family and educator non-verbal interactions at drop-off and pick-up times.

The research question posed was: What do educators and parents perceive to be the advantages and challenges of integrated infant–toddler programs?

**Methodology**

**Design**

Using both qualitative and quantitative measures, this research compared segregated with integrated programs for infants and toddlers, and investigated educator and parent perspectives on integrated programs. Four types of data were collected to enable comparisons to be made: observational, documentation of learning, video, and meeting discussions.

**Participants**

Gowrie SA is located in the inner western suburbs of Adelaide, South Australia. The research was conducted at the Thebarton campus. The families who use the centre and the educators who work there vary widely in age, family composition, home location and socio-economic status.

Participants were children, parents and educators. Most children attend the centre between one and three days per week.

When children’s groupings were segregated there were a total number of 112 children. The infant group (6-18 months) had 10-11 children each day with three full-time
educator positions, the younger toddler group (18-30 months) had 15-16 children each day with four full-time educator positions, and the older toddler group (18-30 months) had 20 children each day with three full-time and one part-time educator positions.

When children’s groupings were integrated there were a total number of 112 children. Each of the four infant-toddler groups (6-38 months) had 12-13 children each day with three full-time educator positions.

Under both program types participating educators were equivalent regarding gender, age, and level of qualifications. There were similar total numbers of children and families in the two program types. Variables such as age range and number of children in each room, number of educators and room team composition may have had an impact on findings. However, efforts were made to reduce any impact.

Videoing of parents and educators involved 18 families and six educators (segregated program), and 24 families and seven educators (integrated program). In total, 21 educators and 23 parents attended meetings.

**Procedure, measures and analysis**

Once University and Gowrie SA requirements for the ethical conduct of research were satisfied, four data sets were collected. Two data sets (depth of documentation and assessment of children’s learning, and parent and education perspectives) were analysed separately by the two researchers, and inter-rater reliability calculated, with the remainder resolved through discussion. One researcher coded the other data sets.

**Length of time children and educators interacted**

Interaction frequency was observed when the infant-toddler programs were segregated and integrated, and measured by the length of time educators and children spent directly interacting. Data were collected by an observer who time-sampled every five minutes between 9.30 am and 12 noon over 16 days.

The observations were recorded under two categories: when an educator was directly interacting with children and when s/he was not. ‘Directly interacting’ occurred when educators were involved in play and learning experiences, nappy-changing, feeding, assisting children to negotiate social situations, and comforting children or helping them to separate from a parent. Educators were ‘not directly interacting’ with children when they were tidying up the room, cleaning, or setting up experiences, and other such activities. Percentages for ‘directly interacting’ and ‘not directly interacting’ were calculated for the segregated and integrated programs.

Each participating educator in three integrated infant-toddler rooms provided two learning stories for analysis for a child in their primary care group, one written when the programs were segregated, and the other after they were integrated. Data comprised nine learning stories for the segregated program and 12 for the integrated program. This data was analysed using the elements that make a high-quality learning story as suggested by Lee (2011, personal communication, 9 May). Two other elements were added to those of Lee: the inclusion of children’s learning strategies and motivations/dispositions (Carr, 2001), and whether educators had included an analysis of the learning in the story.

Hatherly and Sands (2002), and Wendy Lee (personal communication, 9 May). Two other elements of quality learning stories that could be used to compare the documentation of learning in segregated and integrated program structures.

The elements used were:

- sets the scene (context)
- focuses on significant learning (significance)
- written with reader in mind—parents, educators or children (audience)
- title captures attention (title)
- reads well, and does not use bullet points (flow)
- provokes an emotional response (emotional response)
- contributes to and highlights the child in relationship with others (builds relationships)
- identifies learning strategies that become habits of mind (Katz, 1995) (disposition)
- makes children’s learning visible over time (analysis).

Researchers used a scale to rate the stories according to each criterion’s degree of presence in the learning story: 1 (not evident), 2 (moderately evident), and 3 (strongly evident). Inter-rater reliability was found to be 91 per cent.

**Parent/educator interactions at drop-off and pick-up times**

A staff member familiar to educators, children and families in two rooms took video footage of families and educators interacting during the morning (drop-off), and the afternoon (pick-up). The footage was taken over three weeks in each of the two rooms, 77 minutes in the segregated program, and 125 minutes in the integrated program. The non-verbal elements of these interactions were the focus of the videoing, so conversations were not included.

The categories against which the data were analysed were already generated (a priori analysis) using some
categories from the literature, and some considered relevant to meeting the goals of the research. These included:

- the length of time parent and educator spent together (length of interaction)
- whether participation was equally given by educator and parent (balanced participation)
- whether participants made eye contact and whether this was sustained for longer than five seconds and/or repeated more than twice (Ishikawa et al., 2006)—eye contact not sustained
- who initiated the interaction upon the parent’s arrival (Frascarolo et al., 2005)—parent as initiator
- whether parents and educators matched each others’ stance or actions—mirroring (Frascarolo et al., 2005).

Video footage of the interactions was viewed multiple times.

**Educator and family perspectives**

To involve families and educators in critically thinking about program groupings, a joint parent/educator meeting was held in April 2011. Another meeting was also held for educators in June 2011. Parent and educator input from both meetings was used in the analysis.

In groups of three or four, educators and parents were asked at each meeting to record what they perceived to be the current advantages and challenges of integrated infant–toddler programs. Group agreement was not required. The data were then transcribed and the researchers independently coded it by emergent themes. Inter-related reliability was found to be 89 per cent with the remaining 11 per cent resolved by discussion.

**Results**

This investigation found that on all measures program quality was higher when integrated, providing support for the argument that this integrated program provided a better environment for very young children’s learning and development than the previous segregated program.

**Length of time educators and children interacted**

The hypothesis that in integrated programs children and educators would spend significantly more time interacting, and educators would spend less time engaged in other activities than they had in the segregated programs, was supported (see Figure 1).

A Mann-Whitney test of ranks was used to test for difference in the relevant rankings of time spent directly interacting across the two program types, and revealed a significant effect, $U = 2.0, p = .003$.

When age groupings were integrated, days 11 to 16, the minimum percentage of time educators spent interacting with children was 86.3 per cent, with the highest being 95.7 per cent. When segregated, this percentage was as low as 72.3 per cent, reaching a maximum of 87 per cent. However, the effect of increased time in interaction on educator–child relationships was not addressed in this research.

**Figure 1.** Percentages of time educators and children interacted under segregated and integrated programs ($p = .003$)

![Figure 1](image)

**Depth of documentation and assessment of children’s learning**

It was hypothesised that, as a result of the move to integrated programs, educator documentation of children’s learning would show significantly greater depth and knowledge about each child. Pre-test and post-test scores were generated by summing all nine elements used to assess learning stories (low 1–high 3) to create a score out of 27. The mean and median at the pre-test level were 16.6 out of 17 respectively. At the post-test level the mean and median scores were 21.7 and 23 respectively. A Wilcoxon Signed Rank Test indicated that the shift from pre-test to post was highly significant ($z = 2.6, p = .008$) (see Table 1).

The elements which showed the greatest difference were ‘significance’, ‘audience’, ‘flow’ and ‘emotional response’.

**Parent/educator interactions at drop-off and pick-up times**

The hypothesis that parents and educators would spend significantly more time interacting with each other when programs were integrated was supported.

A Mann-Whitney Test was used to assess differences between the two programs, and a significant difference was found ($p = .019$). Under the segregated program, the 18 interactions recorded averaged 4.25 minutes in length. In contrast, when the age groupings were integrated, the 24 interactions recorded averaged almost a full minute longer at 5.21 minutes. This data showed...
Table 1. Comparison of learning story ratings—segregated and integrated programs test statistics$^c$

<table>
<thead>
<tr>
<th>Contexts 1 &amp; 2</th>
<th>Significance 1 &amp; 2</th>
<th>Audience 1 &amp; 2</th>
<th>Title 1 &amp; 2</th>
<th>Flow 1 &amp; 2</th>
<th>Emot’nal response 1 &amp; 2</th>
<th>Relationship 1 &amp; 2</th>
<th>Disposition 1 &amp; 2</th>
<th>Analysis 1 &amp; 2</th>
<th>Integrated —Segreg’d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z Asymp.</td>
<td>Sig. (2-tailed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-1.342$^a$</td>
<td>.180</td>
<td>-2.126 a</td>
<td>.033</td>
<td>-2.333$^a$</td>
<td>.000$^b$</td>
<td>-2.271$^a$</td>
<td>.023</td>
<td>-2.121$^a$</td>
<td>-1.633$^a$</td>
</tr>
<tr>
<td>-2.121$^a$</td>
<td>.034</td>
<td>-1.633$^a$</td>
<td>.102</td>
<td>-1.633$^a$</td>
<td>-1.02</td>
<td>-1.732$^a$</td>
<td>.083</td>
<td>-1.732$^a$</td>
<td>-2.670$^a$</td>
</tr>
</tbody>
</table>

a Based on negative ranks
b The sum of negative ranks equals the sum of positive ranks
c Wilcoxon Signed Ranks Test

Table 2. Time parents and educators interacted at drop-off and pick-up expressed in seconds ($p = .019$, 2-tailed)

<table>
<thead>
<tr>
<th>&lt; 60 secs</th>
<th>60-120 secs</th>
<th>121-180 secs</th>
<th>181-240 secs</th>
<th>241-300 secs</th>
<th>301-360 secs</th>
<th>361-420 secs</th>
<th>&gt;421 secs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Segreg’d</td>
<td>2 3 6 3 0 0</td>
<td>3 6 4 2 3 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrated</td>
<td>0 1 3 6 4 2</td>
<td>3 6 4 2 3 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 (same parent)</td>
</tr>
</tbody>
</table>

Table 3. Frequencies for elements of non-verbal interactions by segregated and integrated program

<table>
<thead>
<tr>
<th>Interactions</th>
<th>Segregated (18 interactions)</th>
<th>Integrated (24 interactions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balanced</td>
<td>12</td>
<td>22</td>
</tr>
<tr>
<td>Eye contact not sustained</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Parent as initiator</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Mirroring</td>
<td>8</td>
<td>14</td>
</tr>
</tbody>
</table>

Table 4. Frequencies for categories of advantages and challenges regarding the integrated program reported by educators and parents

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Educators (n=21)</th>
<th>Parents (n=23)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Older and younger children learning from and modelling for each other (empathy, problem solving, engaging in challenging experiences, language development)</td>
<td>20</td>
<td>9</td>
</tr>
<tr>
<td>More opportunities for 1:1 time with children and families, meeting individual needs, environment is calmer and tidier, documentation more consistent</td>
<td>14</td>
<td>6</td>
</tr>
<tr>
<td>Growing professionalism of educators (that is, broader child age range = greater flexibility, learning, enjoyment, being open to change, changing frame of thinking from age to individuals, opportunities for planning)</td>
<td>15</td>
<td>4</td>
</tr>
<tr>
<td>Family members together (family model)</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Improvement in relationships between educators and families (continuity, quality, length of relationships, contributing to a sense of community, fewer transitions, less stress for children and families)</td>
<td>13</td>
<td>5</td>
</tr>
<tr>
<td>Challenges</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Programming, planning and implementing for age range (that is, types of experiences, new ways of thinking about children and age ranges; safety-toys and younger children with older children)</td>
<td>19</td>
<td>5</td>
</tr>
<tr>
<td>Managing individual routines (that is, different sleep needs of infants and toddlers)</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>Number of educators available at different times of day (that is, shifts, lunch breaks, absence of primary caregiver, tidying room and experiences)</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>Structural issues (that is, bathroom access)</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Supporting families and children transitioning to kindy (independence in toileting, feeding)</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Fewer friendships with same-age children</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Physical challenges for educators</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
that, when the infant–toddler program was integrated, families and educators spent more time interacting at drop-off and pick-up times than under the previous segregated program (see Table 2).

It was also hypothesised that, under the integrated program, parents and educator interactions would be more balanced regarding relative contributions, unsustained eye contact would be less frequent, parents would initiate interaction with educators more often, and there would be increased mirroring between the two parties. This hypothesis was found to be supported in this study (see Table 3); however, owing to the nature of the data, it was not possible to establish levels of significance using statistical tests.

**Parent and educator perspectives**

In the present study educators and parents identified what they saw as the advantages and challenges of the implementation of an integrated infant–toddler program (see Table 4).

Most frequently reported advantages included the following.

- Both groups mentioned that the integrated program allowed children to be part of a context where they could be treated as individuals and learn from each other. One parent observed that an advantage would be for ‘children to have the opportunity to get different experiences and not just be tied into what babies do’. Educators wrote, ‘… older children are caring for younger children, and younger children are learning from older children’.

- Educators thought the integrated program demanded a higher level of professionalism of them. As one staff group wrote: ‘Staff find it rewarding, stimulating and utilising and extending skills.’ Another wrote, ‘The staff team thoroughly enjoys working with the variety of ages.’

- Both groups mentioned the chance to develop ongoing relationships over extended time in a family-style context. As one educator group reported, ‘Great to be able to support “whole” families by having siblings in the room,’ while another said she liked ‘… getting to know children and families for longer and more deeply … Relationships with families have grown’. A parent stated, ‘Peace of mind in being able to start my child in the same room as her cousin—safety and security.’

- Finally, with regard to the daily context of the program, educators reported, ‘Families have fed back that the program has meant that the room is generally calmer and tidier than that of a toddler-only room.’ More favourable ratios were also mentioned by both parents and educators: ‘Three staff with 13 children is great!’

The main challenges concerned how educators would effectively plan for the increased age range, the practical aspects of staffing arrangements, and the impact of these on children’s routines.

- Regarding planning for a broader age range, educators wrote: ‘helping the older children to be engaged in the environment, and also challenged, while meeting the needs of younger children.’

- Routines were also raised. One parent asked, ‘How well are sleep needs being met, given the differences between babies and toddlers?’

- Regarding staffing arrangements, educators mentioned transition times as those most challenging, early in the day when there were fewer staff available owing to timing of shifts, and lunch times.

- Parents also mentioned fewer opportunities for friendships with same-age children.

**Discussion**

In this practice-based study (Green, 2008), significant differences were found between the segregated and integrated programs, with improvements found on the three quantitative measures for the integrated program. It can be concluded that the integrated program offered an improved environment for infants and toddlers. Australian long day childcare centres are most commonly organised into baby, toddler and preschool programs, determined by children’s age (Cryer, Hurwitz & Wolery, 2003). The findings of this study provide a challenge to this program structure, questioning whether segregated programs are providing a barrier to optimum educative care for very young children (Schumacher & Hoffmann, 2008; Theilheimer, 2006).

Research to date places high importance on educator–child interactions (Cooper, Hoffman, Marvin & Powell, 2000; McCain, Mustard & Shankar, 2007). Educators need to spend time directly with children for interactions to occur. The structure of the integrated program may have enabled educators to spend more time with children, perhaps because children’s group sizes were lower and each educator’s group was mixed in age. As a result, demands on educators were reduced and staggered across the day, rather than concentrated at particular times. Even though the segregated program had implemented primary caregiving, the integrated program structure provided an environment which enabled educators to focus on their primary care group and families, and to get to know them better and for longer than had been previously possible. The knowledge that their relationships with children and families were longer in duration may have resulted in educators investing in them more deeply. This finding is consistent with Elliot (2003), who emphasised the
importance of shared dialogue and information between families and staff over an extended period. Within an integrated program, educators may have, through extended relationships, more opportunity to bring reflection, depth and responsiveness to their recording of children’s learning. This finding is consistent with Carr and Lee (2012) and Carter’s (2010) ideas about quality documentation and assessment of children’s learning.

It must be recognised that spending time together may not be all that is required to improve educator–child and educator–parent relational quality, and this is an area for further research.

Inviting families and educators to be involved in discussions about a change to integrated programs, as well as providing opportunities to give feedback has supported the overall process through hearing and discussing their perspectives. Consistent with Theilheimer (2006), participating parents and educators saw benefits in keeping the same children and educators together for the first three years so they were able to develop close relationships.

Further studies are needed to establish whether the time educators spend interacting with young children is related to lower child stress levels and to relationship quality. Another area for research could involve close analysis of educator–child interactions, and their impact on the type and depth of children’s play.

Limitations

As the data were collected within the first six months of the integration of the program, there is a need to continue to evaluate the program as it settles and consolidates. It is expected that any comparable data collected later would show increasing program strength. Two data sets, the amount of time educators and children spend together and parent–educator interactions at drop-off and pick-up times were analysed by one researcher, so findings may be less reliable. The role of one researcher as a leader within the organisation potentially resulted in ethical tensions as current practices were examined. Theilheimer (2006), participating parents and educators picked up the same children.

It must be recognised that spending time together may show increasing program strength. Two data sets, the amount of time educators and children spend together and parent– educator interactions at drop-off and pick-up times were analysed by one researcher, so findings may be less reliable. The role of one researcher as a leader within the organisation potentially resulted in ethical tensions as current practices were examined. Theilheimer (2006), participating parents and educators saw benefits in keeping the same children and educators together for the first three years so they were able to develop close relationships.

Conclusion and implications for practice

The findings support the argument that the integrated program model combined with primary caregiving provides an educational context that is supportive of children’s development in the first three years of life. Integrated infant–toddler programs are likely to enable educators to create consistent and longer family–educator–child partnerships, and increase their knowledge of and support for children’s individual routines and family caregiving practices. As the Australian paediatrician Professor Frank Oberklaid recently observed, early education for children between birth and six years would be conducted very differently from the current arrangements if all that is now known about development in the early years and prenatal and family factors were used to inform it (Oberklaid, cited in Ferrari, 2011).

Should centres choose to adopt integrated programs, families and educators would need to be supported through the provision of opportunities to problem-solve and share ideas with each other.

The Australian National Quality Framework has provided a context within which educational institutions can improve practice. The first three years are critical to long-term outcomes for children in health, behaviour and the capacity to learn (McCain, Mustard & Shankar 2007). This research, located in an early childhood setting, provides initial evidence that integrated programs for very young children coupled with primary caregiving, may be a very worthwhile direction for reform in this area.

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Introduction

Early childhood education has undergone a period of considerable growth and change in New Zealand over the past 20 years. The changes have included the introduction of the national curriculum, Te Whāriki (Ministry of Education, 1996), and the implementation of a strategic plan, Pathways to the Future (Ministry of Education, 2002). The strategic plan set out policy and funding changes aimed at increasing the quality of early childhood services and participation rates, especially for children of Maori and Pasifika descent and those from low socioeconomic communities. Government funding for children in ECE has increased significantly and is now more than $NZ 9000 per child (full-time equivalent), higher than funding for primary and secondary school students (Ministry of Education, 2011a, 2012).

Given the many changes and the large amounts of funding now directed at the sector, it is timely to consider what information is available about the effectiveness of early childhood education in New Zealand. A crucial area to consider, and a legitimate question to ask is: What are children learning through their experiences in early childhood services? Although the early childhood years are a time of rapid growth in all areas of development, finding evidence about what young children are learning, and whether that learning is at least partly attributable to early childhood education, is a complex task.

Information about what children may be learning in early childhood education is available from a range of sources. The national curriculum, Te Whāriki (Ministry of Education, 1996), outlines important areas of learning for teachers to consider. Relevant information is also available in the assessment documentation produced by early childhood centres and in reports made by the Education Review Office. Another source of information is the early childhood research projects that have been funded by the Ministry of Education over the past 10 years. The following discussion will examine each of these sources of information in order to evaluate the evidence that is currently available about children’s learning in early childhood settings in New Zealand.

1. Te Whāriki, the early childhood curriculum

Te Whāriki, the New Zealand early childhood curriculum, has been widely praised since it was introduced in 1996. Praise has been given for its connections with sociocultural theory and for its holistic, non-prescriptive approach (Ritchie & Buzzelli, 2011; Smith, 2003, 2011). Fleer (2003) commented that Te Whāriki has had an enormous impact on curriculum development in many countries, including Australia (p. 243) and ‘has gained international prominence as an early childhood curriculum of great substance and importance’ (p. 244). Cullen (1996) noted that teachers embraced the curriculum with great enthusiasm, ‘to the extent that it has taken on a gospel like status’ (p. 123). The enthusiastic support of teachers for the curriculum was also seen in interviews conducted by Alvestad and Duncan (2006).
Recently, Te Whāriki received a strong endorsement in the report of the Early Childhood Education Taskforce (ECE Taskforce, 2011). The taskforce was set up by the New Zealand Government to review the effectiveness of funding for the early childhood sector. Among its findings, the taskforce reported that, ‘Te Whāriki is considered a model of best practice, nationally and internationally’ (p. 106). The taskforce did note there was a need for ‘a comprehensive review of its implementation’ (p. 106), but made no criticism of the structure or content of Te Whāriki.

What then does Te Whāriki tell us about what children are learning in early childhood education in New Zealand? Te Whāriki emphasises that children’s learning is integrated and holistic and occurs within sociocultural settings. Areas of learning are described within the five overlapping strands of Te Whāriki (Ministry of Education, 1996, pp. 15–16):

1. **Wellbeing**
   - The health and wellbeing of the child are protected and nurtured.

2. **Belonging**
   - Children and their families feel a sense of belonging.

3. **Contribution**
   - Opportunities for learning are equitable, and each child’s contribution is valued.

4. **Communication**
   - The language and symbols of their own and other cultures are promoted and protected.

5. **Exploration**
   - The child learns through active exploration of the environment.

Each strand is subdivided into three or four goals that are further subdivided into a number of learning outcomes. The learning outcomes, however, are often phrased in very general terms because they have usually been designed to be broad enough for any child, regardless of age or developmental level. The lack of recognition of developmental change in the birth to five-year age range severely limits the usefulness of the learning outcomes for providing information about what children may be learning at particular phases in the early childhood years.

Another limitation on the value of the learning outcomes in Te Whāriki is that they are ‘indicative rather than definitive. Each early childhood setting will develop its own emphases and priorities’ (Ministry of Education, 1996, p. 44). There is no requirement for early childhood centres to ensure that any particular learning outcomes are included in their programs. The lack of guidance in Te Whāriki means that it would be quite possible for a centre to believe it is offering a comprehensive program when it may in fact be neglecting crucial areas of learning (see Blaiklock, 2010a).

**2. Assessment of children in early childhood centres**

Just as there is no requirement for centres to focus on particular learning outcomes, so there is no requirement to assess particular areas of children’s learning. The regulations for early childhood services (Ministry of Education, 2009) state that services should be ‘informed by assessment, planning, and evaluation (documented and undocumented) that demonstrates an understanding of children’s learning, their interests, whanau [family] and life contexts’ (p. 8). There are no requirements to document any specific areas of learning and development; it is up to individual centres and teachers to decide what to assess.

Somewhat surprisingly, given the lack of guidance on what to assess, the Ministry of Education has directed large amounts of funding at telling teachers how to assess. Internationally recognised methods of assessment (see e.g. Bagnato, 2007; Wortham, 2012) have fallen out of favour to make way for the locally developed technique of Learning Stories (Carr, 1998a; 2001; Carr & Lee, 2012).

Learning Stories are narrative descriptions that teachers write to describe and interpret the learning that occurs in particular situations. They were designed to focus on children’s dispositions to learn rather than highlighting knowledge and skills. A major difficulty with Learning Stories, however, is that the dispositions they are supposed to assess have not been clearly defined. Carr (2001) described learning dispositions as ‘situated learning strategies plus motivation–participation repertoires from which a learner recognises, selects, edits, responds to, resists, searches for and constructs learning opportunities’ (p. 21). It remains unclear as to how such constructs are manifested for different children in different contexts. Carr (1998b) suggested that certain behaviours can be taken as indicators of particular dispositions which in turn can be linked to particular strands of Te Whāriki. For example, the behaviour of ‘being involved’ is said to be indicative of the disposition of ‘trust and playfulness’ which relates to the curriculum strand of ‘wellbeing’. The rationale for linking particular behaviours to particular dispositions and strands is unclear. Nor has Carr described how behaviours and dispositions may change as children learn and develop from birth to age five years.

The topic of children’s learning dispositions is of considerable interest to educators and it is to be hoped that further research in this area will be of value. Currently, however, the lack of clarity and understanding about dispositions means that attempts to assess them are highly problematic. Furthermore, a legitimate concern about the emphasis on assessing dispositions is that it could lead to important areas of knowledge
and skill development being overlooked. Other concerns about Learning Stories include the lack of evidence on validity or credibility, questions about their usefulness for planning, and problems in trying to use Learning Stories to show changes in children’s learning over time (see Blaiklock, 2008; Nuttall, 2005).

Although the effectiveness of Learning Stories has not been established, this method of assessment has become the main form of assessment in most centres in New Zealand. A national survey in 2007 found that 94 per cent of centres were using Learning Stories as the main method of assessment (Mitchell, 2008). The rise in the use of Learning Stories can be linked to substantial government funding for teacher professional development contracts that promote this approach. There has also been considerable expenditure on developing and distributing Kei Tua o te Pae: Early Childhood Exemplars, a series of 20 resource booklets that focus on the use of Learning Stories (Ministry of Education, 2004, 2007, 2009). Each of the booklets focuses on a theme (e.g. bicultural assessment, community), a particular strand of Te Whāriki, or a curriculum subject area such as mathematics or art. The booklets provide examples of how teachers have attempted to use Learning Stories to make evaluations of children’s dispositions and learning in particular experiences. Although there are examples of children developing knowledge and skills in curriculum or discipline areas, these are presented in an eclectic fashion that provide teachers with little guidance on how to assess changes in children’s learning in crucial areas such as physical development, social relationships, and language development (see Blaiklock, 2010b).

The dominance of Learning Stories as a method of assessment in New Zealand has resulted in a situation where centres may be unable to provide valid evidence about how children are progressing in key aspects of learning. The use of an unproven assessment method, coupled with a lack of guidance from the Ministry of Education on what or when to assess, raises important concerns about the worth of assessment information collected in centres. In summary, current assessment procedures are of limited value for showing what children are learning, let alone for showing that the learning is, at least in part, the result of being involved in early childhood education.

3. Education Review Office reports

The Education Review Office (ERO) is the government department that undertakes regular evaluations of all early childhood centres in New Zealand. ERO has a crucial role in ensuring that children are provided with high-quality care and education. Centres are reviewed every three years according to criteria related to management, teaching practices, children’s learning and assessment procedures. A feature of ERO is that it is independent from the Ministry of Education. The autonomy of ERO enables it to comment on practices that could limit the quality of care and education, even if the practices are supported by the Ministry of Education. With regard to assessment, the independence of ERO could allow it to act as a check on the current emphasis by the Ministry of Education on the almost exclusive use of Learning Stories as a means of assessing children’s learning in early childhood centres.

ERO, however, has provided no cautions on the use of Learning Stories, despite the lack of empirical evidence that this assessment approach is an effective way of assessing and enhancing children’s learning. Rather than raising concerns, ERO has actively supported the use of Learning Stories in its comments when reporting on individual centres and in the findings of a national report undertaken by ERO on the quality of assessment in early childhood education (ERO, 2007).

ERO’s mission statement declares that the role of ERO is ‘to provide high quality evaluation that contributes to high quality education for all young New Zealanders’ (ERO, 2011, p. 3). However, a ‘high quality evaluation’ of a centre should surely include an evaluation of how the centre program contributes to children’s learning. The difficulty ERO faces is that it must rely on assessment documentation collected by a centre. Such documentation usually consists of collections of Learning Stories and may provide little evidence about children’s learning in important areas. There is no requirement for centres to assess crucial aspects of children’s learning (e.g. physical skills, language development, mathematical concept knowledge, social development).

ERO’s reliance on Learning Stories as the main source of assessment information may explain the very general nature of the comments that ERO makes about children’s learning when reviewing a centre. ERO reports on individual centres nearly all comment on learning in the generic sense with no reference to a particular area or type of learning. Typical comments in ERO reports refer to ‘the learning environment’, ‘extending children’s learning’ and ‘good quality teaching and learning experiences’. What it is that children may be learning is not specified. The lack of specificity means that ERO cannot indicate whether children’s learning is the result of experiences in a centre rather than being the result of general development and home experiences. The lack of detail also means that ERO cannot note if there are differences between children in levels of learning in particular areas (e.g. early literacy knowledge). In turn, this means that ERO cannot examine how programs address such educational disparities.
4. Ministry of Education-funded research projects

Since 2003, the Ministry of Education has supported research into early childhood education through two major funding sources: the Centres of Innovation (COI) program and the Teaching and Learning Research Initiative (TLRI). Twenty COI projects were supported with total funding of approximately $NZ 5 million. Eighteen early childhood TLRI projects have been undertaken at a cost of nearly $NZ 3 million.

The intention of the Centres of Innovation program was to foster research into innovative teaching and learning processes occurring in particular early childhood centres. Staff at these centres worked with experienced researchers in using action research techniques to investigate areas of teaching and learning. The results of the projects were made available through reports, conference presentations, and five booklets (Meade, 2005, 2006, 2007, 2009, 2010a).

The COI program has been valuable for providing descriptions of some centre initiatives which may be of interest to others in the early childhood sector. Participants in COI projects have reported that there have been benefits for teachers in providing opportunities to more closely examine innovative teaching practices. What is missing, however, from all of the COI projects is valid information about whether the teaching practices were effective in enhancing children’s learning.

The lack of information on the effects on learning was noted in a report commissioned by the Ministry of Education to evaluate the COI program. Gibbs and Poskitt (2009) concluded that it ‘appeared teachers knew little about the impact of their initiatives on children as a whole because they had not established processes for gathering and analysing centre-wide data’ (p. 9). Often the only information collected on children’s learning was with the use of Learning Stories. Centre teachers were only able to provide general comments about the impact on the children as a whole group in a centre. The teachers believed that their practice had improved and that this would result in benefits for children’s learning. However, they were unable to provide evidence that changes in practice were linked to changes in learning (see also Meade, 2010b).

Similar concerns about a lack of evidence on children’s learning have been expressed in relation to early years projects in the TLRI program. Nuttall (2010) commented that ‘most of the projects have a strong emphasis on how children learn in the early years, and how teachers can foster and track this development; it is less clear what the children in these projects were learning, other than a particular set of orientations to learning itself’ (p. 9). Nuttall suggested that the emphasis on orientation to learning is a consequence of a reliance of many of the projects on Carr’s work on learning dispositions (e.g. Carr, 1998a, 2001). The difficulty with relying on this work is that, as Carr et al. (2008) themselves acknowledge, ‘learning dispositions and key competencies are fuzzy concepts and although they are about observable action they are represented by language. Dispositional language is imprecise, situated, personalised and value laden … ’ (p. 87, as cited in Nuttall, 2010, p. 9).

Nuttall (2010) argued that ‘this fuzziness, in combination with a lack of explicit engagement with the sociocultural theoretical principles assumed by most of the projects, gives the projects completed so far a somewhat ephemeral quality in terms of the knowledge outcomes produced’ (p. 9). Nuttall acknowledged the projects have strengths, particularly in relation to knowledge of practice in specific local settings. Nevertheless, the comments about the lack of information on what children were learning raises serious concerns about the worth of much of the early years research funded through the TLRI program.

Conclusion

This article sought to answer the question: What are children learning in early childhood education in New Zealand? The answer would appear to be that we don’t know. Sources of information ranging from Te Whāriki through to centre documentation, ERO evaluations and Ministry of Education-funded research projects all fall short in providing evidence about what children are learning, let alone showing that early childhood education is contributing to that learning.

International evidence, using a broad range of valid and reliable assessments, shows that early childhood education can make an impact on children’s learning, particularly for those from disadvantaged backgrounds (Burger, 2010; OECD, 2006). The evidence also shows that the effectiveness of early childhood education is dependent of the quality of the program (OECD, 2011; Sylva & Roberts, 2010). The current lack of information in New Zealand about what children are learning makes it difficult to evaluate the quality of programs being provided by early childhood centres in this country.

Given the large amounts of government funding allocated to early childhood education in New Zealand (approximately $NZ 1.35 billion each year [Ministry of Education, 2011b]) and the commitment of many talented teachers, it is hoped that children are benefiting from their experiences in early childhood centres. However, we need to move beyond hopes and instead provide evidence that shows what children are learning through their participation in early childhood programs. Making use of assessment techniques that are widely used internationally would provide such evidence (see e.g. Bagnato, 2007; National Research Council, 2008).
The use of valid assessment procedures would also allow teachers to monitor the effectiveness of their work and to adjust their programs in response to the individual needs of children. This could help to reduce the disparities in learning that are found at school entry which, in turn, contribute to increased inequities in educational outcomes during the school years. For all of these reasons, it is time for the Ministry of Education to reconsider the advice it has been providing on how to assess children’s learning in early childhood education in New Zealand.

References


The animal as fourth educator: A literature review of animals and young children in pedagogical relationships

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**Introduction**

Over the past decade there has been a growing awareness of the important role of animals in the lives of children and their families (Myers, 2007; Tipper, 2011). In this literature review I am arguing that there is evidence to support a reconceptualisation of the animal as the fourth educator in early childhood settings. This notion of the fourth educator is a deliberate echo of Loris Malaguzzi’s statement that the environment is ‘the third educator’ (Gandini, 1998, p. 177), the first two being the team of two teachers always present in the Italian preschools of Reggio Emilia. Malaguzzi described the environment in these early childhood settings as ‘a space that teaches’ (Gandini, 1998, p. 177). This idea is expanded here to include the animal that is almost always present in one form or another in Western early childhood environments.

In early childhood education the animal as teacher is a taken-for-granted pedagogical force. My approach in making this argument is to review the research literature and add to a field that increasingly recognises the importance of the animal in the social worlds of children. These connections take diverse forms and in early childhood may link to family life, to play and to all learning that supports a blurred boundary between self and Other (Bone, 2010). Increased interest in the animal may also be the result of concern about environmental issues along with a growing recognition that the environment is never empty but is always a habitat for mammals, birds, reptiles, fish and insect life and together we are all part of the ecological systems we exist within.

Contemporary ideas, theoretical perspectives and influences from the past are acknowledged. Finally, attention is paid to the research literature that explores what happens when the animal is a robot or virtual pet.

**Starting with the animal**

A Kato Creation Story states that when God went forth to create the world he took his dog with him (Gaita, 2002). Gaita (2002) looks at the relationship between people, dogs and philosophy and makes the point that throughout history the animal of one kind or another, wild, domesticated or confined, has been living alongside people (Gaita, 2002; Melson, 2001; Serpell, 1999). To continue to get along together has long been seen as the key to our future survival, a ‘project for a planet’ (Flannery, 2013, p. 77). While the word ‘animal’ means different things to different people, the relationship has existed for a long time.
From an Australian perspective, Krien (2011) says that ‘2011 was a big year for animals’ (p. 3) and she notes the flood of animal-printed clothing evident on the street and increased media publicity for controversial animal issues. In that year young children were involved in protests about the ill treatment of animals and joined demonstrations organised by animal protection agencies (see websites below). Images of these protests on websites show that animal issues can cause great debate and be very emotive. The posters carried during the protest urge kindness to animals and there is growing support for Luk, Staiger and Wong’s (1999, p. 35) contention that not being kind is ‘a serious social issue’. The presence of children at the protests is a reminder that they participate in society in many roles; as children become conscious of their own ability to contribute they may also become more aware of the rights of others. There is a likelihood that these children have pets at home. In a survey of children aged 10–16 years in Slovakia, Prokop and Tunnicliffe (2010) found that ownership of animals meant that the attitude toward all other animals, including those considered fearful or ‘disgusting’, was more positive. Wilson’s (1984) ‘biophilia’ hypothesis suggested that positive thoughts about living things encourage love of the environment and this has been explored in terms of children’s development (Kahn, 1997) and more recently in work about children and their interactions in the natural world (Louv, 2008). The question of whether interactions with animals, at home or in an early childhood setting, contributes to more positive feelings about the environment is an interesting one. The link is emphasised by Melson (2001) who advocates for a ‘biocentric’ approach to development recognising that ‘animal presence in all its forms merits neither facile sentimentalizing, nor quick dismissal, but serious investigation’ (p. 5). In the introduction to her influential book, Melson (2001) says that her work is about hypothesis building and a biocentric approach to education is yet to be realised. Her comprehensive investigative study builds a case for an approach that recognises children must ‘gain a sense of their own place in a multispecies world’ (Melson, 2001, p. 199); it is this aspect that animals themselves are called upon to teach.

Some studies begin to address the argument that the animal can be considered a major educator about the environment and this has been explored in terms of children’s development (Kahn, 1997) and more recently in work about children and their interactions in the natural world (Louv, 2008). The question of whether interactions with animals, at home or in an early childhood setting, contributes to more positive feelings about the environment is an interesting one. The link is emphasised by Melson (2001) who advocates for a ‘biocentric’ approach to development recognising that ‘animal presence in all its forms merits neither facile sentimentalizing, nor quick dismissal, but serious investigation’ (p. 5). In the introduction to her influential book, Melson (2001) says that her work is about hypothesis building and a biocentric approach to education is yet to be realised. Her comprehensive investigative study builds a case for an approach that recognises children must ‘gain a sense of their own place in a multispecies world’ (Melson, 2001, p. 199); it is this aspect that animals themselves are called upon to teach.

Animals outside the usual experience of the young child will still be classified by them as animal because children show strong understandings of biology. In Margett and Witherspoon’s (2011) study 34 children aged three–five years were tested about this knowledge. The authors were interested in how young children conceptualise ‘living and nonliving kinds’ (p. 2067). They used the animal as a research aid and ‘Sam-Bow’ (sic), a glove puppet dog was introduced. The children were told that ‘Sam-Bow had lived for a long time in his doghouse and now would like to know about things found in the world’ (Margett & Witherspoon, 2011, p. 2071). The children classified the animals as more alive than plants and decided that mobile and immobile artefacts are non-living. In their approach the researchers demonstrate that the use of an animal encourages positive learning interactions. In a small-scale study with 12 children aged three–six years, Gee, Crist and Carr (2010) found that when children were with a live dog, as opposed to a person or stuffed dog, they needed less instruction and were highly motivated to learn. The children indicated that they could copy the calm behaviour of the dog and they displayed considerably more focus on the task they were required to do. These research findings add powerfully to the idea that the animal is a friendly co-participant in learning and an ally to the young child. As Friesen (2010) notes about therapy dogs ‘children seem to perceive them as non-judgemental participants who are outside of the complications and expectations of human relationships’ (p. 261). The comforting presence of the animal as a supporter of learning underlines why animals are so effective in their pedagogical role.

**Animals, ethics and speciesism**

The animal as teacher is evident in children’s books where they appear in a range of roles. In picture books images of animals are often anthropomorphic and visual representations of the animal both reflect and construct cultural values. Reading about animals in books has been shown to transfer to knowledge about biology (Ganea, DeLoach & Ma, 2011). However, the books available for young children feature some animals and not others and are often concerned with the exotic or the endangered. Many children’s books are about companion animals (pets) but they seldom feature farm animals or the rights of animals. The animal teaches only what keeps adults comfortable. Reading material reflects the values that are attached to animals (Duhn, 2012) and very few of them disturb the status quo. A book by Roth (2009) features the animal in a direct pedagogical role that gives information some educators might feel uncomfortable with. Roth’s
(2009) book explains that ‘pigs need the sight, sound, and touch of one another. Sometimes they snuggle so close that it’s hard to get them apart. Love is part of their nature’. This kind of book challenges the treatment of animals as an industrial product. Through advertising, people are more used to seeing the end result (chickens extolling the merits of fried chicken wings, for example) than having a book that might present facts that give rise to controversial questions. Depending on the socio-cultural context, young children may come to know the animal in terms of economic return rather than as a support to wellbeing or as a sentient creature (Potts, 2012).

In this sense it is clear that the role of the animal as educator is limited by adult discomfort and moral dilemmas (Herzog, 2010). A growing body of research is showing that young children make their own moral decisions regarding animals, more specifically about whether or not to eat them (Hussar & Harris, 2009). This research about children’s moral decision-making is challenging for many adults who, in Herzog’s (2010) recent study, show blurred moral boundaries about these issues. What is clear is that for many reasons, mainly economic, the animal is rarely used to support useful health information about diet. The lifelong benefits of not eating red meat are not shared adequately with children and their families (Pan et al., 2012).

Ethical issues around what the philosopher Peter Singer (2009) calls ‘speciesism’ are confronting. Like all—isms, speciesism is about discrimination against some species simply because of what they are and how they have been constructed. In this case, the animal may be considered a pest or a pet on fairly arbitrary grounds. The divide is wide and the role of the animal as teacher is determined by this construction. Animal categorisations are not simple, and how animals are regarded is culturally determined (Gray & Young, 2011). Young children may learn about the status of an animal through familiarity with religious customs and beliefs (Oliver, 2009). In this regard the idea that human beings are ‘part of the Great Ape family too’ (Jenkins, 2007) may be controversial. This is a statement in a picture book for young children that might not be universally acceptable. Sometimes the animal is enlisted to help children (and adults) change their perceptions, especially if they are endangered. The role of cheetahs in zoos is to be ‘ambassadors’ for their species and to teach people to appreciate them. An animal can become a teacher about conservation, especially when a behavioural change is desired (Davey, 2006), although at the cost of its freedom.

**Therapeutic contexts**

One of the best-known accounts of the animal as educator was written by Temple Grandin (2006), an inspirational figure in the fields of autism/Asperger’s Syndrome and animal rights. She learned that feelings of peace and calm were possible when she touched cattle or horses and suggests that, even in the most difficult circumstances, it is possible to learn empathy from contact with animals. Grandin (2006) is a powerful advocate for active teaching in terms of what can be learned by children through contact with animals.

In the Western world some animals have the status of pet or ‘companion species’ and these animals have been shown to be especially effective with children who require additional support in educational settings (Walsh, 2009). The effect of dogs in therapeutic contexts or AAT (animal-assisted therapies) has been the focus for research over a longer period than studies about their effect in educational settings. Martin and Farnum (2002) noticed that children with developmental disorders were calmer and more responsive when a live dog was present. Their research involved studying children with a non-social toy (a ball), a stuffed toy (dog) and a real dog. They found that with a live dog present the children were more likely to respond to requests and to engage in meaningful discussion. This finding may well extend to all children, although it is worth noting that the work of animals in AAT is specialised and specific.

The use of companion animals in this way requires me to ask what Thompson and Gullone (2003, p. 177) term the ‘emotive question’: does the love of animals correlate to a love of people? Their overview of the research literature was based on the question of whether interactions with animals can promote empathy through a ‘humane education’ (p. 176), an approach that includes direct contact with animals. They refer to Paul (2000) who suggested that people who experience the apparent emotion of an animal will be more likely than others to have an emotional reaction when witnessing the same emotion in another human (Paul, 2000, cited in Thompson & Gullone, 2003).

Research with companion animals, usually dogs and cats, supports a belief expressed by Risley-Curtiss (2010) that interactions between humans and companion animals are ‘powerful relationships’. Risley-Curtiss (2010) concludes that there are three main reasons for recognising the educative potential of companion animals: first, they are routinely considered part of the family; second, cruelty to an animal in the family can indicate oppression and violence against women and children; finally, these animals have ‘a therapeutic impact on the functioning of people of all ages’ (p. 39). This final reason encourages me to reflect that in the early childhood context the animal may encourage positive behaviours in educators and parents as well as in children.

**Part of the family**

In a recent sociological study that arose as part of a larger project about ‘who matters’ in the everyday lives of children, Tipper (2011) made discoveries about how children perceive the animals in their lives. While her
study focused on the relationship of children with their pets, she also found that they know about issues of extinction and sustainability. This study focused on children aged seven–12 years. Forty-nine children were interviewed and completed a map made up of concentric circles that showed how emotionally close they were to people and animals. Tipper (2011, p. 158) noted that ‘children readily expressed affection for animals, spoke about them as individuals, friends and kin. Not only were children unashamed of these connections, but they spoke at length about animals and frequently reoriented the interview discussion towards animals ... ’ (author italics). Tipper’s (2011) work supports the contention that overlooking these relationships reflects adult ambivalence about the role of animals in children’s lives. Her work highlights the fact that very few studies are conducted with younger children despite animals featuring so strongly in family life and in many early childhood settings.

One attractive aspect of Tipper’s (2011) qualitative approach is that it features the voices of children. Apart from advocating for the inclusion of children’s perspectives in research about humans and animals Tipper (2011, p. 149) also makes the point that animals matter ‘in their own right’ (author italics). She feels that children’s experiences with animals are marginalised in the field of human–animal studies and mentions that rectifying this could present ‘a more rounded picture of children’s lives’ (Tipper, 2011, p. 149). Research with children supports what is already known about the importance of animals in the family lives of adults. Walsh (2009) mentions a national survey whereby 57 per cent of adults said that if they were stranded on a desert island they would choose the family pet as their companion. All this is relevant to early childhood education whereby building and maintaining links to families is seen as vital to best practice.

**Family violence**

Research that addresses violence in families contributes to a growing body of research showing that the animal is often a victim in abusive family contexts. These studies emphasise the sad fact that ‘abusing animals, and possibly observing abuse by others, is likely to have negative developmental consequences for children’ (Williams, Dale, Clarke & Garrett, 2008). The effect of knowing this may mean that educators take notice of the stories they are told about animals in the home, a link that has commonly been ignored (Risley-Curtiss, 2010). It is hopeful to think that children who have positive relationships with animals may find it harder to be violent in later life (Alach, 2003; Thompson & Gullone, 2003) and in this sense the animal is teaching something valuable. When even owning a pet (dog) was shown to elicit attachment behaviours, such as love and caring (Zasloff, 1996), then if something happens to that pet there is bound to be corresponding distress.

**Treatment of animals in early childhood settings**

What is rather strange learning for children in many early childhood settings is that animals, which may be very important to them, are expendable and are often not seen to have a reliable and permanent carer. The literature includes some critique of the way animals are looked after and the arrangements that do not seem to benefit them. Some animals and birds go home with a different family each weekend. Sometimes their death is treated lightly and adults refer jokingly to flushing goldfish down the toilet. A teacher at a conference mentioned an animal graveyard or urupa in her presentation about a preschool environment in New Zealand. A ripple of laughter went around the room and she had to defend a philosophy based on indigenous beliefs whereby the relationships between animals and children were taken seriously in that particular setting. When animals are teaching about loyalty, love and affection it gives a mixed message if children do not see this reciprocated and do not see educators giving these important fourth educators the respect they deserve (Melson, 2001; Young, 2009).

Young (2009) noted that animals are appreciated up to a point in an educative role but that teachers often miss an opportunity to develop ‘deeper ecological understandings’ (p. 209) with young children. She cites an example whereby possums were being fed but the nature and status of the animal as wild and indigenous to Australia went unrecognised. The condition of being ‘tamed’ is not always a happy one for animals as this usually ends badly for the animal. Maybe the fate of some animals (to be eaten or hunted) or their shorter life spans means that adults are uneasy about making them too much a part of children’s lives. This highlights a dilemma, as in an educational setting animals may become, as Tipper (2011, p. 149) noted, ‘objects for human utility’ rather than ‘individuals with whom children relate and for whom they care’.

In her classroom observations Melson (2001) noticed that the animals did not have the same status as a pet who may become a much loved part of the family. Despite the best efforts of the teacher who believed strongly that the animal was teaching children certain things, Melson (2001) felt that this was more hoped for than achieved. She felt that the children en masse were excited by the animals and would chase or squeeze them as ‘things’ rather than as living creatures who were entitled to respect. Melson described noticing a subtle change in the relationship with them. She points out that ‘in a classroom, zoo, or nature centre, animals, even the same species kept as household pets, are no longer companions, confidants, and loved ones—in other words, intimates; they become objects of inquiry’ (Melson, 2001, p. 74). While affirming their pedagogical role, this does not augur well for the animal, and some
undesirable learning may occur. Melson (2001, p. 74) was concerned that the children became ‘veterans of animal loss and replacement’, and the talk between the teacher and the children, who were six years old, had a ‘slightly hard edge’ (p. 73). The animal is teaching but educators need to be critical and reflective about what is being learned. One of the more questionable arguments for using (exploiting) the animal as the fourth teacher with young children is that the animal will ‘teach them about death’. It might be dubious practice to use the animal in this way, especially as children are so often told ‘we can get another one’. In this case young children may be learning that animals are disposable. The research literature suggests that animals may be much better teachers about life and love (Bone, 2011).

Play and the animal

The appearance of the animal in play has often been seen as imitative and in psychological terms might be seen as the emergence of the ‘animal within’ (author italics) (Serpell, 2000, p. 110). In animal play it is possible for touch, a mediator of emotion, to change what may be unacceptable or ‘too rough’ to a sanctioned form of activity if the children/dogs begin to roll on the floor to be patted and stroked (Bone, 2010). The animal might take on a fantasy or monstrous form and may be seen as a ‘gateway’ into a different world (Serpell, 2000). The idea of the animal as a powerful mediator of concepts and learning is being increasingly explored (DeLoache, Pickard & LoBue, 2011).

The animal as fourth teacher really comes into its own in play interactions that have been interpreted as gender work. Young children are close observers of humans and animals, and play this out by becoming a kitten or puppy in a particular way (Blaise, 2011). Madrid and Kantor (2009) show that as researchers there were possibilities to enter a long-term ‘play narrative’ called ‘kitties’ (Madrid & Kantor, 2009, p. 229). They noticed that the teachers supported this narrative by providing certain props (leashes, blankets, bowls) and that the girls built on their knowledge of family pets to build the narrative. Their story used the notion of ‘kitty’ to create ‘a rich play theme that focused on supporting relationships, negotiating power and constructing and contesting gendered identities’ (Madrid & Kantor, 2009, p. 233). The children aged between three and five years showed that they had used the animal as teacher to construct rules, so the boys could be protective but not join the group, and when excluded were labelled ‘dogs’. The boys themselves made it clear that ‘males could be kitties but they did not like to be kittens’ (Madrid & Kantor, 2009, p. 235). The children used their knowledge of everything they had learned from animals to construct these rules in order to ritualise male and female positions.

Health and safety

Being taught through proximity to animals that living creatures can be unpredictable is useful knowledge for young children. Occasionally the animal will teach children a lesson in consequences, but this is often not seen in a way that is positive to the animal. If an animal bites a child there is usually little thought given to the context. I am referring here to what might happen in day-to-day interactions in an educational setting, not to tragic events when children are savaged by dogs. Jalongo (2008) identifies young children as particularly at risk of bites because they are smaller and they may approach animals in a way that leads to aversive experiences for all parties. She recommends that educators work with the animal so that together they teach children to observe certain safety rules when approaching animals. In this way animals become part of the curriculum and help to keep children safe from the kind of attack that happens only too often. Referring specifically to handling dogs, Jalongo (2008, p. 40) makes prevention a feature of learning in early childhood and states that:

> Early childhood educators and families need to understand the causes of dog bites, learn how to teach the key prevention concepts to young children, and become aware of the resources that will enable them to integrate material on dog safety training into the early childhood curriculum.

Her emphasis on health and safety is shared by Meadan and Jegatheeson (2010), who recommend that attention is paid to allergies, to inoculation (animals) and to the general state of health of the animal. This is important when the inclusion of an animal as curriculum may be controversial. Dogs are considered by some cultures and religions to be unclean, and in multicultural contexts such as Australia this is an issue that must be negotiated in early childhood settings. Health and safety issues are important. Hygiene rules about hand washing need to be in place to avoid diseases such as toxoplasmosis, a dangerous parasitic disease contracted by contamination through cat faeces. Meadan and Jegatheeson (2010) recommend that, when the animal is a presence in educational environments, there is close supervision by adults as a way to minimise risk. This works in the interests of both children and animals. Recently I saw animals being squeezed, poked and not allowed to rest as they taught young children about being ‘on the farm’. A disinterested adult looked on while the animals did their pedagogical duty.

The pedagogical role of the animal

For many researchers who explore the animal and human connection the animal is a conduit for learning to be human; some propose that it is only through the animal that we recognise our humanity. This is described by
Oliver (2009, p. 21) as ‘animal pedagogy’. Oliver (2009, p. 22) is interested in this as ‘an ethics of relationality and responsivity’ (author italics). Oliver (2009) recognises that the animal has been a source of information about children and their behaviour for years but until recently attempts were made to emphasise difference and to use the animal as a means of promoting human superiority. Studies for many years have shown that animals and humans are more alike than different, and, as Bartowski (2008, p. 19) notes, ‘kinship matters’. Myers’ (2007) ground-breaking work, first published in 1998, is one of the few empirical research studies that set out to show the strength and specialness of social relationships between children and animals. He concludes that ‘we should reconsider our self-image as a species, as a separate ‘humanity’ (p. 181). Myers (2007) spent time with 23 children aged from three-and-a-half years to six. His study was one of the first to explore ‘connectedness’ between children and animals, and he started from the premise that ‘living animals are central presences to young children’ (p. 6).

**Posthuman perspectives**

Myers’ (2007, p. 33) work challenges the emphasis on difference when used to assert dominance of one species over another. The rise of interest in posthuman theory supports this while acknowledging biological difference. Posthuman theory disrupts the nature/culture binary and can be linked to indigenous worldviews that have traditionally questioned animate/inanimate divisions (see Deborah Rose Bird, 1992, on the cosmology of the Yarrallin people). Posthuman theory addresses interspecies relatedness and explores the shifting boundaries between animals (human and other-than-human or more-than-human), materials (Giugni, 2011) and machines. The work of Donna Haraway (2008) has proved to be an inspiration in work about connections between animals and people (Bone, 2010; Taylor, Blaise & Giugni, 2012). Haraway’s (2003) book, *The Companion Species Manifesto*, outlines ways that dogs and people relate in ‘significant otherness’ (p. 25). She describes the hard work that animals do and the risk of being a pet (especially a dog), noting ‘the risk of abandonment when human affection wanes, when people’s convenience takes precedence, or when the dog fails to deliver on the fantasy of unconditional love’ (Haraway, 2003, p. 38). These risks are all pertinent to animals that live and work in early childhood settings.

**Robots and other animals**

In new research with robots and mechanical animals it has been argued that there are opportunities for new discoveries about the human capacity to relate to machines as human/animal interrelatedness without the risks. In a study with a robot it was shown that toddlers will bond over time with the robot (Tanaka, Cicourel & Mouvellan, 2007). However, in another study, slightly older children knew that certain artefacts were living or not living and were clear about who had ‘naming’ rights; for example, a starfish but not a toy car (Jipson & Gelman, 2007). Working with children from three years old, the authors realised that children have a clear awareness of what is ‘real’ in terms of aliveness and what is not. Greif, Nelson, Keil and Gutierrez (2009) feel that this knowledge is evident when children ask questions about animals or artefacts. They suggest that this requires educators to be mindful about the information they present about artefact or animal.

Thrift (2010) suggests that a rise in interest in ‘electrical animals’ may be a way of reducing *amensalism* ‘a living together in which one species hurts another, sometimes unknowingly’ (p. 475). While there may be ethical or health reasons to promote the use of robotic pets, the ability of children to differentiate between the living and not living means that a mechanical pet may not have the same effect as a living animal. This form of pet does mean that there are alternatives to a real animal if no one can commit to being a consistent animal caregiver. The robotic pet may also be more acceptable for children with allergies, and some parents might approve of robots rather than real animals. For some animal rights groups the status of animals as ‘pets’ is in itself problematic (Herzog, 2010).

**Conclusion**

In the limited space of this review I argue that it is time to consider human and animal relationships in early childhood settings in all their complexity and variety. The state of the world’s animal population can be described by a range of words: disappearing, threatened, endangered, suffering, confined, pampered, trained, savage, wild, exploited, loved, hunted, cared for, diseased, controlled, tamed, protected. This review highlights the need for more research about taken-for-granted relationships that are now taking on new ethical dimensions. These relationships extend beyond early childhood settings into the family and home. When Malaguzzi (1998) made the case for considering the environment as third educator there was a resurgence of interest in the environment and a new emphasis on the pedagogical possibilities of enriched and aesthetically pleasing environments. My hope in making this argument for the animal to be acknowledged as the fourth educator is that the same consideration may be given and similar benefits accrue for both animals and young children in the settings where they are learning to live together.
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Websites

Animals Australia:
www.animalsaustralia.org.au/
PETA—People for the ethical treatment of animals:
www.PETA.org/
RSPCA—Royal Society for the Protection of Cruelty to Animals:
www.rspca.org.au/
SAFE—Society for the Ethical Treatment of Farm Animals:
www.safe.org.nz/About-Safe/
WSPA—World Society for the Protection of Cruelty for Animals:
www.wspa-international.org/
(Note: WSPA has special consultative status with the Economic and Social Council of the United Nations.)

References


Using children’s representations to investigate meaning-making in mathematics

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THIS ARTICLE EXPLORES HOW YOUNG children’s representations can reveal the ways in which children make meaning in mathematics. It has been suggested by Kendrick and McKay (2004) that as educators seek to acknowledge children’s diverse experiences, they must also embrace children’s multifaceted ways of knowing. As such, educators’ major pedagogical challenge is to help children transform what they know into modes of representation. Building on ideas published elsewhere (see Smith & MacDonald, 2009), this article presents examples of children’s mathematical meaning-making collected during a three-year study focusing on children’s representations of their mathematical experiences and understandings. The representations presented include drawings and narratives produced by children aged four to six years from two Australian primary schools. This article suggests that by asking children to create representations we are offered an insight into the ways in which children construct meaningful understandings of mathematics.

Introduction

This article shares data from a three-year study (see, for example, MacDonald, 2012; MacDonald & Lowrie, 2011) which focused on the experiences with, and understandings of, the mathematics which children possess as they commence school. The study considered the mathematical learning (with a focus on the concept of measurement) which occurs in contexts outside of the classroom, and the ways in which children are able to represent their experiences and understandings in a meaningful manner. This emphasis upon making the mathematics meaningful is particularly important at the start of school, as children bring with them a range of informal mathematics knowledge which has been developed in out-of-school contexts. Children’s everyday experiences are a rich source of mathematical concepts, practical skills, and problem-solving strategies (Mulligan, 1997), and in order to maximise children’s learning opportunities in school, we need to take account of the individualised ways in which children construct meaning in mathematics. One way of achieving this is by approaching a mathematical concept in an open manner; one which allows the children to make their own sense of the concept and draw on a variety of experiences and understandings. In turn, by utilising children’s representations of their understandings—in the forms of drawings and narratives—we are offered a ‘view’ into children’s mathematical knowledge, experiences, and meaning-making processes. Expanding upon ideas published previously (see Smith & MacDonald, 2009), this article examines more deeply the notion of mathematical meaning-making through representational processes.

Representing meaning

It has been suggested by Kendrick and McKay (2004) that as educators seek to acknowledge children’s diverse experiences, they must also embrace children’s multifaceted ways of knowing. They go on to state that educators’ major pedagogical challenge is to help children transform what they know into modes of representation. Goldin and Kaput (1996) define a representation as a configuration of some kind that symbolises, interacts with, or otherwise represents something else. They contend that representations do not occur in isolation, and ‘usually belong to highly structured systems, either personal and idiosyncratic or cultural and conventional’ (p. 398). Furthermore, the representing relationship is not fixed, because an interaction or act of interpretation is involved in the relation between that which is representing and that which is represented (von Glasersfeld, 1987).
Bruner (1966) labelled three modes of representation: enactive, where the child can manipulate real materials to depict mathematical relationships; iconic, when the child can work with drawings or pictures representing relationships; and symbolic, where abstract symbols are understood to describe mathematical relationships. This study focused on children’s iconic representations as a means of demonstrating the spheres of influence which contribute to children’s meaning-making in mathematics. Vygotsky (1978) viewed representation as a way of knowing, and emphasised the critical role of representation in young children’s concept development. For the young child, activities such as drawing bring ideas to the surface (Woleck, 2001) and allows for the translation between internal and external representation. Informed by the work of Goldin and Kaput (1996), I refer to internal representations as ‘the mental configurations of individuals [which] are not directly observable’ (p. 399). In contrast, external representations are ‘physically embodied, observable configurations ... accessible to observation by anyone with suitable knowledge’ (Goldin & Kaput, 1996, p. 400). To summarise, an internal representation is the mental image held by an individual about a concept as a result of their experiences/observations, while an external representation is the artefact by which this mental image is communicated. With this in mind, the notion of ‘representation’ serves two purposes: 1) the means by which the internal representation is constructed and communicated; and 2) the final external artefact.

An important consideration is the two-way interactions between internal and external representations (see Figure 1). As Goldin and Kaput (1996) explain, sometimes an individual externalises meaning in physical form through acts stemming from internal structures. However, sometimes the individual internalises meaning by means of interactions with external physical structures. These interpretive acts can take place at both an active, deliberate level, and at a more passive, automatic level; thus, natural language or familiar mathematical expressions are ‘understood’ without deliberate, conscious mental activity (Goldin & Kaput, 1996). Furthermore, ‘interactions in both directions between internal and external representations can (and most often do) occur simultaneously’ (Goldin & Kaput, 1996, p. 401).

Reflecting the interactive nature of representation, new systems of representation are typically built up from pre-existing systems (Goldin & Shteingold, 2001, p. 10). Goldin and Kaput (1996) identify three main stages in the development of new representations. First is an inventive-semiotic stage, during which new characters or symbols are introduced. They are used to symbolise aspects of a previously developed representational system, which is the basis for their meaning. In the second stage the earlier system is used as a kind of template for the structure of the new system. Rules for the new symbol configurations are worked out, using the earlier system together with the meanings that have been newly assigned. Finally, the new system becomes autonomous. It can be detached, in a sense, from the template that helped to produce it and can acquire meanings and interpretations different from, or more general than, those that were first assigned (Goldin & Shteingold, 2001, p. 10).

Representations may take many forms, but the form utilised in this study was the notion of imagistic or analogic representations. These refer to representations in which the fundamental characters and configurations are not formal in nature, but bear sensory resemblance to what is represented (Goldin & Kaput, 1996). As Goldin and Kaput explain, the term imagistic can be interpreted broadly to include internal imagery and image-schematic representation—that which is ‘imagined’ or visualised—as well as external enactive and pictorial representations. The term analogic suggests that the way in which representations carry meaning may be through analogy and even metaphor, rather than through more direct constructions. This notion of representation is crucial to the consideration of mathematical meaning-making because, as Goldin and Kaput (1996) suggest, ‘internal, imagistic representation is essential to virtually all mathematical insight and understanding’ (p. 415).

When considering representation in mathematics, it is important to acknowledge that there is a mathematical discipline called representation theory. ‘In representation theory, one attempts to understand a mathematical structure by setting up a structure-preserving map (or correspondence) between it and a better-understood structure’ (Cuoco, 2001, p. x). Embedded in Cuoco’s explanation of representation theory are two features of the mathematical use of the word representation: 1) the representation is the map. It is neither the source of the representation (the thing being represented) nor its target (the better-understood object); and 2) representations don’t just match things; they preserve structure. Representations are ‘packages’ that assign objects and their transformations to other objects and their transformations (Cuoco, 2001, p. x).

One way of considering representations in mathematics is as a sign or a configuration of signs, characters, or

Figure 1. Interactions between internal and external representations (Goldin & Kaput, 1996)
objects, that can stand for (symbolise, depict, encode, or represent) something other than itself (Goldin & Shteingold, 2001). Goldin and Shteingold (2001) offer the following example:

... [T]he numeral 5 can represent a particular set containing five objects, determined by counting; or it can stand for something much more abstract—an equivalence class of such sets. It can also represent a location or the outcome of a measurement ... So we see that the thing represented can vary according to the context or the use of the representation (p. 3).

Goldin and Shteingold (2001) have also emphasised the need to recognise that a mathematical representation cannot be understood in isolation:

... [It] makes sense only as part of a wider system within which meanings and conventions have been established. The representational systems important to mathematics and its learning have structure, so that different representations within a system are richly related to one another (pp. 1–2).

Mathematical representation takes into consideration that representational systems take two forms, these being the internal and external representational systems described earlier. With regard to internal representational systems, Goldin (1998) has described two kinds of internal representations relevant to mathematics: 1) verbal/syntactic representational systems, which describe individuals’ natural language capabilities—mathematical and non-mathematical vocabulary, as well as the use of grammar and syntax; and 2) imagistic representational systems, which include visual and spatial configurations, or ‘mental images’ (Goldin & Shteingold, 2001, p. 5). External systems of mathematical representation are mainly notational and formal, and include things such as our system of numeration; our ways of writing and manipulating algebraic expressions and equations; methods of exhibiting relationships visually or spatially, such as number lines and graphs; and words and sentences, written or spoken, which denote and describe material objects, physical properties, actions and relationships, and things far more abstract (Goldin & Shteingold, 2001, p. 4).

Duval (2002) has argued that there are four representational registers, these being natural language, figures/diagrams, notation systems, and graphs. Many researchers have explored representations within these registers, and a significant portion of this research has focused on students’ drawing of figures and diagrams during problem-solving activities. Diezmann and English (2001) have written about the usefulness of children’s drawings of diagrams in mathematical problem solving, suggesting that ‘a diagram can serve to “unpack” the structure of a problem and lay the foundation for its solution’ (p. 77). However, they claim that in order to use this strategy effectively, students need to be diagram literate; that is, students need to know about diagram use and be able to use that knowledge appropriately. They suggest three phases in the development of diagram literacy: 1) the concept of a diagram; 2) diagram generation; and 3) reasoning with a diagram (Diezmann & English, 2001). Also focusing on diagram-drawing, Alston and Maher (2003) studied the representations created by sixth-grade students as they explored problem tasks concerning the fairness of dice games, while Gilbert (2005) examined the ways in which fourth grade students used representations to make sense of and solve division problems, and found that when students were able to use an appropriate representation strategy, they were able to successfully solve the division problems. van Garderen (2007) implemented diagram-drawing with students with learning disabilities, and found that the creation of representations significantly increased the ability of these students to solve word problems in mathematics.

While this body of research has focused on representations in a strictly mathematical sense, this study explored representation in a more general manner, exploring the ways in which children can use representations in the forms of drawings and narratives to construct mathematical understanding in a meaningful manner.

**Drawings as representations**

Drawing is a form of iconic representation that reflects the distinctive features of the represented experience (Bruner, 1964), a graphic image that represents what children know, not what they see (Piaget, 1969), and a graphic speech that conceptualises an internal representation of story (Vygotsky, 1978)’ (Kendrick & McKay, 2002, pp. 45–46). Dyson (1993) highlights that drawing is often underestimated as a tool for meaning-making, while Mirzoeff (1999) has suggested that in Western culture, visual representations are considered merely ‘second-rate illustrations of ideas’ (p. 6). However, in recent times there has been an increase in the number of researchers using drawing as a means of investigating what children know. For example, Kendrick and McKay (2004) used children’s drawings about reading and writing as a way of investigating their perceptions and understandings of literacy across a range of contexts. The children were asked to draw a picture of reading or writing, and these drawings were then analysed according to the social settings, reading and writing practices and genres, domains, and social identities inherent in the literacy event depicted. Lodge (2007) used drawings to explore children’s perceptions of classroom learning, while Brooks (2004) asked children to draw the growth and development of butterflies, and found that the process of drawing in a social context mediated new knowledge and understanding.

Of this larger body of research, there are several researchers who have investigated the value of drawing
in children’s mathematics. Lehrer, Jacobson, Kemeny and Strom (1999) acknowledge that the graphical nature of drawing makes it a particularly useful means of accessing mathematical knowledge: ‘Mathematical inscriptions seem to flow easily from children’s drawings and other efforts to render the world visible’ (p. 70). Woleck (2001) used children’s drawings as a means of investigating children’s strategies for solving open-ended mathematical problems, and found that the drawings were capturing the process by which children created meaning and understanding about mathematical concepts. In a similar vein, Carruthers and Worthington (2006) have conducted extensive studies into children’s drawings, and the way in which they can use their own marks to make their own meanings. They argue that ‘this allows children to more readily translate between their informal “home mathematics” and the abstract symbolism of “school mathematics”’ (p. 2).

The process of drawing provides a useful method for researching with young children, as drawing—for most children—is an activity which is familiar and non-threatening (MacDonald, 2009). McArdle (2012) has suggested that drawing is the easiest medium for children to master, and it enables them to explain things with precision and detail. Furthermore, it is a research activity which allows children to take time in responding. As Einarsdóttir (2007) explains, a quick response cannot be demanded as children need to be able to change and add to their drawings as they choose. Indeed, as Wright (2012b) has suggested, children’s representations depict ideas in real time:

It is a spontaneous unfolding of content that moves in and out of loosely structured themes. The themes of children’s thinking generally unfold ‘radially’ (Gallas, 1994) rather than sequentially. Indeed, connections within the content are made and remade as the child describes his/her evolving ideas—in whatever order these may evolve (p. 18).

Children’s competences are readily expressed through drawing, because drawing provides children with a way to ‘say’ what often cannot be said as easily through words and literal expression (Wright, 2012a, p. 213). While a child may not be able to verbally articulate a memory or experience, through the process of drawing, the story is revealed (MacDonald, 2009). Children’s artistic expressions represent their impressions of their inner worlds, responses to their environments, and individual stories (Malchiodi, 1998). The process of drawing allows children to ‘bring to the surface what [they] already know, what they are grappling with and what they are motivated to explore further’ (Wright, 2012a, p. 214).

In an attempt to make sure that all the elements of the narrative are communicated, children may add speech utterances to their representations (van Oers, 1997). For example, in a study which focused on the transition to kindergarten (MacDonald, 2009), when drawing her first day of school a child said to herself, ‘I’m drawing the sky, so I need the blue pencil.’ The running narrative that often accompanies a child’s drawing is ever-changing and open to alteration (Wright, 2012b). As Wright explains, the narrative ‘responsively “mirrors” the loose structure that stems from the configurational signs that the child spontaneously constructs’ (p. 18). The coupling of drawing and narrative offers ‘an authentic kind of participation for the child, and a concrete form through which we can observe the workings of the child’s imagination’ (p. 19).

**Narratives as representations**

Representations are not static products; rather, they capture the process of constructing a concept or relationship (Woleck, 2001). For this reason, in this study the children’s representations were combined with narratives about the representations to best capture this process of constructing ideas about mathematics. By asking children to tell a story about their drawing, the opportunity is provided for children to reveal their understandings in different, yet complementary, ways (Smith & MacDonald, 2009). This process gives children the opportunity to create and share meaning using both verbal and non-verbal modes. This crossover of modalities increases children’s capacity to use many forms of representational thinking, and encourages children to consider multiple interpretations, generate new meanings, and expand existing meanings while creating and describing their representations (Wright, 2003). However, it is important to recognise that the drawings and their accompanying narratives are not separate entities—both are integral parts of the meaning-making process (Wright, 2007).

In recent years, there has been an increasing amount of interest in the concept of narrative and its applications in social research (Elliott, 2005; Hinchman & Hinchman, 1997). With the growing application of narrative inquiry comes a growing body of definitions and understandings about what constitutes ‘narrative’. Elliott (2005) offers a useful summary of the defining elements of narrative:

... [A] narrative can be understood to organise a sequence of events into a whole so that the significance of each event can be understood through its relation to that whole. In this way, a narrative conveys the meaning of events (p. 3).

In addition to Elliott’s identification of the aspects of sequence and meaning, Hinchman and Hinchman’s (1997) definition includes the added dimensions of insight and experience:

Narratives [stories] in the human sciences should be defined provisionally as discourses with a clear sequential order that connect events in a meaningful
way for a definite audience and thus offer insights about the world and/or people’s experiences of it (p. xvi).

To summarise, three key features of narratives can be identified. Firstly, they are chronological; secondly, they are meaningful; and thirdly, they are social (Elliott, 2005). These three features underpin the importance of narrative in education research.

Chronological aspects of narratives. There is a growing recognition among researchers of the importance of the temporal dimension for understanding the interrelation between individual lives and social contexts (Elliott, 2005). This idea was expressed by Dewey (1938) in his notion of continuity, which refers to the succession of situations within which experience occurs. Without continuity, there is no such thing as experience. Furthermore, every experience is what it is, in part, because of what is brought to it, via prior experience, and, in part, because of its influence upon the future (Clandinin & Connelly, 1991).

Meaningful aspects of narratives. As Elliott (2005) explains, there is a long humanist tradition within sociology which stresses the importance of attempting to understand the meaning of behaviour and experiences from the perspective of the individuals involved. She goes on to describe the importance this has for facilitating communication with research participants:

In this context narrative can perhaps be understood as a device which facilitates empathy since it provides a form of communication in which an individual can externalise his or her feelings and indicate which elements of those experiences are most significant (p. 4).

Kramp (2004) makes the point that ‘the object of narrative inquiry is understanding—the outcome of interpretation—rather than explanation’ (p. 104). Through the work of Bruner (1986) we come to see that the point of narrative research is not to seek truth but rather meaning:

Narrative inquiry changes the question that philosopher Richard Rorty identifies as the epistemological question that has historically preoccupied Anglo-American philosophy, from ‘How do we come to know the truth?’ to ‘How do we come to endow experience with meaning?’ (p. 12)

Social aspects of narratives. Narrative research is inherently social. After all, stories are told by people to people (Engel, 1999). These stories reflect the values, interpretations, and ideas of narrator and listener. As Bruner (1986) has argued, through these narratives we learn about the social world.

What distinguishes narrative as a mode of inquiry is that it is both a process (a narrator or participant telling or narrating) and a product (the story or narrative told) (Kramp, 2004). Indeed, the same can be said of representation in general—that is, representation is both the process by which meaning is constructed, and the product by which the meaning is conveyed. As such, representation offers a powerful means of understanding children’s mathematical development as it encourages children to reflect upon their own experiences, and share these experiences in meaningful ways.

Overview of the study

Qualitative in nature, the broader study followed a cohort of children as they entered and experienced their first year of school. The participant children were in attendance at two schools in a town in regional NSW. At the commencement of the study, the participant children were in their prior-to-school year, and during the course of the research these children were followed through the transition to school and their first year of formal schooling, known as Kindergarten in NSW. Children in NSW commence Kindergarten in late January. They ‘must start school by the time they are six years old but they may start in the year they turn five, provided their fifth birthday is before July 31 of that year. Hence, it is possible for a new Kindergarten class to contain children aged between four years six months, and six years’ (Perry & Dockett, 2005, p. 65).

Six representation tasks were carried out with the children. These were inspired by the work of Pengelly (1985) with her ‘Draw a clock’ task, where children aged three to seven years were asked to create a clock face using a variety of resources. The six drawing tasks were as follows:

1. Draw yourself measuring.
2. Draw something tall and something short.
3. Draw something heavy and something light.
4. Draw something hot and something cold.
5. Draw a ruler.
6. Draw a clock.

These tasks required children to complete a drawing, and provide a description or narrative to accompany their drawing. The tasks were deliberately vague, allowing children to apply their own meaningful and personalised contexts.

Examples and insights

The following examples demonstrate some of the meaning-making processes which were evident as the children completed the six drawing tasks and narrated their drawings. Specific insights from the data related to constructing concepts; self-correction; multiple understandings; creative interpretations; and re-enacting experiences.

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Constructing concepts

As Wright (2012b) explains, representation allows children to explore abstract and complex concepts, and, according to Kellman (1995, p. 19), representation is a ‘means of inventing, a method of thinking’. As such, through the process of representation, children are able to construct ideas about particular concepts. This was demonstrated by Ethan (see Figure 2) in his response to the ‘Draw something tall and something short’ task.

Figure 2. Ethan’s drawing.

Ethan narrated his drawing as follows:

A giant building and a lady beetle. The lady beetle is the shortest. [Continues drawing.] A giant who’s up to there [points] on the building. [Pauses, then continues drawing.] A piece of dirt. [Pauses.] No, now the dirt is the shortest.

As shown in the preceding drawing and narrative, Ethan added to his drawing as his understanding of multiple comparisons of lengths evolved through the representation process. It was interesting to note the descriptions Ethan was giving throughout this process, beginning by simply drawing two objects and identifying the shorter of the two (‘A giant building and a lady beetle. The lady beetle is the shortest’), and then proceeding to add subsequent objects as the comparative nature of these objects was presented to him in a visual form. It is important to note Ethan’s ability to reassess the order of the objects in terms of height as added to his drawing (‘A piece of dirt. No, now the dirt is the shortest’). This particular example clearly demonstrates that representations can capture the process of constructing a mathematical concept or relationship, and can allow the creator to record and reflect on their thinking (Woleck, 2001).

Self-correction

As highlighted in a previous article (see Smith & MacDonald, 2009), one of the advantages of representational activities is the opportunity for children to engage in a process of self-correction. This notion of self-correction was demonstrated in the example from Ethan shown in the previous section, as he reassessed his classification of the objects in his drawing (‘No, now the dirt is the shortest’). Another example of self-correction was evident in Jade’s response to the ‘Draw a ruler’ task. Jade described her drawing as:

*It is a long ruler. It has numbers on it to see how much it is. No, how long it is.*

We can see in Jade’s narrative evidence of self-correction—as she articulated the word ‘much’, she realised that this is not the most appropriate word when describing length measurement and quickly corrected herself (‘No, how long it is’). Self-correction is a powerful meaning-making process that should not be underestimated as a valuable source of learning for children and educators (Smith & MacDonald, 2009).

Multiple understandings

Insights into the multiple ways in which children construct mathematical understandings were revealed in Lucinda’s responses to the ‘Draw a clock’ task. After Lucinda had created her first drawing of a clock, she asked if she was allowed to draw another clock and then another after that. She was encouraged to do so, and her drawings can be found in Figures 3, 4 and 5.

Figure 3. Lucinda’s first drawing.

Figure 4. Lucinda’s second drawing.
What is significant about Lucinda’s representations is that they all reveal different information and insights about the background knowledge, learning styles and fixations that influenced her mathematical meaning-making. The drawings themselves clearly depict three different types of clocks—a grandfather clock, a cuckoo clock, and an alarm clock—which suggests that Lucinda has drawn on a range of contextual knowledge when creating her drawings. In addition, Lucinda’s descriptions of her drawings add valuable insights about the knowledge and experiences she has drawn upon during the representation process. Lucinda explained her first drawing as follows:

I knew what to draw because I’ve seen one in my Granny’s house. It has handles [sic] that tell the time. There’s numbers, they’re for telling the time too.

In her first drawing, Lucinda is focusing largely upon the context that has informed her drawing, but also reveals important information about her content knowledge. She has depicted an accurate clock face, and has demonstrated an awareness of the role of the hands and numbers. In Lucinda’s second drawing, she takes a more creative approach, attending less so to the content and contextual aspects. However, in her description Lucinda was able to demonstrate an understanding of how this type of clock works:

It’s a cuckoo clock. It doesn’t have any handles [sic]. You know what time it is by how many tweets the bird does.

If this were the only way Lucinda chose to respond to the task, a very different understanding of her ability would have been assumed. However, for her final drawing, Lucinda chose to offer a more traditional representation of a clock face, in the form of an alarm clock. Importantly, this final drawing revealed Lucinda’s ability to accurately record a time on a clock face:

The time is 3 o’clock. It is an alarm clock.

The open-ended nature of the representation task allowed Lucinda to demonstrate her understandings in multiple ways. Allowing multiple responses to a representation task allows educators to have an insight into the different meaning-making processes which result in children’s multiple understandings.

Creative interpretations

A unique feature of the open-ended drawing tasks is that they allowed for creative interpretations of the mathematical concepts the children were engaging with. Indeed, several of the children’s drawings and narratives represented a unique and/or unusual interpretation of, and response to, the task at hand. One such example was Zac’s response to the ‘Draw a clock’ task (Figure 6).

Zac provided the following narrative as he produced his drawing:

My clock is in the joke about the boy who threw a clock out the window. It is curved. The numbers are from 1 to 1 to 12. There are four little ones in the middle of the big ones. It has freckles. It is not digital. When the mouth opens it is bedtime. It is an alarm clock. The screws on the sides are cuckoo clocks. I saw this at school. And the Marketplace [local shopping centre]. With its wings it could open the door.

As shown in Zac’s narrative, the creative link between a joke about ‘time flying’ and a clock he had seen at the local shopping centre helped Zac to understand the structure and functionality of a clock face. Traditionally, time is a difficult concept for children to grasp; however, drawing a clock and telling a story about the drawing can make the idea of time less abstract and more personalised (Smith & MacDonald, 2009). As Zac’s representation demonstrates, the creative ways in which children perceive mathematical concepts can help establish a concrete connection that aides in the meaning-making process.
Re-enacting experiences

Several of the drawings and narratives showed evidence of the child re-enacting a particular experience through the process of representation. These highly-contextualised responses generally included specific information about the objects within the drawing, and made reference to particular people, places, or events. For example, in his response to the ‘Draw something heavy and something light’ task, Lachlan (Figure 7) gave a detailed account of mowing the lawn with his father:

A lawnmower is light. I’m pushing it. Daddy lets me mow all by myself. Daddy’s lifting a tractor. It’s heavy. Daddy can lift anything that’s heavy and fix anything.

Figure 7. Lachlan’s drawing.

It is evident from Lachlan’s narrative that his relationship with his father, and the activities they undertake together, has a great deal of influence on the ways in which Lachlan comes to understand mathematics. The process of drawing allowed Lachlan to ‘re-enact’ his experience of mowing the lawn, which subsequently allowed him to give meaning to the mathematical ideas of ‘heavy’ and ‘light’.

Concluding thoughts

The examples presented in this article have demonstrated that representation is a powerful tool for accessing the ways in which children make meaning in mathematics. Importantly, representation is not just a procedure by which children record their knowledge about a concept; it is also a process through which understandings can be constructed, re-considered and applied in new ways. As Wright (2003) describes, ‘children consider multiple interpretations, generate new meanings, and expand existing meanings while drawing and describing their drawings’ (p. 24).

It is important to consider the limitations of the strategies employed in this study. Children’s responses to the tasks are likely to have been influenced by their ability and willingness to draw and communicate their understandings (Einarsdóttir, 2007). In addition, students’ individual interpretations of the tasks may have affected the responses received, as the open-ended nature of the tasks allowed children to provide responses in ways which reflected their differing social and cultural contexts (Malchiodi, 1998). Also, children’s drawings can be selective, and on their own, tell an incomplete story (Einarsdóttir, 2005). In this study, these challenges were considered and allowed for by encouraging the children to comprehensively explain the intended meanings of their drawings through extended conversation and further questioning. Considering the drawings and their accompanying narratives as a unit reduced the likelihood of the drawing being misinterpreted, and in addition, valued children’s multi-modal means of communication.

In order to gain insight into children’s meaning-making processes, educators must remain open-minded about the ways in which children construct meaning, particularly when a child is engaging in fantasy-based experiences. As Wright (2012a) explains, ‘by “tuning into” (Trevarthen, 1995) children’s unique forms of representing, and observing what the child actually does when engaged in a particular art form, we can often sustain and extend his/her interest and involvement’ (p. 214). Furthermore, by participating in representational experiences with children, ‘teachers develop professional understanding about how children’s thinking and knowledge develop’ (Wright, 2012a, p. 215). This insight into the development of children’s thinking and knowledge encourages educators to consider curricula and pedagogies which evolve from—and are suited to—the potentials, abilities and interests of the children (Wright, 2012a).

References


Introduction
A number of studies have investigated unintentional injury and injury prevention in children (National Public Health Partnership [NPHP], 2004; World Health Organisation [WHO], 2008; Safe Kids USA, 2009). Most focus on documentation and analysis of statistical records of injuries and injury prevention programs for children, with the subsequent adoption of policies and practices for supporting safety regulations and programs across a range of settings, including preschools (Cody, 2002, 2004; NPHP, 2004; WHO, 2008; Safe Kids USA, 2009; Vic Roads, 2011). However, very little research has been directed to what kinds of programs can make the biggest difference to young children’s capacity to read their environment and act with understanding in relation to their own personal safety. While some studies have been reported which question the current regulatory environment of preschools (see Little, 2006, 2010; Little and Wyver, 2008), very little is understood about how children in Australia can build personal agency for acting safely and being able to determine risk situations in their everyday lives. As such, it has become increasingly important to develop effective programs that support Australian children’s understanding of acting safely, so that early childhood education can be better informed about how to support young children’s learning about safety and contribute positively to injury prevention. This paper reports on the outcomes of research that evaluated an injury prevention program undertaken across seven preschools. We begin this paper by reviewing those studies that have specifically examined injury prevention programs implemented in preschools, followed by a theoretical discussion of key concepts.

Overview of studies into preschool intervention programs
While previous research has examined the effectiveness of intervention programs that educate preschool children about specific safety issues, such as sun safety (Loescher, Emerson, Taylor, Hendrickson-Christensen & McKinney, 1995), and road safety (Thomson, Tolmie, Foot & McLauren, 1996; Whitebread & Neilson, 1998) it appears there are very few studies that have examined safety risk knowledge where behavioural change is evident. Consequently, these few but important studies are worthy of mention in relation to the study reported in this paper.
Loescher et al. (1995) conducted a feasibility study to examine whether a sun safety curriculum for preschool children affects their knowledge, comprehension and application regarding sun safety. Twelve classes recruited from local preschools were randomly assigned to either an intervention group or a control group. The intervention group received a sun safety intervention program and the control group did not. Children aged between four and five years in each group were tested at the beginning of the study about their knowledge and comprehension in relation to sun safety and received post-tests two and seven weeks following. The results demonstrated that the intervention program had a significant effect on the children’s knowledge and comprehension of sun safety, although there was no significant change in the application components of cognition (Loescher et al., 1995). Although the study did not attempt to link reasoning with behavioural change, the results concluded that a structured curriculum had a positive effect on preschool children’s knowledge and comprehension of sun safety. However, the limitation of the study was its inability to determine whether children were able to apply the knowledge gained to real-life contexts (Loescher et al., 1995).

Unlike Loescher et al.’s (1995) specific study of sun safety, the purpose of the present study reported in this paper was to view safety from a holistic perspective and examine whether the children could apply new learning to real-life situations. While it is reasonable to test knowledge, it is very important to also test the application of that knowledge to everyday circumstances. Although most research related to safety education programs is based on an age-related developmental approach (Safe Kids USA, 2009; WHO, 2008; NPHP, 2004; Ozanne-Smith & Williamson, 1995), the pilot study takes a theoretically broader view by drawing upon cultural-historical theory. Most studies have reported positive outcomes associated with children’s knowledge of safety and suggest that these programs will reduce young children’s accidents. The present study has been inspired by these research projects, but in drawing upon cultural-historical theory, goes one step further by examining the dialectical relations between children’s knowledge of safety and their actions in everyday life. In this paper a dialectical relation between child and environment is defined as the child’s awareness of their environment in relation to their knowledge of how to act safely, and a child’s capacity to act safely is determined directly by the child’s reading of unsafe situations within their environment.

In looking broadly at the safety literature, we have also noted that some recent studies have questioned the effectiveness of traditional preschool programs to make a positive impact upon children’s understandings of safety. These studies offer some guidance for the interpretation and assumptions associated with established preschool practices for supporting children’s learning about safety. For instance, Saltmarsh (2010), in drawing upon data from a study which involved observations, field notes, and informal interviews of children and staff across Australia and Vancouver, found that the effectiveness of traditional preschool programs which relied upon police and fire services for communicating knowledge of safety were problematic. Importantly, the sample analysed and reported in their paper focused on children who came from Lebanese, Egyptian, Vietnamese and Anglo-Australian families, with a mixture of single-parent families, two-parent families, blended families, and multiple combinations of first, second and third generation immigrants. Saltmarsh (2010) noted that police and fire services are commonly used in preschools for introducing the topic of safety. However, these programs are culturally situated, and including these services in preschool programs can have a negative impact on the effectiveness of the programs. Incidents of children’s distress at seeing adults in uniform and in positions of authority were noted, suggesting that traditional preschool programs which draw upon community can no longer be reliable for supporting safety programs. This research suggests the need to find new interventions and programs to support staff working with linguistically and culturally diverse groups in Australia.

Further concerns have been noted in the broader literature in relation to reducing children’s opportunities to develop skills and knowledge of safety by keeping children too safe. For instance, Wyver et al. (2010), in drawing upon the concept of ‘surplus safety’ (see Buchanan, 1999), have undertaken an analysis of playgrounds, policies and regulations, suggesting that there is now a ‘paradox of surplus safety, namely that excessive attempts to keep children safe may expose them to unnecessary risk, and disadvantage both children and their parents’ (p. 264). In theorising about children’s competence and confidence to think and act in safe ways, Wyver et al. (2010) have suggested that:

**Concerns with children being injured while playing, traffic danger and stranger danger have led to an individualistic response by many parents, where they try to remove children from ‘dangerous’ areas and activities, rather than a collective response in which our society and our urban spaces are made safer for children. The consequence is that other longer term risks for children are emerging as legitimate concerns when surplus safety takes hold** (p. 263).

Wyver et al. (2010) further stated:

**Learning from falling, including falling that involves cuts, bruises and other injuries, is widely recognised as important for children, even by professionals and organisations involved in injury prevention. For example, the Royal Society for Prevention of Accidents (RoSPA, n.d.) note on their website that**
healthy play can result in painful injuries, and this is something that should be considered part of normal development for children of all abilities. Children learn from experience of injury, but also are often much better at making judgements [sic] about risk of injury than is evident to adults involved in their care (Christensen & Mikkelsen, 2008, p. 265).

The argument put forward by Wyver et al. (2010) is that the management of risk becomes a duty of care not only for parents but also for staff working in early childhood centres. More children are now attending childcare centres and preschools, and many are spending longer hours in care and education than in previous generations (see OECD, 2006). Consequently, the duty of care in relation to safety has increased in recent times, and it can be argued that it has become increasingly important for early childhood professionals to have access to well-designed and rigorously evaluated programs that they can confidently use in their centres. The present study seeks to examine the effectiveness of an injury prevention program designed specifically for preschool-aged children.

Theories of child development underpinning the injury prevention program

The literature reviewed in the previous section suggests the importance of using a robustly evaluated intervention program for Australian preschools. It can also be argued that the programs on offer must sit theoretically within existing practices and beliefs of early childhood education (Raban et al., 2007). In recent times, the broader early childhood curriculum literature argues for a contemporary view of child development and learning (Grieshaber, 2010; Sumson et al., 2009) where programs are congruent with, and inclusive of, the diverse experiences of children. Designing a program to enhance children’s safety behaviours needs to fit with the contemporary theories of child development that underpin the national curriculum in Australia called the Early Years Learning Framework (Department of Education, Employment and Workplace Relations [DEEWR], 2009), while also drawing on what is already understood about childhood injury prevention. The paradox is that the childhood injury prevention literature is based on a maturational theory of child development (WHO, 2008; Australian Bureau of Statistics [ABS], 2006; National Public Health Partnership [NPHP], 2004; Clapperton, Cassell & Wallace, 2003) while the national Early Years Learning Framework argues against this traditional view of child development and recommends a diversity of poststructuralist views on development and learning, including a cultural-historical view of child development.

In order to reconcile these differing perspectives for underpinning an effective safety education, we undertake in this section a brief theoretical review of a maturational view of development in relation to a cultural-historical view of child development. This is important for understanding the theoretical underpinnings of the safety program introduced and evaluated later in this paper. It is beyond the scope of this paper to present a full review of child development for this purpose, and therefore only key concepts and assumptions are discussed (see Fleer, 2010).

Central to a maturational view of child development is age. Age is used as the criterion for measuring or benchmarking what might be the expected level of biological development of the child; what a child can physically do and mentally attend to in relation to a specific age. For example, comprehensive accounts of childhood injuries are recorded against specific ages; for example, arm fractures owing to falls from playground equipment peak in the five–nine years age group (WHO, 2008; ABS, 2006; NPHP, 2004; Clapperton, Cassell & Wallace, 2003). This view of development has been contested in the early childhood education literature for more than 20 years (see Edward, Fleer & Nuttall, 2008), resulting in a mandated national curriculum in Australia (DEEWR, 2009), which does not use this view of child development (Sumson et al., 2009).

Vygotsky (1998) has argued that age cannot be used as a reliable criterion for establishing a child’s developmental level, and consequently cannot be used for diagnosis in practice. The ‘diagnostics of age-related development of the child’ (p. 199) foregrounds the biological development of the child, rather than the child’s cultural development. Using age as a criterion for development is a trait that is highly visible biologically, and standardised across children, but it gives little evidence of the cultural development of the child which is variable across communities.

A maturational view of child development that uses age as the central criterion has been termed an evolutionary view of development. In his time, Vygotsky put forward another view of development that he termed a revolutionary view of child development. He argues that it is through the child’s interaction with their social and material world that they come to gain meaning of the words they hear, and begin to participate in the fullness of everyday communication with those around them. The argument is that the ideal language environment is needed for the child to come to learn language. This line of argument is also possible within safety education programs where the child is active in the learning process; for instance, where a child is learning about road safety. The child is introduced to the environment that is ideal for the new learning, which is the road. The more capable person guides the child on safe practices; for example identifying a safe place to cross traffic lights, allowing them to press the walk button and watching for traffic, and so on. The child’s interactive experience with the more knowledgeable person is in the ideal environment needed for road safety learning to take place.
What Vygotsky (1994) suggests is that ‘something which is only supposed to take shape at the very end of development, somehow influences the very first steps in this development’ (p. 348), and it is this engagement with the ideal environment that supports a child’s higher mental functions. What is evident in a cultural-historical view of development is that ‘specifically human characteristics and forms of activity’ act as ‘a source of development’ (p. 351) rather than simply the unfolding of a biological map of child development linked to a child's age. The relations between the child and their environment become not only the source of development, but also acts as the unit of analysis for determining development, as noted when Vygotsky (1994) writes:

One example of such a unit is the emotional experience [perezhivanie]. An emotional experience [perezhivanie] is a unit where, on the one hand, in an indivisible state, the environment is represented, i.e. that which is being experienced—an emotional experience [perezhivanie] is always related to something which is found outside the person—and on the other hand, what I represented is how I, myself, am experiencing this, i.e., all the personal characteristics and all the environmental characteristics are represented in an emotional experience [perezhivanie]; … So, in an emotional experience [perezhivanie] we are always dealing with an indivisible unity of personal characteristics and situational characteristics, which are represented in the emotional experience [perezhivanie] (p. 342; Original emphasis).

Bozhovich (2009) argues that the ‘concept of the place that children occupy within the system of social relationships available’ (p. 75) is also important. A child who is positioned as knowledgeable within a family, in regards to being able to determine safe situations, is more likely to be granted more freedom to explore than a child who has a different kind of social position, such as that of younger children being cared for by others. Whether the children are capable of meeting the demands placed upon them (Bozhovich, 2009, p. 75–76) will influence whether or not the child will strive towards a new social position within their environment.

The aim of the present study was to evaluate the suitability of a program called SeeMore Safety, which was based on a cultural-historical view of child development. The program is detailed in the following section, as is the study design.

The study

The study was conducted as a pilot by the Geelong City Council’s ‘Safe Start Program’ in consultation with the first author, who developed the SeeMore Safety preschool program.

SeeMore Safety (O’Neill, 2006) has been developed as a safety intervention program for preschool children, focused on learning through literature and real-life experiences. The preschool program provides a variety of activities and ideas for promoting safety that are focused on six children’s storybooks supported by resources for teachers and parents (O’Neill, 2006). The books are customised for each child by placing the children’s photographs in the books. In personalising the messages, the program includes: a teacher’s guide; a class set of six A4 children’s picture books; 25 sets of six A5 children’s take-home picture books; card games; activity sheets; a song on CD; and a class poster set of six, all focusing on safe practices. The children engage with the program at two levels: as a member of the class at the preschool centre and as an individual at home. The safety messages are focused on six themes: at preschool, on a walk, in the car, on a bike, at the beach, and with a friend. The types of messages include safe places to play, watching out for cars reversing from driveways, wearing appropriate restraints in cars, wearing helmets on bikes, protection from the sun, and how to be a good friend.

The pilot study addressed the following research questions:

1. How do preschool children perceive safety, safe and unsafe situations?
2. Do children gain safety awareness, knowledge and problem-solving skills from the SeeMore Safety program?
3. Is the SeeMore Safety program effective in changing children’s safety perceptions and behaviours?

The assumptions underpinning the research

1. Safety education programs designed for children attending preschool can provide a foundation for children to develop an integrated understanding of how to recognise, analyse and respond to potentially risky situations.
2. Safety is a skill, that through first-hand experiences, within a child-centred learning environment supported by parents, can be developed to enhance children’s ability to manage decisions about their own safety.
3. Whilst the intention of the intervention program is to enhance children’s safety behaviours and understanding of safe and unsafe situations, the aim of the pilot study was to evaluate the suitability of the SeeMore Safety program content for the purpose intended.
Method and study design

The pilot study combines quantitative and qualitative approaches in order to understand safety more fully than is possible by using one paradigm alone (Gay, Mills & Airasian, 2009).

Data collection approaches

Data collection methods included focus group discussions, interviews and observations, surveys, and tests pre- and post-intervention. Preschools were recruited by the City of Greater Geelong (CoGG) via email. Seven preschools applied to trial the program from geographically diverse areas across the Geelong municipality, representing a cross-section of socio-economic communities and wide range of ethnic and cultural backgrounds. A representation of the pilot study design, which is a preliminary study design for a potential larger controlled trial, is shown as a flow chart in Figure 1.

Figure 1. Flow chart showing proposed overall study design

The sample

Data were collected from participants from the seven preschools over 20 weeks (Table 1). The data included three sources: children, parents and teachers. The number of children that completed pre- and post-testing procedures in each preschool group varied between nine and 58 children aged between four and six years.

Table 1. Sample size: Preschools and participants

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<tr>
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</table>

Ethics

Ethical issues relating to conducting research involving children were considered. Participation was voluntary and consent forms were received from parents and teachers. Names of the participants that appear in this paper are pseudonyms; the identities of preschools were protected via a coding system.

Instruments

Two new instruments were developed to measure the effect of the intervention program. The first instrument, named the Safety, Knowledge, Skills and Behaviour (SKSB) checklist (O’Neill, 2006) is rated by parents for the occurrence of safety-related behaviours of their children. The SKSB is adapted from the Injury Behaviour Checklist (IBC), a validated measure used in studies of behaviour correlates of childhood injury (Speltz, Gonzales, Sulzbacher & Quan, 1990). The IBC consists of 24 injury-related child behaviours rated by parents for the frequency of occurrence on a five-point scale, ranging from zero (not at all) to four (very often/more than once a week). In previous studies the IBC scores were found to be moderately predictive and highly reliable of the actual injuries as reported by parents. Thirteen items from the
24 questions used in the IBC have been reworded for the SKSB to better correspond with the content of the SeeMore Safety program, but are similar. The remaining 11 questions were derived from the storylines depicted in the SeeMore Safety picture books. The SKSB contains 24 questions related to safety behaviours of children rated by their parents for the frequency of occurrence at two time intervals, pre- and post-intervention. The scoring system used for collecting data is based on a five-point scale from one (never) to five (almost always). The SKSB provides a space for parents to add additional comments on their child's safety-related behaviours. The collection of this data along with focus groups and group discussions provides data for qualitative analysis to support the quantitative findings.

The second instrument, named the Safety Risk Intelligence (SRI) test (O’Neill, 2006) was specifically developed to measure children’s safety comprehension. The SRI test designed for children includes picture cards depicting safe and unsafe behaviours. Children are randomly selected for groups of four. Each child is presented initially with two cards, a card with a happy face and the word ‘safe’, and the other card with an unhappy face and the word ‘unsafe’. The child then receives an additional 20 cards without the safe/unsafe indicators, face down. The child is asked to turn the cards over and sort them into two piles, ‘unsafe’ and ‘safe’. A score out of 20 is given for correct placement of cards, and out of five for response time. The response time is based on a five-point scale ranging from one point (for five minutes and over) and five points (for one minute or less). Although the children were unaware at the time that they were being timed, the response time is relevant in relation to real-life safety risk situations that require children to respond in a timely manner. The children are not informed at any stage during the pre- and post-SRI testing procedure of correct and incorrect responses. Following the testing procedure, in their small groups, children share perceptions on safe and unsafe situations with the researcher and other children. During this time the researcher presents pictures of real-life situations that correlate with the illustrated cards, to gauge whether similar responses are provided.

**Procedure**

A parent information session was held on the SeeMore Safety program in each of the participating preschools. Parents were provided with a consent form and a SKSB checklist to complete. In the weeks following, the Geelong City Council officers visited each preschool group and invited the children to participate in the SRI test prior to the commencement of the intervention. Following the SRI testing procedure, the program resources were distributed to the preschools at the beginning of Term 3, 2008. Although there was no charge for the participating preschools, it is estimated that the program delivery and resources would cost approximately $100 per child for a 12-month program.

Following the completion of the intervention program a final parent focus group session was held where parents shared their comments on its effectiveness. Post-SRI testing procedures and focus group discussions were also conducted with the children to gauge changes, if any, in the children’s knowledge and attitudes about safety, and teachers were interviewed to obtain their perspectives about the effectiveness and suitability of the program.

**Data entry and analysis**

The Greater City of Geelong officers chose to record the data via written documentation. The parent questionnaires were collected and placed into Excel spreadsheets, arranged by preschool. Scores were recorded in a table format and the qualitative data
in word format. The data were analysed using the SPSS 17 software (SPSS, 2008). First summary data tables are presented for children and parents. Second, the results of statistical tests in the form of a mixed-model factorial ANOVA analysis for pre- and post-intervention tests are displayed. The distribution of mean scores for pre- and post-measures have shown differences indicating that the SeeMore Safety program is effective in building children’s and parent’s knowledge about safety and risk. The statistical aspects of the results are presented, followed by qualitative comments.

The results provided in Table 2 are the pre- and post-test scores from the SRI test for the same children from each of the seven preschools. Any children not present at both the pre- and post-tests were excluded from the sample. The results indicate the score increased from pre- to post-test for each preschool. Except for PreSP 7, the standard deviation of the score has decreased for all other preschools. This indicates that, while the value of the scores increased, the variability of the scores decreased. The small standard deviation recorded for PreSP 5 post-test score (0.8) suggests the distribution of the children’s responses are tightly concentrated around the safety measures.

Figure 2. Variations between the mean preschools’ children pre and post scores.

Figure 2 shows that there is less variation between the preschools, pre- or post-measures. Whilst post-test scores are consistently higher than the pre-test scores for all preschools, PreSP 6 experienced the largest increase, and PreSP 7 the least. A possible factor that may have contributed to PreSP 7’s lower score was that the preschool was situated in a lower socio-economic area with a range of ethnic and cultural backgrounds. The children from this preschool may have had less experience and opportunity. However one would presume that the pre-test score would have been lower for the same reason, which was not the case.

Table 3 reports repeated measures ANOVA of two factors under consideration: (1) the within-subjects factor, which in most cases represents some sort of time factor or pre/post factor, and (2) the between-subjects factor, the preschool.

The data analysis reveals that although there are differences in pre- and post-scores at the 1% level (that is, $p \leq 0.01$), there was no statistical significance in regards to the preschools. Mean and standard deviation comparisons are presented in Table 2.

It was important to also compute the parents’ pre- and post-measures on the SKSB. Table 4 shows changes in the SKSB checklist results for parent reports of their child’s risk-taking behaviours and safety knowledge. The results show an increase from pre to post scores for each preschool. Consistent with the child results, the standard deviations of the parent score decreased for all schools. This again indicates that while the scores increased, the variability of the scores decreased.

Figure 3. Comparison of the mean preschools’ parent pre and post scores by preschool

Figure 3 represents the variation between the parent pre and post scores. Consistent with child scores, the parent post scores are significantly higher.

At the completion of the program, the seven teachers were invited to comment on the program in relation to any changes they observed in children’s safety knowledge and behaviours at preschool and the effectiveness of the intervention materials. Teachers from three of the seven preschools provided feedback during formal interviews and the remaining four teachers provided general comments by phone.

The teachers were asked how the children engaged in the program, all providing positive feedback. Teacher One reported that ‘all participated in discussions and activities, enthusiastically and positively’ (PreSP 1). In
relation to safety awareness, the teachers noted that there was a perceived increase and made reference to children’s play: ‘in children’s play, discussions and comments, give rise to awareness of issues and new learning’ (PreSP 1). Teachers observed a change in behaviour in both the children and the families. This was demonstrated during bike safety day, where children were not only wearing helmets, but were conscious of the need for helmets and appropriate size of bikes: ‘on bike riding day children were conscious of helmets and sizes of bikes’ (PreSP 6).

Figure 4. Child demonstrating helmet and bike sizing on Bike Safety Day

All teachers commented on the take-home books stimulating discussion at home and how they provided opportunity for the children to share their new learning with their families, making the program more meaningful. One teacher reported that the take-home picture books were ‘absolutely beneficial, as the program can be supported by parents and families. Children love the books and have ownership of them to teach other family members’ (PreSP 6).

Figure 5. Child sharing new learning with siblings

Preschools engaged in other safety-related activities to complement the SeeMore Safety program. Several preschools held a bike safety day to celebrate the bike-themed book and ventured on walks around the block, crossing at traffic lights and school crossings with the lollipop lady, to put into practice what was presented in the SeeMore Safety books.

In relation to the content of the program, the teachers believed it was relevant to children’s daily care and education. However one teacher felt it ‘would be better embedded into the curriculum, rather than being a stand-alone program’ (PreSP 1). Changes to the resources included minor word changes in the books and picture changes to three of the testing cards.

Table 4. Pre and post parent SKSB checklist results

<table>
<thead>
<tr>
<th>Preschool</th>
<th>Number of parents</th>
<th>Mean</th>
<th>Score</th>
<th>+1</th>
<th>STD</th>
<th>% Mean difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre- &amp; Post-test</td>
<td>Pre- test</td>
<td>Post- test</td>
<td>Pre- test</td>
<td>Post- Test</td>
<td></td>
</tr>
<tr>
<td>PreSP 1</td>
<td>9</td>
<td>94.1</td>
<td>97.8</td>
<td>9.6</td>
<td>5.7</td>
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<tr>
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<td>8</td>
<td>94.1</td>
<td>98.5</td>
<td>7.8</td>
<td>2.7</td>
<td>5.1</td>
</tr>
<tr>
<td>PreSP 3</td>
<td>8</td>
<td>88.4</td>
<td>96.1</td>
<td>9.1</td>
<td>4.7</td>
<td>9.5</td>
</tr>
<tr>
<td>PreSP 4</td>
<td>52</td>
<td>95.7</td>
<td>100.1</td>
<td>8.3</td>
<td>5.8</td>
<td>5.1</td>
</tr>
<tr>
<td>PreSP 5</td>
<td>20</td>
<td>89.6</td>
<td>98.7</td>
<td>11.0</td>
<td>7.3</td>
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<td>41</td>
<td>91.9</td>
<td>98.9</td>
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<td>PreSP 7</td>
<td>9</td>
<td>88.8</td>
<td>93.7</td>
<td>9.4</td>
<td>5.6</td>
<td>6.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>147</strong></td>
<td><strong>91.8</strong></td>
<td><strong>97.7</strong></td>
<td><strong>9.2</strong></td>
<td><strong>5.4</strong></td>
<td><strong>0.4</strong></td>
</tr>
</tbody>
</table>
Discussion

The findings of this study indicate that the intervention program had a positive effect on children's behaviour and reasoning about safety. It can be argued that a well-designed safety education program for preschool children that adopts a cultural-historical theory can lead to children developing a strong sense of safety irrespective of age (Vygotsky, 1994; Rogoff, 2003; Fleer, 2010).

Teacher feedback identified that the program was effective and content suitable for preschool children. Generally, results revealed that participant's knowledge of safety and risk improved. Although children worked independently to complete the SRI test, the CoGG officer placed the children in groups of four for the discussion sessions. This provided the opportunity to engage the children in discussions about their perspectives on safety with others after completing the test. Aspects of Vygotsky's (1954) cultural-historical theory promoting the concept of dialectical relations which leads to co-construction of learning and meaning making was evident in the way the CoGG officer interacted to gain insight into the children's way of thinking about safety. On several occasions the children selected a safe card as unsafe. For example, one of the cards picturing a beach scene had SeeMore supplying sunscreen to the hand of a child. The children in one group believed this was an unsafe picture because they were concerned that the drip of sunscreen protruding from the bottle could spill, causing someone to slip. The dialectical relationship in this situation provided opportunity for the co-construction of learning (Anning, Cullen & Fleer, 2004). Through interacting with adults and other children, the children imagined the situation, acquiring an understanding of the consequences of the drip posing an unsafe situation. The children's learning experiences have gone beyond the construction of safety knowledge and skills, cultivating flexible and responsible application of risk ideas gained through the program to imagine real-life contexts. Here is an example of cultural-historical theory subsumed within post-structural theory of child development, where the learning process not only recognises the learner as an active participant, but productive in the building of identity. The learner's sense of self is as a legitimate participant in safe reasoning.

Consistent with the child test results, an increase was also recorded from pre- to post-test scores for the parents. As explained in Table 4, there were noted positive changes in children’s risk-taking behaviours, and increased safety knowledge was recorded in the SKSB checklist reported by parents following intervention. The test results support the positive effect safety intervention programs had on preschool children's knowledge and comprehension in regards to sun safety (Loescher et al., 1995).

The SeeMore Safety pilot study findings supported the evidence provided by Heck, Collins and Peterson (2001) of risky behaviour being decreased following intervention, and the sun safety feasibility study results discussed in the introduction (Loescher et al., 1995). Both studies suggested that a structured intervention program had a positive effect on preschool children's knowledge and understanding regarding safety. In contrast to the sun safety study, the SeeMore Safety pilot study attempted to link cognition with behavioural change. Positive safety habits were noted in the children by the teacher as well as the parents. In one case, twins who previously had been walked to preschool by their grandparent on a leash no longer needed to be restrained. In another, a father who rode a bike to preschool with his son as a passenger, with neither previously wearing helmets, now both wore helmets.

There appeared to be a change in the perception of ‘unsafe’, as terminology used by the children to describe unsafe situations changed. During the pre-testing stage, the children perceived ‘unsafe’ to reflect a negative situation and made reference to unsafe using words such as ‘naughty’ and ‘bad’. In the post-tests, the officer noted that although some children continued to use similar words, new terms appeared, such as ‘you could get hurt’ and ‘dangerous’. During a class discussion the teacher asked the children how their visits to their new school went, and one little boy replied, ‘I felt unsafe’ (PreSP 6).

Valuable knowledge on best practice in regards to data collection involving parents was gained through feedback provided by parents participating in the pilot study. It was acknowledged that the delivery method of the parent questionnaire, the SKSB checklist, limited opportunities for the parents to engage with the researcher. Recommendations included changes that would refine the procedure and encourage better parent engagement. It was suggested that the researcher be available to discuss the study with parents prior to or following a preschool session.

Although the materials were found to be effective, the resource intensive nature of this program could potentially pose limitations to preschools not being able to afford the program. To overcome this and make the program affordable, it was suggested that the resource kit could be delivered in two sections; a base kit which would contain the teachers' manual, doll, CD and posters that could be reused; and a book set that included the class and individual books that would be replaced each year. Another recommendation was to reduce the number of titles in the set to four, which would allow the teachers to focus on one theme per term whilst reducing the costs of the book set. A further suggestion was to have the book sets sponsored or subsidised by council or corporate funding.
As with this study, it will be difficult in future studies to ascertain whether children participating in the SeeMore Safety program gained greater safety awareness, knowledge and problem-solving skills solely from engaging in the program itself, compared with general preschool safety education programs offered. As the SeeMore Safety program encourages preschools to incorporate other safety education resources specific to the topics being taught to complement the SeeMore Safety program, these programs could also play a role in increasing safety knowledge. To gain solid evidence on the effectiveness of such a program in linking cognition with behaviour change, a longitudinal study is recommended, as short-term studies will have limitations due to only measuring the short-term effects on preschool children’s knowledge and comprehension in regards to safety.

Conclusion

In conclusion, the findings of the Geelong Pilot Study revealed that the SeeMore Safety program had a significant effect on the children’s safety knowledge, self-awareness and comprehension. From a cultural-historical perspective the SeeMore Safety program embraced the children’s social and material worlds to enable them to conceptualise safety. Children’s interactive experiences with the more knowledgeable person through the SeeMore Safety program demonstrated how in an ideal environment and situation, safety learning can take place. This is consistent with Vygotsky’s (1994) concept of ideal and real situations being present within a child’s environment. The children demonstrated responsible application of risk management knowledge and skills gained through the program to real-life contexts. Parents and teachers reported on change to children’s attitude and relationship to their environment and consciousness of their new safety knowledge, as demonstrated during the bike riding activity. The child being conscious of the size of the bike and rider required a deeper order of thinking where both intellectual and affective components were engaged (Bozhovich, 2004). The children were able to create new levels of consciousness of positive safety practices in relation to their situation in the environment, and recognise whether the situation or act was safe or unsafe—this in itself is a source of development. Safety learning was constructed in networks of social practices that included teachers, parents and children, who in the process have influenced the extent to which children recognised themselves as capable and engaged participants. The findings suggested that not only was there evidence of child agency for acting safely with understanding, but there was also substantiation of the learner’s sense of self as a valid participant in safe reasoning.

The Geelong City Council’s ‘Safe Start Program’, which conducted the pilot study independently from the researcher, concluded that the program content was suitable and effective for preschool children. The pilot study identified the reliability of the child SRI testing instrument and parent SKSB checklist. However, without a comparison group, the foregrounding of learning could not be determined. Therefore the study was unable to conclude whether this was due to a maturation developmental process or as argued from a more cultural-historical perspective, where through SeeMore Safety the learning has been co-constructed through a social process. For this reason, it is suggested that there is the need to have a comparison group to determine the underpinnings of the safety-related learning and framing of education programs.

References


**School codes:**

Pilot Study Preschool 1 = PreSP 1
Pilot Study Preschool 2 = PreSP 2
Pilot Study Preschool 3 = PreSP 3
Pilot Study Preschool 4 = PreSP 4
Pilot Study Preschool 5 = PreSP 5
Pilot Study Preschool 6 = PreSP 6
Pilot Study Preschool 7 = PreSP 7
The Victorian Early Years Learning and Development Framework:
Managing change in a complex environment

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THIS ARTICLE REPORTS ON an Educational Change Model originally developed for the middle years of schooling (Pendergast et al., 2005) and applied here to an Australian early childhood education reform initiative. The Victorian Early Years Learning and Development Framework (VEYLDF) was released in 2009 (DEECD & VCAA, 2009). Implementation of the VEYLDF was accompanied by a three-stage independent evaluation on early childhood professionals perceptions of implementation. According to the Educational Change Model, three distinct phases can be identified as individuals and groups move towards full implementation of reforms. The phases are: Initiation, Development, and Consolidation.

Evaluation of initiatives delivered in the implementation of the VEYLDF against key elements of the Educational Change Model revealed that: critical model elements of visioning, policy development, stakeholder engagement and information dissemination were achieved at a high level; resources were developed for early childhood professionals to implement in a range of formats and mediums; the importance of leadership in educational change was recognised in the VEYLDF implementation; inhibitors and enablers to the implementation of the VEYLDF were identified in anticipation of the Development phase of the Educational Change Model.

• The staged implementation of the VEYLDF provided opportunities for progressive feedback on implementation successes and challenges.

Introduction

The Victorian Early Years Learning and Development Framework: For all children from birth to eight years (VEYLDF) was released in November 2009 (DEECD & VCAA, 2009) for implementation from 2010. The VEYLDF aligns with Being, Belonging and Becoming: The Early Years Learning Framework for Australia (EYLF) (DEEWR, 2009), and links to the Victorian Essential Learning Standards (VCAA, 2005) in the early years of schooling. My time, our place—Framework for school age care in Australia (DEEWR, 2011) builds on the EYLF and extends the principles, practice and outcomes to accommodate the contexts and age range of the children and young people who attend school-age care settings.

The implementation of the VEYLDF is a partnership between the Policy and Strategic Projects Division, Department of Education and Early Childhood Development (DEECD) and the Early Years Unit, Victorian Curriculum and Assessment Authority (VCAA). Implementation of the VEYLDF requires significant cultural change amongst all early childhood professionals. This is occurring within two key reforms: Council of Australian Governments (COAG) reform in early childhood and in the development of an Australian curriculum for the school sector.

The National Quality Framework for Early Childhood Education and Care (NQF) commenced in January 2012. It is linked to national learning frameworks that recognise that children learn from birth. In combination, these frameworks outline fundamental components to inform and guide early childhood professionals in the delivery of nationally consistent and high-quality experiences and programs across Australia.

The development of the new Australian curriculum has a focus on general capabilities and cross-curriculum priorities. This reflects the integrated nature of children’s learning in both the EYLF, the VEYLDF and in the Framework for School Aged Care in Australia.
The VEYLDF advances all children’s learning and development from birth to eight years. It does this by supporting all early childhood professionals to work together and with families to achieve common outcomes for all children.

**Evaluation**

Staff members from the School of Education and Professional Studies at Griffith University were commissioned by the VCAA to conduct an independent state-wide process evaluation of early childhood professionals’ perceptions of the implementation of the VEYLDF in 2010–2011.

This paper reports on a snapshot of these findings in relation to the Educational Change Model. This model is helpful in understanding three phases of change that relate to early years reform. Each phase—Initiation, Development, and Consolidation—describe indicative levels of engagement and suggest strategies for ongoing professional learning.

**Theoretical framework**

The evaluation was guided by research, in particular the Educational Change Model (the Model) originally developed for reform processes in Australian middle schooling (Pendergast et al., 2005; Pendergast, 2006). This Model has been drawn from an educational scenario; however the principles underpinning the reform model are equally applicable to business, industry and community reform settings. The Model has value for an individual, for a site or setting, and at a systemic level. At the individual level it can be used to assist a person to determine the stage of reform at which they are operating by reflecting on their understandings and practices. Similarly, in a specific site the phase of reform can be determined by auditing the evidence presented across the site. At a systemic level the guidance required to scaffold individuals and sites to achieve reform can be tailored by utilising the components of the phases as an audit tool. Hence, the adoption of the Model is applicable to the innovative change in early childhood reform in this project.

The Model (see Figure 1) proposes that programs of reform are typically established in three phases, gradually introducing particular core component changes, and spanning a total of about eight to 17 years, depending on circumstances. The Model and the relevant literature also recognise that educational reform takes longer than usually expected or normally allowed for in reform schedules. A guiding principle of the Model is the importance of developing ‘lifelong learning’ for both children and early childhood professionals; a principle that is also central to the VEYLDF.

The three broad phases can be mapped into any major reform initiative, and features indications of time taken to achieve each phase (see Figure 2). The Initiation phase typically occupies the first year or two; the Development phase typically spans the next two to five years; and the Consolidation phase can last over a further five to 10 years. The periods associated with each of the three phases are indicative only and can be accelerated through the alignment of enablers. Similarly, inhibitors can lead to dips in the reform program, adding extra time to the overall reform process.

During the Initiation phase reforming organisations are characterised by activities that include goal setting (for example, development of vision statements), and developing buy-in and information dissemination of the new reforms, what they entail and how they’ll be achieved (Pendergast, 2006). The focus for individuals is on understanding the new reforms and the implications for changes to their thinking, language and practices. The Initiation phase typically extends from one to two years.

During the Development phase, typically from years two–five, individuals and groups are deepening their understanding of the reforms, and implementing more and more new practices in accordance with the new reforms. This stage of exploration and experimentation yields many successes, but inevitably leads to some failed trials and experiments. This can sometimes result in frustration, despair and despondency with the new reforms and is accompanied by decreases in performance and perceived efficacy. This is identified in the literature as an implementation dip (Pendergast & Main, 2011).

Factors which cause, exacerbate and/or lengthen the dip are known as ‘inhibitors’, while ‘enablers’ are factors which aid effective implementation and shorten the dip. Pendergast et al. (2005) identified 13 inhibitors of reform in educational settings ranging from weak or inconsistent leadership to poorly conceived vision statements; from insufficient funding to resistance from the community. Typically the organisational focus starts to turn away from the reform efforts with a corresponding reduction in funding. Sustained commitment beyond the life of the initial reform notification is required to ensure continuity of focus.

During the Consolidation phase, typically from years five–10, individual and group understanding of the reform is much more closely aligned and practices have been largely bedded down. Organisations are further deepening their knowledge, and the language and practices are becoming more automatic and widespread within the organisation. Individual reliance on experts and leadership decreases as their own expertise increases. Reform efforts have largely disappeared by this phase with the expectation that individuals are able to continuously improve independent of external assistance as individuals move towards a more expert knowledge and practice base.

As individuals and groups progress along their reform trajectory their understanding and ability to implement the reform changes over time. Because of these changes the implementation activities must conform to the needs of
the group during that particular phase. The more closely aligned the activities are with the needs of the individual, the more likely, and sooner, they move towards full implementation.

An important dynamic presented in Figure 2 is the varied response to introducing change. There is a widespread myth that performance will automatically improve in response to change (the dotted line), when in fact actual performance generally experiences a dip following the introduction of change or reform. Applying appropriate recommendations can reduce the depth of the decline and also reduce the duration of recovery.

This is very important when applied to early childhood implementation initiatives, where a diverse sector is coming together, finding a new voice and beginning discussion about pedagogy competence. The transition from Initiation to Development can often involve a drop in confidence and a loss of momentum.
As Pendergast et al. (2005, p. 85) note:

Even with dynamic and consistent leadership … the effort required to maintain the momentum of reform is enormous, and it is not uncommon for enthusiasm to wane, especially if funding is not sufficient to meet adequately all of the very high costs usually associated with the quality of renewal required. Most … in the Development phase undergo a significant ‘dip’ in their implementation efforts and the efficiency with which they are able to operate.

This ‘typical pattern’ can be represented diagrammatically as in Figure 3.

Figure 3. A ‘typical’ implementation trajectory in a reforming school

Pendergast et al. (2005) also note that it is possible to move from the typical trajectory and facilitate a smoother transition in the reform process by actively pursuing a program that optimises ‘fast track’ conditions. Research in the school sector indicates that for some reforming schools (or indeed elements within a single school site) the implementation experience is often less traumatic, and early childhood professionals can experience smoother sailing. Usually this can occur only when several key factors are aligned and sustained:

- Team membership across several years.
- Congenial, philosophically-aligned dynamics among team members.
- Sensitive and sustained leadership.
- Early adoption and shared risk-taking among members who challenge each other to extend themselves.
- A strong emphasis on team problem posing and problem solving.
- Effective use of research in evidence-based planning.

Under these optimal ‘fast track’ conditions the pattern may look more like that illustrated in Figure 4.
Implementation of the VEYLDF

In the first stage of implementation the VCAA and DEECD provided a range of implementation activities and resources to support early childhood professionals in getting started with the VEYLDF. The implementation of the VEYLDF used a staged approach and additional resources, and activities are being developed and released over time.

Table 1 summarises these activities and resources scheduled from the commencement of the evaluation process in July 2010.

The implementation of the VEYLDF required significant cultural change for all early childhood professionals. It was the first time the Learning and Development Outcomes and Practice Principles for Learning and Development had been articulated. It is also the first time all early childhood professionals have been brought together across the birth to eight years period; with a common framework to advance children’s learning and development.

A detailed description of each activity and resource is provided in Appendix 1. A key element of the evaluation process was to determine whether the activities and resources provided were utilised, and their value to early childhood professionals (Garvis et al., 2011). Engagement and buy-in are critical aspects of the initiation phase in the Model. As noted by Hall and Hord (2001), a lack of motivation to use implementation activities as designed may adversely impact on the level of engagement, limiting it to a mechanical level. Other possible barriers to implementation at this critical first stage include a lack of knowledge of the change process (Easton, 2008) and non-involvement or lack of interest by key stakeholders (Stoll & Fink, 1996).

Table 1. A list of the online and face-to-face implementation activities and resources as at July 2011

<table>
<thead>
<tr>
<th>Online activities and resources</th>
<th>Face-to-face activities and resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>VCAA Early Years Exchange (the EYE) Editions 1–6 December 2009 to June 2010</td>
<td>2010 Early Childhood Education Conference (hosted by KPV and Gowrie Victoria) June</td>
</tr>
<tr>
<td>Early Years Alert—online publication through VCAA</td>
<td>Regional information sessions 2010</td>
</tr>
<tr>
<td>PowerPoint Presentation to Families on the VEYLDF March 2010</td>
<td>Bastow Institute: Leading People in Early Childhood Settings, April to July 2010 and March to August 2011</td>
</tr>
<tr>
<td>The Learning and Development Outcomes from the VEYLDF linked to the Victorian Essential Learning Standards (VELS) July 2010</td>
<td>Statewide Module 1—An Introduction to the VEYLDF and Reflective Practice delivered between May 2010 and June 2011</td>
</tr>
<tr>
<td>Online Module 1. An Introduction to the Victorian Framework and Reflective Practice published October 2010</td>
<td>Statewide Module 2—An Introduction to Collaborative Practice delivered between May 2010 and June 2011</td>
</tr>
<tr>
<td>Online Module 2. An Introduction to Collaborative Practice published October 2010</td>
<td>Statewide Module 3—An introduction to Effective Practice delivered between May 2010 and June 2011</td>
</tr>
<tr>
<td>Evidence Paper Practice Principle 8: Reflective Practice published October 2010</td>
<td>Statewide Module 4—Assessment for Learning and Development: The Early Years Planning Cycle delivered between May 2010 and June 2011</td>
</tr>
<tr>
<td>Online Module 3. An Introduction to Effective Practice published April 2011</td>
<td>Bastow Institute: Contemporary Child Development Theory for Early Childhood Educators July to December 2010</td>
</tr>
<tr>
<td>2011 Early Childhood Education Conference (KPV/Gowrie) Online Papers available from June 2011</td>
<td>VCAA Learning and Development Outcomes Project July 2010 to June 2011</td>
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Victorian Early Years Coaching Program October 2010 to December 2011
Evaluation methodology

The aims of the evaluation were to measure and report on the early childhood professionals’ perceptions of reach and engagement of the implementation of the VEYLDF; to identify enablers, inhibitors and barriers experienced by early childhood professionals; and to identify emerging leadership. This can be discussed in terms of the Educational Change Model. The evaluation consisted of a survey in Stage 1, in-depth interviews in Stage 2, and a second survey in Stage 3.

Stage 1 survey

Participants were recruited by communications with DEECD regional staff and through email, letters and phone calls. Further information about the survey is available in the final report. The online survey was open from 5 October, 2010–14 December, 2010. Of the 405 fully completed responses to the survey, the majority (92 per cent) completed the online version.

Stage 2 semi-structured interviews

Twenty participants were recruited from each DEECD region in Victoria using stratified sampling. Stratification was based on geographic location, early childhood service, role in the service, years of experience and the age of the children the participant worked with. Stratification also represented community, and public and private early childhood services. Participants were selected from a list generated from the Stage 1 survey, based on self-nomination and recommendations by DEECD staff in regional offices. The 20 in-depth interviews were conducted by the Griffith University team during March 2011. One of the limitations of the interview was that it was self-reported data.

Stage 3 survey

The Stage 3 survey was conducted from 18 July–15 August 2011 to identify change and difference and emerging leadership as a result of accessing implementation activities so far. The survey was completed by 736 early childhood professionals following the same sampling methodology used in Survey 1.

Overall, the self-reported profile of the 1,141 respondents to the two surveys and the 20 interviewees was:

- The majority aged 40 years and above.
- Had more than 10 years experience.
- Had a Bachelor degree.
- Worked within the universal services sector (37 per cent in kindergarten).
- Worked with children aged three to five years.

The findings in this study provide a snapshot of the early childhood profession in Victoria. Data was analysed through statistical and content analysis. As it is self-reported data, it is limited in its ability to generalise the entire profession.

Implementation of the VEYLDF mapped to the Educational Change Model

A theoretical model was necessary to understand the educational change taking place in the early childhood profession. The Educational Change Model was used to understand the extent of change following the implementation of the VEYLDF. The model was used to map each phase of change. Table 2 presents a summary of key Model elements for each of the three reform phases.

<table>
<thead>
<tr>
<th>Initiation Phase 1–2 years</th>
<th>Development Phase 2–5 years</th>
<th>Consolidation Phase 5–10 years</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model elements</strong></td>
<td><strong>Model elements</strong></td>
<td><strong>Model elements</strong></td>
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<tr>
<td>Goal setting</td>
<td>Improved alignment of curriculum, pedagogy and assessment systems</td>
<td>Changing social and economic conditions demanding a broader skill set</td>
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<tr>
<td>Visioning</td>
<td>Sustainable innovations</td>
<td>Learner- and learning-focused programs</td>
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<tr>
<td>Transitions and transitioning processes</td>
<td>Enhanced pedagogies, especially the provision of greater intellectual challenge</td>
<td>Child engagement in learning</td>
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<tr>
<td>Developing buy-in</td>
<td>Professional learning communities, with early childhood professionals as learners</td>
<td>Meeting greater diversity in child needs and capabilities</td>
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<td>Information dissemination</td>
<td>Evidence-based policy development</td>
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<td>Understanding new reforms</td>
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<td>Implications for change</td>
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<td>Innovative leadership</td>
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<td>Auditing</td>
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<td><strong>Framework elements</strong></td>
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<tr>
<td>Visioning</td>
<td>To be developed from evaluation findings, consultation with key stakeholders, alignment with elements of the educational change model and current education literature</td>
<td>To be developed from evaluation findings, consultation with key stakeholders, alignment with elements of the educational change model and current education literature</td>
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<td>Policy</td>
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<td>Resource creation</td>
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<td>Information dissemination</td>
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<td>Professional learning opportunities</td>
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<td>Independent evaluation</td>
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<td>Early identification of Enablers and Inhibitors</td>
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Table 2. Key elements of the Model for each phase of reform
Evaluation findings show that, in the implementation of the VEYLDF, key model elements in the Initiation phase—visioning, policy development, resource creation, stakeholder engagement and information dissemination—were achieved at a high level. Evidence of this achievement includes:

- Development of policy documents that align and complement other state and national early childhood educational frameworks and initiatives.
- Development of a wide range of implementation activities and resources for early childhood professionals to assist with introducing the VEYLDF. These included online and face-to-face initiatives.
- Evaluation findings that 94 per cent of Survey 1 and 96 per cent of Survey 2 respondents had accessed at least one implementation resource and/or activity.
- The evaluation found that face-to-face opportunities to learn about the VEYLDF, network and discuss issues were especially valued when the content was specific to the participants’ work setting. The most frequently attended face-to-face activities were the regional information sessions and the state-wide modules.
- VEYLDF information was widely disseminated. The majority of respondents in Survey 1 supported themselves in the implementation of the VEYLDF by reading publications and accessing websites related to the VEYLDF (68 per cent); by working in a team that was actively interested in the VEYLDF (65 per cent) or by working in a service where the culture supported the VEYLDF (50 per cent).
- In-depth interviews confirmed survey results that innovative leadership and collaborative learning environments are seen as important for successful implementation of the VEYLDF, especially the transition to the Development phase of the reform.
- Evaluation findings that many early childhood respondents rated themselves as highly confident and capable with the Learning and Development Outcomes and Practice Principles.
- Indications of practice change occurring as a result of the implementation process, with examples including changes in language use and thinking of and about the VEYLDF.

As part of the preparation for transition to the Development phase of the VEYLDF, the evaluation identified the following enablers and inhibitors that might influence the implementation dip (Pendergast & Main, 2011).

### Enablers

Respondents valued professional development which is easily understood; practical; service-specific; and delivered by knowledgeable presenters.

An analysis of respondent comments about the type of implementation activities they had accessed revealed three common themes—early childhood professionals preferred professional learning which was delivered in language and terms they understood; offered practical advice and suggestions on how to implement the VEYLDF which was specific to their service; and sessions that were delivered by knowledgeable presenters.

The implementation activities most valued were small and localised. At these activities early childhood professionals were able to share, collaborate, discuss and reflect upon their own practice. Participants not only gained practical tips and reassurance but also were able to strengthen and form new professional networks. Many respondents were looking for resources, templates, proformas and ‘practices that work’ to be able to implement the VEYLDF and meet reporting requirements.

To follow up on professional learning, respondents overwhelmingly relied on formal (initiated by their service, regional office or industry body) and informal (initiated by individuals, across services) networking opportunities. Formal professional learning activities consisted of the four DEECD state-wide Modules that were delivered to all regions and multiple regional locations from 2010. The Modules were filmed and are now available online. These follow-up sessions are critical in terms of supporting and reassuring early childhood professionals as they progress towards implementing the VEYLDF.

### Inhibitors

Access of early childhood professionals to implementation activities was restricted by time location, computer equipment, and availability and capacity to attend.

The existence of contextual barriers to change may limit opportunities for developing collaborative learning environments. Early childhood professionals in the interviews and surveys listed many contextual barriers that limited their opportunity to access implementation activities. For face-to-face activities, barriers included: timing of activities (unsuitable timing of activities); access to activities (limits on number of people who could attend); location (activities required the early childhood professional to travel to another location); and leadership self-selection process (Bastow Institute).

Identified contextual barriers for online resources included limited computer access, access to relief staff, time to log online, and access to reliable internet connections. Some early childhood professionals also listed their level of technical skill as a barrier to access.

### Leadership

Initial glimpses of early childhood leadership started to emerge in the Initiation phase, with some early childhood professionals supporting and leading others in the implementation process.
Sustained leadership and supportive networks are central to establishing and maintaining the conditions for effective implementation. Rogers (2003) suggests that an individual’s interest or need governs the rate of implementation. In this Initiation phase some early childhood professionals noted examples of support and leadership from colleagues, representing an embedding of the implementation of the VEYLDF. In some early childhood services, time was allocated to staff to allow colleagues to deeply explore content within the VEYLDF together. This approach supported and enhanced staff relationship and knowledge-building about the VEYLDF that was then contextualised within the early childhood services. Early childhood professionals appeared to value opportunities for professional learning within their service.

**Recommendations**

According to the Model (Pendergast, 2006) it is possible to facilitate a smoother transition in the reform process by optimising ‘fast track’ conditions which include team building, strong leadership and effective use of research in evidence-based planning.

As the needs of early years professionals change as they move along their reform trajectory (for example, from the Initiation to Development phase) so must the type of support and activities change. This is identified as necessary by the Model and by respondent comments during the evaluation.

The recommendations within a reform trajectory of continuous improvement are:

1. That the findings of this evaluation are triangulated with other data sources to further inform future VEYLDF implementation planning. This would include but is not limited to the views of professional learning consultants, evidence from VEYLDF implementation inquiry projects, and data from the National Quality Framework.

2. To articulate the differences and similarities of the various legislated and regulated Frameworks (VEYLDF, EYLF, The Framework for School Aged Care in Australia and the NQF) and the Australian curriculum in schools (Initiation).

3. To facilitate professional learning activities and workshops that are large-scale (Initiation) and then follow up with smaller local networking opportunities (Development).

4. To coordinate with the larger services and industry bodies to organise localised and integrated professional learning that may include elements of support that are service specific. Support consultants and regional offices to deliver personalised mentoring and/or coaching for individual services (Development).

5. To stream workshops and seminars on the internet so early childhood professionals in regional and rural areas can meet at hubs to watch the broadcast (Initiation). This doubles as a networking opportunity (Development).

6. To create plain language materials about the VEYLDF that double as professional learning for staff and information for parents (Initiation and Development).

7. To create resources that demonstrate exemplar practices (Development).

8. To apply the Educational Change Model and continuous improvement theory; to support further progress within this period of implementation reform (Development).

**Conclusions**

This paper has reported on the Initiation phase of the Educational Change Model in relation to early childhood professionals perspectives of the implementation of the VEYLDF. The Model provides the opportunity to build in specific steps to support change. It provides a useful frame of reference to support early childhood professionals and emerging leaders to map progress at the individual, service level or network level within a frame of continuous improvement. Further information about the final report can be found at www.vcaa.vic.edu.au/Pages/earlyyears/index.aspx.

**Acknowledgements**

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**References**


Teacher professional development as an evolving concept

Teacher professional development has been a focus of reforms in early childhood education worldwide (OECD, 2005). Much of the recent literature has indicated that receiving professional education at bachelor degree level is essential for high-quality early childhood education (for example, Blank, 2010; Bowman et al., 2000; Zigler, Gilliam & Jones, 2006). PD is about teachers’ learning—learning how to apply their knowledge for the benefit of their students’ growth. It requires both the cognitive and the emotional involvement of teachers, as well as the capacity and willingness to improve and change (Avalos, 2011). PD is an evolving concept which has been conceptualised in varied ways. Zepeda (1999, p. 1) argues that ‘staff development’ (the term she uses to refer to PD), is multifaceted. ‘Staff development, in-service education, and training are terms that are often used interchangeably in educational arenas. Are these words synonymous with one another? That depends … Staff development is the chameleon of public education; it can adapt itself in shape or size to fit the need it is asked to address.’ In this respect, PD includes both formal education and continuous professional development (OECD, 2005; Huffman, 2011). Formal education refers to a structured and certified program that teachers peruse to obtain professional knowledge and skills for practising in
continuous professional development refers to those opportunities provided for teachers to improve and renew their practices. It is often associated with ‘in-service education’ and ‘continuous education’ (OCED, 2012). Continuous professional development at one-year certificate level was stipulated as a registration requirement only in 1992. Originally, those who had obtained nine years of basic education were allowed to take on teaching responsibilities in two years of high school or graduated from university (Opper, 1992). Those who had obtained nine years of basic education were allowed to take on teaching responsibilities in two years of high school or graduated from university (Opper, 1992). Those who had obtained nine years of basic education were allowed to take on teaching responsibilities in two years of high school or graduated from university (Opper, 1992).

In addition to the discussion of individual and organisational perspectives, the current trend of worldwide education reforms has set up a new focus for deliberation on PD beyond school settings. McLaughlin and Talbert (2001) argued that PD should be reconceptualised in a social-political context of school reforms. As Cochran-Smith (2005, p. 182) points out, ‘The rhetoric of reform is not a simple matter of semantics. It is a vital part of understanding the politics of teacher education.’ The amount and quality of external support for any serious improvement effort is critical to promote PD. External support for PD comes mainly from the government in the form of a professional development policy and resource provision (Anderson & Togneri, 2003). In these circumstances, the goals of teacher professional development may be heavily prescribed by governments and less reflective of teachers’ own perceived needs (Grundy & Robison, 2004). Day and Sachs (2004, p. 4) also argue that professional development content and processes are strongly influenced by competing ‘manageria’ and ‘democratic’ conceptions of professionalism in an era of accountability. More managerial and neoliberal pressures result in teacher-learning processes that are characterised by a narrower focus upon more pressing and immediate concerns that treat teachers as individuals rather than collaborative inquirers and are oriented towards information dissemination rather than to knowledge generation (Day & Sachs, 2004). In line with these arguments, Hardy (2009, p. 86) claims that professional development policy is often described pejoratively as a manipulating tool to control teachers to work under ‘increased managerial scrutiny’ and transform professional development to be ‘regular industry’. This is mainly because policy-makers have ignored teachers’ voices in formulating the professional development policy. Indeed, teachers seldom proactively participate in such processes of decision making (Pini & Gorostiaga, 2008); and those policies are usually based on students’ learning outcomes instead of on teachers’ own learning (Marszalek et al., 2010).

As Hardy (2012, p. 1) argues, ‘PD is not simply a program of activities, lectures or workshops undertaken by teachers at the beginning of a new school semester … Rather, PD is a multi-faceted, reflexive social practice involving active decision making by individuals and groups under the specific social settings in which they live and work … As a result, teacher professional development practices, and support for such practices, are inherently political.’ From this perspective, PD is understood as the interplay between individual and socio-political contexts. It is greatly influenced by broader social and political conditions surrounding the teachers. To promote PD, the professional development policy must address the importance of teachers’ understanding of their own learning and teaching process (Darling-Hammond & McLaughlin, 1995), and should regard teachers as the agents of the policy instead of a conduit for it (Darling-Hammond, 1990). Awareness of PD as a complex social-political practice is a necessary precursor to cultivating the conditions likely to lead to improved teacher professional development for quality teaching and student learning.

Background of the study

Historically, the professional development level of Hong Kong preschool teachers was rather low. Very few preschool principals and teachers had completed either the last one or two years of high school or graduated from university (Opper, 1992). Originally, those who had obtained nine years of basic education were allowed to take on teaching responsibilities in classrooms. Professional development at one-year certificate level was stipulated as a registration requirement only in 1997. Over the past decade, there has been a call for longer and more appropriate professional development programs for preschool teachers in Hong Kong (CNOPE, 2011).
After 1997, the local government expressed concerns about the development of ECE and its quality. For example, the Education Commission was appointed to conduct a comprehensive review of the education system in 1999. The Reform Proposal was then issued. It suggested raising the entry requirements to the level of Certificate of Education for preschool teachers in order to improve the quality of ECE and promote teacher development (Education Commission, 1999). However, the pace of upgrading teachers’ qualifications was relatively slow. Pre-service professional development at one-year certificate level was required for professional registration only in 2003.

When the Hong Kong Government launched the PEVS in 2007, one of the aims was to improve quality in ECE (Education Bureau, 2007). Upgrading teachers’ professional qualifications has been used as a means to achieve that aim. The Policy Address 2006 stated that all new preschool principals should hold a bachelor degree in ECE, while all teachers who are already employed in preschools should obtain the Certificate of ECE (equivalent to a two-year Higher Diploma) by 2012 (Hong Kong Government, 2006). To support this policy, the Education Bureau has provided professional development subsidies to preschool teachers under the PEVS. The subsidies can be used for paying course fees between the academic years of 2007–2008 and 2011–2012. Preschool teachers have to upgrade their qualifications within those five years. It can be seen that PD in the local ECE sector is mainly driven by these reform policies.

## Research methodology

### Research questions

The aim of this study is to explore the relationship between the professional development policy under the PEVS and PD in a policy-driven ECE context, and to identify whether there is a gap between the policy objectives and teacher professional development. To achieve this aim, two research questions were addressed:

a. What do you think the purpose(s) of the professional development policy announced in the Policy Address 2006 are?

b. How would you comment on that professional development policy?

c. What were the reason(s) for you to attend the professional development program?

d. If the government did not introduce the professional development policy, would you have attended the professional development program? Why?

e. To what extent could the professional development policy meet your needs for professional development?

f. To what extent could the professional development program help improve the quality of your teaching?

### Research design

A comparative case study approach was used in the research design of this study (Stake, 1995; Yin, 2009). The rationale was to provide a detailed account of multiple perspectives of participants in the case studies (Johnson & Christensen, 2008). The design of a comparative case study involves cases which are similar in some respects but different in others. These similarities and differences become the focus of examination in order to ‘find out why the cases are different and to reveal the general underlying structure which generates or allows such a variation’ (Routio, 2012, no pagination). However, generalisability is a limitation of the case study approach. Generalisability refers to ‘the degree to which findings can be generalised to other settings similar to the one in which the study occurred’ (Denzin & Lincoln, 1998, p. 186). It is used as an indicator of the confidence which can be placed in the research findings to represent the phenomenon in question. When the domain of social science is extended from the prediction of facts to the interpretation of meaning, and the nature of knowledge is no longer the mere reflection of some objective reality, the criteria and forms of validation change (Kvale, 2002). Transferability is, therefore, used as an alternative standard for qualitative research (Guba & Lincoln, 1989). The qualitative researcher can enhance transferability by doing a thorough job of describing the research context and the assumptions that were central to the research’ (Research Methods Knowledge Base, 2012, no pagination). To enhance the transferability of this study, the background information of the interviewed participants is provided in the following section, so as to enable the readers to compare the original research situation with their own.

Patton (2002) identifies three types of qualitative interview: structured, semi-structured and unstructured. They vary in the format and structure of questioning. Semi-structured interviews were used for data collection in this study. This type of interview is suitable for accessing people’s constructions of reality (Linn, Howard & Miller, 2004). All interviews were conducted on an individual basis. Each participant was interviewed for one session. The duration of each interview was about 30 minutes. All interviews were audio-taped and fully transcribed. Major interview questions included the following:

a. What do you think the purpose(s) of the professional development policy announced in the Policy Address 2006 are?

b. How would you comment on that professional development policy?

c. What were the reason(s) for you to attend the professional development program?

d. If the government did not introduce the professional development policy, would you have attended the professional development program? Why?

e. To what extent could the professional development policy meet your needs for professional development?

f. To what extent could the professional development program help improve the quality of your teaching?

### Selection of participants

A comparative case study approach was used in the selection of participants. The participants were four class teachers working in different local preschools. They represented a range of different qualifications and experiences, having taken part in professional development
programs in the academic year of 2007–2008 and 2011–2012 respectively. They had obtained or were pursuing their qualifications either at higher diploma or bachelor degree level with the support of government subsidies under the PEVS. The composition of the sample and their personal information is given in Table 1.

With this selection, it is possible to examine two contrasts. The first is a comparison between different qualification holders who participated at the same time. The second is a comparison between the teachers who hold the same qualification but participated at different times, namely in 2007 when the government subsidies under the PEVS were introduced, and in 2011 close to the time when the subsidy scheme was to close. Years of teaching experience is not a main factor for sampling, but it should still be taken into account, because it might influence the participants’ perceptions of the impact of professional development policy on PD.

Data analysis

The qualitative approach to data analysis used in the study was adapted from Attride-Stirling’s (2001) thematic model which systematically depicts the procedures for analysing textual materials, while at the same time making reference to Strauss and Corbin’s methods for open coding (Strauss & Corbin, 1998). The steps in the analysis include coding the materials and identifying themes. To begin the data analysis, codes were applied to the text. Themes subsequently emerged from the interview transcripts. Attride-Stirling’s model was used to code the materials and identify themes. The coding framework was derived based on the theoretical construction guiding the research questions. For example, ‘increased capacity’ and ‘teaching quality’ were the common parameters in the impact of professional development policy on PD. Meanwhile, some flexibility was maintained in devising the coding framework in order to incorporate the salient and recurrent issues arising in the text itself. For example, ‘use the government subsidy’ and ‘meet the professional requirement’ were frequently mentioned by the interviewees when talking about their reasons for seeking PD. The way the steps proceeded was quite similar to Strauss and Corbin’s (1998) open coding, which refers to breaking down, comparing, and categorising data. Four themes emerged from the data in relation to the perceptions and experiences of the participants of the professional development policy: reason for seeking professional development; impact of professional development policy on teachers’ professional development; need for different levels of professional development; and participants’ evaluation of the professional development policy. Each of these themes is elaborated with interview excerpts below.

Research findings

The first theme that emerged from the interview data was the reason for seeking professional development. The participants had some reasons in common. For those who had completed/were attending the Higher Diploma program, the main reason was to meet the professional requirements, but those who had completed/were attending the bachelor degree program wanted to use the government subsidy for professional development to upgrade their qualifications. Three participants even stated that if there had not been such policy, they would not have chosen to participate in PD. The following interview extract reflects this view:

The main reason why I participated in the training was that my school had received the vouchers, which offered opportunities [subsidies] for us [teachers] to be involved in training … If there was not this kind of policy, I think I would not attend the bachelor degree program. (Teacher B)

All of the teachers stated that they were under great pressure when working full-time while studying part-time. That may be why none of these participants said that they voluntarily chose to receive PD. Instead, they had to meet the professional requirement or wanted to use the government subsidy for professional development to upgrade their qualifications. Three participants even stated that if there had not been such policy, they would not have chosen to participate in PD. The following interview extract reflects this view:

Table 1. Profile of the participants

<table>
<thead>
<tr>
<th>Professional Qualification</th>
<th>Years of teaching experience</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher A Degree in ECE</td>
<td>8</td>
<td>Enrolled in the degree program in 2011</td>
</tr>
<tr>
<td>Teacher B Degree in ECE</td>
<td>12</td>
<td>Enrolled in the degree program in 2007 and completed in 2010</td>
</tr>
<tr>
<td>Teacher C Higher Diploma in ECE</td>
<td>3</td>
<td>Enrolled in the higher diploma program in 2011</td>
</tr>
<tr>
<td>Teacher D Higher Diploma in ECE</td>
<td>8</td>
<td>Enrolled in the higher diploma program in 2007 and completed in 2009</td>
</tr>
</tbody>
</table>
The second theme that emerged from the interview data was related to the participants’ views on the impact of professional development policy on PD. All four participants thought that the purpose of the professional development policy was to upgrade the qualifications of preschool teachers and to promote PD, and to use that as a means to improve the quality of ECE. One participant said that:

I think that the main purpose of the professional development policy is to improve the qualifications of preschool teachers and enhance their professional competence. (Teacher A)

When they talked about whether the professional development policy met their needs for PD, three of the four participants said that under the policy, subsidies were provided for them to receive PD and it could satisfy their need for upgrading their qualifications. One said:

I chose to be a pre-school teacher because there are many opportunities for continuous professional development … Although I have received one-year pre-service training, I found that I couldn’t understand children’s behaviours well. After attending the higher diploma program, I have learnt child development theories which enable me to develop a better understanding of the behaviours of the children with whom I am working in my class. (Teacher C)

Three of the four participants agreed that the policy has some positive impact on their own PD. Only one participant, who was attending the bachelor degree program at the time the interview was conducted, said that there was no strong relationship between the professional training policy and her own professional development. However, she still admitted that the policy generally exerted a positive influence on teacher development in ECE in Hong Kong. She said:

Actually, there is no direct help from professional development program to my professional development. However, there is still some indirect relationship between them. The government has provided subsidies for us to receive professional development … To a certain extent, it can promote teacher development in early childhood education. (Teacher B)

To some extent, all four participants thought the purpose of professional development policy was to improve their qualifications and development. Also, they perceived that the policy had improved their professional development as well as teaching quality. One participant said:

In the past, I taught children by following prescribed teaching goals and methods. After attending the degree program, I have paid more attention to children’s responses and abilities. My teaching skills have been improved and become more child-centered. (Teacher A)

This confirms the findings that have been reported in a territory-wide survey conducted by Yuen et al. (2010). They found that the majority of the respondents recognised that PD has promoted their professional identity and enhanced their effectiveness in teaching.

The third theme that emerged from the interview data is the need for different levels of PD. All four participants recognised that, to be a preschool teacher, it was necessary to take part in PD courses, either to meet the professional requirements set out by the local government or to use up the government subsidies for professional development. However, their views on the level of professional development were different. The two participants who were attending/completed the Higher Diploma program thought that the PD at higher diploma level was sufficient to cope with the daily work of a class teacher, and found that what they benefited from the most in the professional development course was practical knowledge, such as the detailed examples given by the lecturers on the PD program and specific teaching strategies and skills discussed with classmates. As one participant put it:

It is necessary to upgrade the qualifications of preschool teachers. But there is no need to reach degree level. The Higher Diploma is vital, since preschool teachers should be able to reach that level and help students. Because when you get the Higher Diploma, actually, you have the ability and the knowledge to deal with daily work. On the other hand, I think there is no need for a preschool teacher to have a degree. I can’t see the differences between before and after obtaining the bachelor degree in early childhood education. (Teacher D)

However, the two participants who were taking/completed bachelor degree courses held different opinions. For example, one said:

It is desirable that all my colleagues hold a bachelor degree in early childhood education. The knowledge offered in degree courses is deeper and wider than that in Higher Diploma courses. What is more, if a preschool teacher has a degree, parents and the general public would give more respect to early childhood educators, which is not only important but also indispensable. (Teacher A)

The interview data above shows that the preschool teachers who were receiving/had completed the training at Higher Diploma level mainly focused on their daily work as a preschool teacher within the classroom, while those who were/become bachelor degree holders perceived the value of PD at degree level. Moreover, they thought that upgrading teachers’ qualifications to degree level could help build a better professional image of the teaching workforce. This is because preschool teaching has been viewed historically as an extension of mothering and not recognised as professional (Ho, 2006).

The last theme that emerged from the interview data was the participants’ evaluation of professional development policy. All the participants expressed that the professional development policy put them under pressure and produced numerous worries at a time when education reform was under way.
First, time was tighter than before as they had a full-time job combined with studying part-time. All PD courses were arranged in the evening time. To attend the professional development program they had to rush to universities after work. Sometimes they did not even have time to have a quick supper before class. Indeed, they did not have time to rest. One participant said:

I work for eight hours from Monday to Friday and have evening classes at the university for three hours, three days a week … I have no private time. I am very tired of that. Although the government has provided a subsidy for hiring replacement teachers, these teachers cannot do much for us. I think it would be better if day-release mode of PD could be provided for teachers who want to pursue their professional development. (Teacher C)

Second, coupled with the introduction of the PEVS, quality assurance inspections were implemented in preschools to monitor quality. All the participants stated that their workloads for internal and external quality assurance were increasing. One participant said:

I already have a very heavy workload from full-time teaching duties and study load from the professional development program that I am now attending in the evenings. Under such circumstances, the internal school quality review and the external quality assurance inspection give me extra workload and greater pressure. I am facing numerous pressures that I have found difficult to handle. (Teacher B)

Since the participants had to attend the professional development program in the evenings, they had to prepare their classroom teaching, paperwork, and assignments for professional development courses during weekends and holidays. They had less time to spend with their family. Third, they said they had little time to spend on their studies owing to the heavy workload demands of their full-time job. One teacher expressed it in the following way:

Attending professional development courses in the evenings makes me feel overloaded and keeps me busy … The professional development program offers me lots of opportunities to learn new knowledge. However, I do not have time to digest that new knowledge and therefore I find it difficult to put that knowledge into practice. (Teacher D)

It seems that these teachers went through the professional development process but did not have in-depth learning of what had been taught in class. In other words, they could not maximise the benefit of PD in their personal and professional growth.

Discussion

Corresponding to the aim of this study, which is exploring the relationship between professional development policy and PD in ECE in Hong Kong, there are two focal points for discussion. The first is the participants’ attitude toward PD. All these participants were passively engaged in the PD, either to fulfil the professional requirement or to use up the government subsidy. The findings suggest that none of the participants were strongly self-motivated to receive PD. In the case of Hong Kong, the teachers’ passive attitude would definitely limit their capacity for lifelong PD. Therefore, action should be taken to provide incentives to motivate teachers to engage actively in PD. For example, the salary scale for preschool teachers which was removed when the PEVS was introduced in 2007 should be reinstated to recognise the benefits of PD.

The second focal point for discussion is the implementation of the professional development policy. The intention of the professional development policy is to upgrade teachers’ qualifications and to use PD as a means to improve teaching quality. To some extent, both of these policy objectives have been achieved. However, a negative side-effect has been also created. The PEVS was introduced by the local government in 2007, closely coupled with the policy to upgrade qualifications and the quality assurance policy. These three reform policies have been introduced at the same time and posed a great number of new challenges, and placed demands on preschool teachers who were working full-time while receiving part-time training in the evenings. The Hong Kong Federation of Education Workers (2009) conducted a survey about the pressures on preschool teachers in 2008. The results demonstrated that 56.3 per cent of preschool teachers were working under excessive pressure/considerable pressure, and that these proportions were higher than those for 2005, before the implementation of PEVS. As the time for using the government subsidies for PD has been set at five years, preschool teachers were pressurised to receive PD. Much of the literature supports the idea that the professional development of teachers is a lifelong process. It would, therefore, be more effective if teachers could promote their own learning at their own pace throughout that process (Evan, 2008; Fullan, 2007). Because preschool teachers felt that the pressure was imposed upon them from outside, and that they had a very passive attitude toward PD, it was difficult to motivate them to receive continuous PD on a voluntary basis.

Conclusion

This paper explores the relationship between the professional development policy and teacher professional development through case studies. Though the results of this study cannot be generalised to the whole picture of PD in ECE in Hong Kong, it does shed some light on the latest developments. The findings of the study reveal that the professional development policy exerted some positive influence on the professional development of preschool teachers, and the participants perceived that the professional development programs to some extent
helped improve their teaching quality. To this extent, the policy objectives have been achieved. However, the policy also produced negative side-effects of working pressure and preschool teachers’ passive attitudes toward PD. The conditions under which PEVS was imposed are not conducive to teaching quality and lifelong professional development.

Mr. Leung Chun-ying, the Chief Executive of the Government of Hong Kong, has indicated his support for fully-subsidised ECE. In his speech, entitled Free 15-year Education in Hong Kong (in Chinese), given to the Education Forum held in February 2012, he said that upgrading professional qualifications, re-establishing the salary scale and promoting continuous professional development were part of the measures for improving the quality of ECE. Currently, the relevant debate as to whether the professional development policy can promote teacher professional development is emerging. Consideration of possible changes to a more flexible period, giving credit for pursuing professional qualifications at degree level and lessening the pressure of educational reform on preschool teachers have been highlighted in the debate. The experience of implementing the professional development policy under the PEVS should be taken as a starting point, from which strategies for PD relevant to the local ECE sector can be built, by introducing selective improvements and modifications. The issues of the professional development policy and PD should be carefully scrutinised if the government intends to invest more resources in upgrading teachers’ professional qualifications to support the delivery of free, high-quality early childhood education in the future.

Endnote: The term ‘preschool’ refers to both kindergartens and childcare centres, including crèches, residential centers and day nurseries, which cater for various needs. Day nurseries provide day care services for children whose parents are both working. Crèches and residential centres serve children who lack normal family care and provide either permanent family services or residential care. After the harmonisation of pre-primary services in 2006, kindergartens, registered with the Education and Manpower Bureau, provide services for children from three to six years old. Childcare centres, on the other hand, are registered with the Social Welfare Department and include nurseries catering for children aged two to three and crèches looking after infants from birth to two years.

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References


Family members’ memories about starting school: Intergenerational aspects

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This study investigated memories about starting school across several family generations, and the impact of these memories on parents’ philosophies and actions when they were supporting their children during the transition to school. In this paper, we report the autobiographical narratives of two families and explore the ways in which the memories of school and starting school prompted both continuity and change in family decisions about education in general, and the transition to school in particular.

The study draws on generational and interpretive perspectives in exploring autobiographical memories and oral history. Results reflect the concept of ambivalence, highlighting tensions between processes of reproduction and innovation across families. The implications of these tensions for children starting school are considered.

Introduction

Transition to school may be a momentous time in a person’s life. Many people have memories of starting school, possibly constructed and reconstructed over time, and drawing on a range of sources. In this way, these memories are constructions of childhood experiences interpreted in adulthood (Turunen, 2012). The time of starting school represents a normative, institutionalised transition established by legislation and educational practices within a particular society (Elder, 2004). It is a phase of changing relationships and roles, and marks changes in children’s participation in the family and community (Dockett & Perry, 2007; Educational Transitions and Change [ETC] Research Group, 2011; Rogoff, 2003), as well as changes for the individual (Elder, 2001) and the family (Griebel & Niesel, 2009).

A range of research evidence supports the notion that parents’ own experiences of school influence their attitudes towards education and their educational choices. These attitudes can influence choices about the neighbourhoods families live in (Lauen, 2007), as well as the location and type of schools children attend (Gorard, 1997, 1998; Räty, 2003; West, Noden, Edge, David & Davies, 1998). Within this broader literature, limited research has considered intergenerational aspects of starting school experiences, such as how parents’ own experiences influence their decisions about their children’s transition to school.

Of the few studies that have explored intergenerational experiences of starting school, Taylor, Clayton and Rowley (2004) suggest that parents’ own experiences at school may have a strong effect on the academic socialisation of their child, including the experiences instituted to help prepare children for school. Barnett and Taylor’s (2009) study of parents’ recollections of their own school experiences, and the impact of these on transition activities with their children, also indicates some intergenerational trends. In particular, this study reported that mothers who recalled the school involvement of their parents were more likely than mothers without such recollections to engage in academic transition activities with their children.

This paper contributes to an understanding of starting school experiences by exploring intergenerational aspects of transition to school. The memories of educational experiences of past generations contribute to family attitudes towards, and decisions about, children’s education (Räty, 2011). In this paper we pay specific attention to family members’ memories about starting school across two or three generations in Australia. Our aim is to explore notions of continuity and change in the recalled transition experiences across multiple generations in the same family. We also aim to establish the impact of these memories on parents’ philosophies and actions as they support their children’s transition to school.
Within this, we acknowledge that the intergenerational transmission of social patterns in transition to school is a complex phenomenon including perspectives of ‘what parents do’ and ‘who parents are’ (Taylor, et al., 2004).

**Families as contexts of starting school**

Starting school happens within a number of socio-cultural contexts, including the home, school and home–school connections. Broader historical and cultural contexts also influence starting school experiences (Dunlop & Fabian, 2002). Contexts set the scene for starting school at a specific time and place and define the public consciousness of what school is about (Elder, 2001). The bio-ecological theory of Bronfenbrenner (1986) explains the ways the home acts as a microsystem, with established patterns of activities, social roles and interpersonal relationships. These patterns reflect intergenerational influences, as beliefs and values are internalised by children who later draw upon these same models in their own parenting (Barnett & Taylor, 2009; Putallaz, Costanzo, Grimes & Sherman, 1998; Taylor et al., 2004). The same emphases are evident in Elder’s life course theory, which highlights the importance of patterns of interaction with people and places that occur over time, within specific contexts, that ‘affect the way we think, feel, and act’ (Elder, 1998, p. 9).

Families play key roles in the educational outcomes of their children. What happens within families, as well as within communities and schools, influences children’s educational experiences (Bowes, Watson & Pearson, 2009). Family spirit and sense of integration coloured with intensive affective bonds—referred to as habitus—helps family members feel and act as a unit (Bourdieu, 1998; Reay, 2004; Tomanovic, 2004). Family habitus is maintained through generations by shared ways of understanding (Atkinson, 2011). It provides a framework for making, and making sense of, decisions, including those about education. It can predispose people to act in certain ways. However, it also offers possibilities for individuals to construct different ways of being and doing (Reay, 2004). For example, some parents are eager for children to have school experiences similar to their own; other parents seek very different experiences (James & Beedell, 2010).

Examination of family habitus allows us to consider both continuity and change across generations by focusing on both the processes of reproduction and innovation within families. At the same time as values and practices are transmitted within families, each generation develops its own set of values and practices. The tensions associated with these potentially conflicting forces have been termed social ambivalence (Lüscher, 2000; Lüscher & Pillmer, 1998), as members of each generation assert both their independence and their interdependence—simultaneously seeking to be connected with, and distant from, the lives of their parents and grandparents. Social ambivalence is described as a tension between the reproduction of family traditions and innovations exploring new, possible ways of being and doing, challenging the balance between individual and social (Lüscher, 2002). The concept of ambivalence helps us recognise how each ‘generation stands for continuity and for beginning’ (Lüscher, 2000, p. 14).

**Autobiographical narratives in families**

Memories about starting school are part of a person’s autobiographical narrative. People tend to build narrative self-understanding by constructing a coherent life story of ‘continuing me’, an autobiographical narrative of self (Blagov & Singer, 2004; Conway & Pleydell-Pearce, 2000; Nelson, 2003). Memories from the past contribute to the ways people position themselves, construct identities and interact in a range of contexts. As Tonkin (1992) argues, the past and memories constructed from it influence choices and goals in the present. These stories about the past, interpreted in the present, are an important part of human meaning-making processes, influential in ordering life events into meaningful experiences (Bruner, 2001).

Autobiographical narratives emerge from a mix of personal memories and social and cultural boundaries. The narratives are culturally framed; they are situated in a historical time and place that contributes to the meaning of recalled experiences (Nelson, 2003). In autobiographical narratives people make sense of their experiences and memories, themselves, the world, and their relationships, and link their life stories to wider social narratives (Haynes, 2006). Bruner (2001) argues that autobiographical narratives are not just for the person him/herself, but are also a way to present oneself to others and explain what happened, and why, in a culturally appropriate way. To be told, the stories need an audience. Stories told during interviews are designed for particular recipients: the interviewers and people who might read about them later (Riessman, 2008). The stories about starting school as they were told during the interviews in this study may not have existed before, but the interview situation provided a reason and purpose for these narratives.

In families, autobiographical narratives are constructed and individual narrative selves are created through everyday interactions with other family members and across generations (Fivush, Bohanek & Zaman, 2011). Narrative meaning is created and re-created in social interactions where personal experiences are interpreted and evaluated through the social frames and interactions in the family, and are shared with other family members. ‘[S]tories we create with others through socially shared interpretations and evaluations of our personal past constitute our very being’ (Fivush, 2008, p. 55).

Using people’s memories as data raises issues about ‘accurate’ and ‘inaccurate’ memories. Are an individual’s stories ‘correct’? In this study we consider stories about
starting school as part of constructed autobiographical narratives (Ghosh, 2007; Turunen, 2012). Part of this construction process involves interpreting family stories and making sense of them in the context of one’s life (McKeough & Malcolm, 2011). This approach emphasises a combination of individual experiences; stories told in family and community; photos and other artefacts; as well as the process of recalling them. The stories may not refer to what actually happened, but they are experienced and recalled constructions, and present part of ‘continuing me’ (Nelson, 2003). Following Thelen’s (1989) ideas, this brings the notion of constructed recollections, rather than the accuracy of the memory, into the centre of the study.

**Research design and data**

Data were generated through autobiographical narrative interviews (Morrissey, 1998; Riemann, 2006) in which participants were invited to tell their stories about starting school. Depending on the content of the narrative, some additional questions were asked about particular aspects of the transition, including preparation for school—both for participants and their children. By doing this, we aimed to encapsulate participants’ memories of the lived experiences of starting school and explore issues of continuity and change in the recalled transition experiences across multiple generations within the same family. The additional questions were asked only if the interviewee did not mention them in his/her story.

Each narrative gave a voice to a child in the form of a story told from the present, when the participants revisited their childhoods (Thompson, 2000). These life histories were about past experiences, but also about what the starting school experience meant later in the life of the interviewees (Hammerton & Thomson, 2005). The interviews lasted from 20 minutes to nearly two hours, and with the permission of participants were audio-recorded. The interviews were conducted by two interviewers at a time and in a venue convenient for participants. Some participants brought school-related artefacts to the interview, such as school photos and school reports. These artefacts were not analysed but served as ice-breakers and prompts for the storytelling during the interview.

The data were analysed by using qualitative content analysis with the emphasis on abductive inference (Krippendorff, 2004). Following Peirce’s (2001) thinking about the role of concepts in human thinking and interpretations, the analysis was led by theory-based concepts outlining the phenomenon (Josephson & Josephson, 1996). This approach assisted in delimiting the analysis and focusing on essential issues in the theoretical framework of the family as a place of primary relationships, and the influence of those relationships in a person’s life course. The data were analysed by exploring repetition of the same kind of experiences, and the emotions related to them, in different generations.

Members of six families participated in the study. Two families were represented by three generations and four families by two generations. In total, 16 participants who started school in Australia between 1935 and 1991 shared their stories. The families’ stories about starting school covered time frames from 60 to 100 years. The stories included several generations: the parents and even the grandparents of the first generation and the children of the second and third generations. In the following results section we represent a close-up picture of two families: Family Wilson with three generations, and Family Taylor with two generations. Pseudonyms have been used to protect the anonymity of the participants.

**Family Wilson**

The first generation of Family Wilson was represented by Mary and Bob. Mary started school in 1937, and Bob in 1935. During the interview Mary and Bob talked about their parents, and Mary also talked about her grandparents. Mary and Bob’s daughter, Lorraine, started school in 1961, and her son Kevin in 1991. Altogether, five generations were present in the stories. Figure 1 provides an overview of Family Wilson and the family members mentioned in interviews.

Ambivalence across the generations was noted in this family as a theme of being socially active and ‘liking school’ was continued, while change was evident in attitudes towards patterns of school attendance across the generations.

**Wonderful mixture of people**

Associating with people from various backgrounds was celebrated through the generations of the Wilson family. Bob’s father had been a doctor and used to work at mental hospitals. For Bob, this formed a significant school-related memory:
Long mixture of people. That’s probably what comes to mind most is the mixture of people that we associated with every day. We had the intelligentsia, and we had workers, and we had the starving fishermen.

Mary also talked about people around her. From her early years at school she remembered more about her family’s social life than school-related things.

But marvellous, more than school I remember the families and they were, you know really, probably they were a big influence on our lives because of my grandmother was a very cultured woman and so we had lovely music and poetry and singing.

When Lorraine was at school age, the family lived in a rural area with a culturally homogenous population and she did not have many possibilities to familiarise herself with people from diverse backgrounds. Even though there were not many possibilities, she passed on the importance of getting along with everyone to her children:

I used to always emphasise like just being kind to people was the main thing, be nice to other children.

The theme of being socially active and broadminded continued into the third generation. Lorraine’s son Kevin’s story was full of people. He was aware that making friends and being ‘in love with people’ was a recurring theme for him. When asked how he was prepared for school, Kevin said:

She’d [Lorraine] also kind of read E.E. Cummings poems to us and all kinds of things, which were just about looking for good things in the bad and enjoying the beauty of things around you and socially connecting with people and not excluding people.

An active and broad social network, being interested in people and willing to get to know them was part of the Wilson’s shared family story. Even though it was not strictly related to starting school, it contributed to the family habitus that determined the tone of the early school experiences across generations.

We never missed school

In Family Wilson, education was regarded as important, and going to school was generally a positive experience through all of the generations. Bob did not remember much about his early years at school, but he had an overall positive feeling about it:

My strongest memories are fun. I’ve got no bad memories anyway. Life was good. We had no nasty teachers that I can remember.

After a few years at school Mary’s family moved and she started in a new school. Mary liked her first school. She recalled that she fitted into the new school, but did not like it as much as her first school.

I mightn’t have learnt very much there but it was absolutely central to my life [the first school] and my memories because when we went to [the new town], I never liked that very much. It [the place she moved from] was never … was where I loved. That was where I lived and I loved the countryside.

Lorraine was a family-oriented child and enjoyed her life at the family homestead. She started her education by correspondence with her mother as a tutor and had happy memories of that.

So Mum taught me correspondence and I can remember. Oh this is exciting. I can remember the envelopes and I can remember getting a certificate from the School of the Air it was called or the School of Correspondence or something like that. And the main thing I can remember about Mum teaching me is just I remember like it didn’t seem to be, it wasn’t very arduous but we made a dictionary, where you had to do your, cut out things that started with A and B, etcetera. So that was fun.

After one year at the correspondence school, Lorraine started at a primary school. For her, leaving home was a big thing and she missed her mother. Starting school changed the meaning of time. At the farm, there were no exact timetables, but at school everything was scheduled and Lorraine was disturbed by the feeling of being hurried during the school mornings. She had vivid memories about the preparations for the first day of school involving her grandmother and father:

I remember being very nervous. I remember the day before I was to start, it was a big deal, and my Grandma gave me a pair of rosary beads and Dad taught me to say … he said if you want to go to the toilet you have to say ‘May I be excused, please?’ and if you want to sharpen your pencil you say ‘May I sharpen my pencil, please?’ But I couldn’t remember. And so I said, I couldn’t remember the words so I didn’t ask, so I wet my pants. That was very embarrassing. And then the teacher said, he must have seen like drip, drip, drip but he said ‘Ah Lorraine do you need to be excused?’ so I did go outside.

Because being at school was important for the Wilsons, absence was not an option and Lorraine and her siblings went to school every day.

I probably would have rather stayed home and just played but I actually didn’t mind school. But I remember, oh once early in that first year of going to school, they got a new bus and I hated the smell of it because it was new so I got a day off. So like you hardly ever missed school, so I got a day off because of the smell. I said ‘Oh it will make me feel sick.’ So the next day I got to stay home. But we [Lorraine and her siblings] didn’t really … We never missed school.
Lorraine’s story included several instances of ambivalence. Even though starting school was an unnerving experience with some unpleasant incidents in her early school career, she kept saying that she liked to go to school, reflecting the shared family value of the importance of school. She had pleasant memories about friends, success and recalled her favourite things like colouring in and writing stories. Lorraine’s story was a rich narrative of negative and positive incidents and diverse emotional landscapes.

I missed mum I remember, like I missed home a bit but then got pretty used to it. I’m fairly practical. I think I worked out early that you have to go to school. I thought you had to go to school so there was no point making a big deal about it so then I just settled into it.

Ambivalence emerged in the ways Lorraine dealt with her children during their early school career. Based on her experiences, Lorraine changed some patterns of the previous generation, like attending school every day and feeling hurried in the mornings. She had made a conscious decision that her children should not have the same experiences that she had. Because she would have liked to be with her mother more, she changed the rule of school attendance with her children:

I didn’t make them [her children] go to school if they didn’t want to go, but it usually meant they weren’t, you know, if they weren’t well or were very tired they didn’t go to school.

In her story Lorraine kept coming back to missing her mother and pondered whether or not home schooling would have been a good option for her children. This was another example of ambivalence in her story. Despite this tension, Lorraine’s son Kevin started his education in a Montessori pre-school at the age of three. Kevin had positive recollections of his time at pre-school:

I remember the presence of a teacher, the teaching. Whoever was in charge. I don’t remember what she looked like or anything but I do remember how she kind of felt in the classroom, which was very warm and friendly and I think I felt quite safe there.

Lorraine recalled that Kevin was taken out of the Montessori school because it seemed to not be the best place for him. Kevin recalled this incident:

And eventually I didn’t do the last, the year prior to kindergarten. Mum took me back out of Montessori and I remember feeling a little bit, I was happy about that but I was also a little bit, felt a bit weird about leaving my friends.

After the Montessori school, Kevin continued his school career at primary school when he was five. He remembered how he had dressed up in his new school uniform and he had a vivid memory about walking up the stairs to the school building. Kevin’s story followed the theme of ‘liking school’ that characterised the experiences of Family Wilson. He liked being at school, the activities encountered, and especially his teacher:

I don’t know what her [teacher] name was but I just remember sitting cross-legged, a very good pupil and looking up at my teacher and just being overwhelmed by the urge to go up and hug her or something, like make some kind of physical contact with her. We’d had a very good day of arts and crafts and I’d made a face on a paper plate. Again, I was very proud of my artistic abilities. But yeah, that was, I remember that feeling very strongly.

Like Lorraine, Kevin’s story was rich and detailed. He had memories about doing arts and crafts, being proud of his achievements and being with other children. He could still remember many of his school friends by name. Kevin ended his story by saying:

But it [school] was fun. I think that’s about it. I think in terms of actually starting school ... Yeah, I don’t really recall that first period. I guess people are the main things yeah. Falling in love with girls with blonde hair.

Family Taylor

Family Taylor was represented by two generations: Don, who started school in 1938, and his daughter, Margie, who started school in 1979. There were four generations present in the stories including Don’s parents and Margie’s sons. Figure 2 provides an overview of the Taylor family mentioned in interviews.

Patterns of both continuity and change were evident in the narratives from this family. In particular, there was a distinct and deliberate change in the ways education was valued within the family.
I remember the day I started school

Starting school was exciting for both Don and Margie and they both liked their first teachers. Don could vividly remember his first day:

I remember the day I started school. I was very excited because my mother dressed me up and put shoes on my feet and got me going and I went to school on the petrol tank of a motorbike [with his father].

Margie’s older sister had already started school and Margie was keen to go to school:

I was so looking forward to it. I was so excited about it but when I got there it was very different to what I thought it would be. I used to watch my sister go off to school and I used to think ‘Oh I wish I could go, I wish I could go’.

Despite the good start, school was not an enjoyable place for Don. Several times during the interview he said that he had not liked school:

Oh there was nothing much that I liked at school, in regards to the school work, in regards to maths and all that sort of thing. I didn’t like them. It didn’t suit me.

Margie’s experiences varied. She recalled that her first week at school had been traumatic. She had looked forward to going to school, but her expectations were not met:

But when I actually got there [to school], the reality of it was very different to what I imagined it would be and I think that’s probably where, I guess, the disappointment came in, is that I had this vision of what starting school would be like and it didn’t match the vision.

Margie recalled that in her early school career, she struggled with finding her place among other children. Margie started her story by recalling that she had enjoyed her school years but, throughout the interview, kept coming to her difficulties making friends:

I did enjoy school. I found it difficult to make friends, that was hard. But I did love the school work, which was wonderful. (Margie, at the beginning of her story.)

My memory of starting school was excitement and disappointment. And then fitting in. And then finding a place where I fit. (Margie, in the final part of her story.)

Margie also reflected on her experiences with her two sons’ transitions to school. She was worried that her older son might have the same experience as she had:

And he [her son] was an October baby and I don’t think he was really ready but because of his age he kind of had to go. And that was difficult for me because I knew he wasn’t ready socially and I guess from the memory of me starting school I didn’t want him to go through what I’d gone through. And it took him a little while but he finally adjusted.

In the Taylor family, going to school was not always a pleasant experience. Based on her own experiences, Margie was concerned about her sons’ transition to school. She wanted to change the starting school experiences and had given her sons opportunities to practise their social skills in play groups and kindergarten before they went to school. With these activities, Margie found new ways of doing things and managed to break the pattern of her family not fitting into school. Her concerns about her sons coping at school eased when her older son seemed to do well, and she was more relaxed when her younger son started school.

You don’t need a bloody tech school education to milk cows

The ambivalence in Family Taylor emerged in the changing status of education over generations. In his interview, Don told of many incidents of misbehaving at school. One example involved putting sheep droppings into grapes and giving them to other children. He also quipped that his best subject at school had been smoking. Don had not liked school, and when he was young he did not regard education as important in his life. Later he felt sorry about missing the opportunities:

I overheard my Mum say to Dad, ‘You know, you should send Don to tech school’. And I heard Dad, typical, say ‘You don’t need a bloody tech school education to milk cows’. I thought he was a great father. Now I regret all those things, but what can you do?

Margie knew that her father’s ‘best subject at school had been smoking’. The story of missed possibilities was shared across generations and it had become a family narrative. Margie referred to it in her story:

And he [Dad] said that was one of his regrets, that he didn’t [continue with the education]. And yet his mother really believed in education but his father wanted him back on the farm.

As a father of two daughters, Don actively aimed to change the attitude towards education in his family. He wanted his children to behave well at school and encouraged their school work:

I’ve seen different kids get into trouble for different things you know, and I always said [to his children] ‘If you want to do something that you shouldn’t do, do it at home, don’t do it in school’. And they didn’t. And they learned. They have done well, my two girls.

It was important for Don that his daughters were prepared to go to school and he had made sure that they ‘were ready’:
So they were about four and a half but they were both ready to go to school. They could read and they could recite and they could do lots of things. And they used to read well and write before they went to school. They were encouraged to do that before they went to school. They were ready.

In her story, Margie reflected this changed status of education:

And from Dad’s perspective, he wanted to give us every opportunity that we wanted to take … They [her parents] wanted to make sure we had the opportunities we wanted and they’d provided them for us and left that up to us in a way.

Discussion and conclusions

The participants could recall starting school and memories about it were part of their autobiographical narratives. In the stories, transition to school was a time of changes in each individual’s positions and relationships in the family and outside of it. This notion is consistent with current literature (Dockett & Perry, 2007; Rogoff, 2003; Turunen, 2012). The stories about starting school were not only part of personal narratives but also part of stories shared in the families and across generations. They covered a significant timeframe including the previous and following generations of the interviewees.

In the stories, the families formed microsystems in which the lives of different generations were linked (Bronfenbrenner, 1986; Elder, 2001). In these microsystems, parental practices were either transferred to the next generation or actively resisted and transformed into new practices. Parents’ own experiences at home and school had an impact on their actions with their children’s transition to school and generated spaces of social ambivalence between generations (Lüscher, 2000). In Family Wilson, the importance of social activities and relationships outside the family was passed on from generation to generation, and it was a significant part of starting school memories in all the generations. However, the rule of school attendance changed between the generations. In Family Taylor, starting school included unpleasant experiences in both generations, but there were efforts to break this tendency. The meaning of education and the importance of ‘doing well’ was also changed in this family. These results resonate with previous studies (Barnett & Taylor, 2009; Taylor et al., 2004) but our study adds that not only incidents at school, but also in the family and home environment, have key roles in promoting positive and successful transitions to school.

The results of this study indicate that the experiences of previous generations, shared family stories and the family habitus can influence expectations and experiences of children’s transition to school. This might happen in a conscious way, in which a parent either follows or tries to change approaches to school. It might also happen unconsciously, by just doing things as they have always been done in the family. The time of transition to school affords opportunities for parents to reflect on their own experiences about starting school and ponder if and how they might shape their interactions with their children. Based on the results of this study we encourage educators to consider the intergenerational experiences within families and find ways to provide spaces for parents and other family members to share their reflections about starting school. Such an approach reflects the social and interactive nature of the transition, acknowledging that the experiences of many people contribute to the process, in various contexts, over time.

References


Introduction

Situated at the south-eastern tip of China and south of the Tropic of Cancer, Hong Kong is at the centre of rapidly developing East Asia. Measuring 1104 square kilometres, with a population of 7 million, it is one of the world’s most densely populated areas. About 95 per cent of the population is Chinese, while residents and expatriates of other ethnicities constitute a small (5 per cent) but significant segment of society (Census and Statistics Department, Hong Kong Government, 2012b).

Previously described as a barren rock, Hong Kong has become a world-class financial centre with an expansive skyline. Hong Kong became a Special Administrative Region (SAR) of the People’s Republic of China (hereafter referred to as China) on 1 July 1997, after more than 150 years of British control. Today, under China’s one country, two systems policy, Chinese socialism does not extend to Hong Kong; instead, its capitalistic system continues for 50 years after 1997, maintaining its identity as a cosmopolitan city.

As the international trend of inclusion has impacted education worldwide, it will be interesting to see how this trend and other societal changes have affected the development of inclusion in early childhood education in Hong Kong. Western countries have researched early childhood and special education extensively, yet limited information exists on early childhood special education in Hong Kong. This article describes the current status of inclusion in early childhood in Hong Kong. It highlights the region’s overall structure of early childhood and special education services, the historical movement toward inclusion before and after 1997 (the year Hong Kong returned to the People’s Republic of China), and its impact on early childhood education. The author addresses the question of whether the development of inclusive education was driven by an educational agenda or other factors, and discusses challenges of inclusive practices in early childhood education, and future possibilities.

Which agenda? Inclusion movement and its impact on early childhood education in Hong Kong

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TO EXAMINE THE CURRENT status of inclusion in early childhood in Hong Kong, this article highlights the overall structure of early childhood and special education services in the region, the historical movement toward inclusion before and after 1997 (the year Hong Kong returned to the People’s Republic of China), and its impact on early childhood education. The author addresses the question of whether the development of inclusive education was driven by an educational agenda or other factors, and discusses challenges of inclusive practices in early childhood education, and future possibilities.

Introduction

Situated at the south-eastern tip of China and south of the Tropic of Cancer, Hong Kong is at the centre of rapidly developing East Asia. Measuring 1104 square kilometres, with a population of 7 million, it is one of the world’s most densely populated areas. About 95 per cent of the population is Chinese, while residents and expatriates of other ethnicities constitute a small (5 per cent) but significant segment of society (Census and Statistics Department, Hong Kong Government, 2012b).

Previously described as a barren rock, Hong Kong has become a world-class financial centre with an expansive skyline. Hong Kong became a Special Administrative Region (SAR) of the People’s Republic of China (hereafter referred to as China) on 1 July 1997, after more than 150 years of British control. Today, under China’s one country, two systems policy, Chinese socialism does not extend to Hong Kong; instead, its capitalistic system continues for 50 years after 1997, maintaining its identity as a cosmopolitan city.

As the international trend of inclusion has impacted education worldwide, it will be interesting to see how this trend and other societal changes have affected the development of inclusion in early childhood education in Hong Kong. Western countries have researched early childhood and special education extensively, yet limited information exists on early childhood special education in Hong Kong. This article describes the current status of inclusion in early childhood in Hong Kong. It highlights the region’s overall structure of early childhood and special education services, the historical movement toward inclusion before and after 1997, and its impact on early childhood education. It raises the question of whether the development of inclusive education was mainly driven by an educational agenda or other factors.

Though ‘integration’ and ‘inclusion’ are often used synonymously in Hong Kong, there is a distinction between these concepts internationally. Inclusion supports children’s rights, regardless of abilities and backgrounds (Division of Early Childhood Council for Exceptional Children, 2000; Turnbull, Turnbull & Wehmeyer, 2007). The educational system is responsible for accommodating every child’s needs so that all participate in natural settings within their communities. In contrast, integration often refers to the placement of children with special needs into mainstream school, leaving the child responsible for accommodation. Compared with integration, inclusion is often promoted from a wider ideological perspective (United Nations Educational, Scientific and Cultural Organization Salamanca Statement, 1994), with inclusive schools being more responsive to diverse learning needs.
In this paper, ‘inclusive education’ is defined as education and services for children with varying needs, abilities, and diverse backgrounds in mainstream school settings. The term ‘special education’ refers to specialised instruction and services provided as support to children with special needs so they can achieve the outcomes expected of all students.

Relevant to the discussions of these two terms are the two models of disability: medical and social (Luk, 2005; Vislie, 2003). The medical model of disability sees the person with special needs as the problem, treating disabilities as diseases and differences as social deviances. Usually the focus is on the impairment rather than the needs of the person. The social model of disability proposes that systemic barriers, negative attitudes and exclusion by society are the ultimate factors defining who is ‘disabled’ and who is not in a particular society, and that the society needs to include people regardless of their individual differences. In other words, this social model approach to disability sees the problem as society’s barriers, rather than the person’s condition (Campbell & Oliver, 1996). A number of researchers (Crawford, 1998; Luk, 2005; Zhang, 2011) have pointed out that, although ideologically Hong Kong is now moving toward the social model of disability, many people and schools in Hong Kong still use the traditional medical paradigm.

Current status of early childhood care and education services in Hong Kong

In the early 20th century, formal early childhood education programs were almost non-existent in Hong Kong (Kwong, 1997). Since then, progress has been made in providing services to support young children; according to the Education Bureau (2012a), the education and care of young children is provided by childcare centres and kindergartens. At present, there are whole-day and half-day childcare centres (CCCs), which are registered under the Child Care Services Ordinance with the Social Welfare Department. CCCs include day care centres for children from birth to age two, and day nurseries for children aged from two to three years. Kindergartens and CCCs were harmonised in 2005, so about 400 CCCs have been converted to kindergarten-cum-childcare centres (KCCCs), registered with both the Education Ordinance and the Social Welfare Department (Education Bureau, 2012b).

Kindergartens in Hong Kong provide education for three years. At age six, children transition to elementary schools. There are two types of kindergartens: non-profit-making kindergartens (NPM kindergartens) and private independent kindergartens (PI kindergartens). Both are privately run. Currently, among the some 1000 kindergartens in Hong Kong (Census and Statistics Department, Hong Kong Government, 2012a; Hong Kong Government, 2007a), about 84 per cent (N = 825) are NPM, and 16 per cent (N = 152) are PI-kindergartens (Census and Statistics Department, Hong Kong Government, 2012a; Education Bureau, 2012b; Hong Kong Government, 2007a). Currently, most kindergartens operate on a half-day basis and offer upper kindergarten, lower kindergarten and nursery classes. Some offer whole-day classes as well. Being private institutions, all CCCs and kindergartens choose their own medium of instruction (for example, Cantonese or English).

Average size of pre-primary institutions is about 100 children, with staff–child ratios of between 1:8 and 1:15 (Education Department and Social Welfare Department, 2002). As early childhood education is not compulsory, pre-primary institutions vary greatly in terms of quality of service and scale of operation. In general, most institutions accommodate various learning centres (for example, a reading centre and an art and craft centre) and are equipped with necessary aids (Poon, 2008). Being privately run, they also have their own adaptability, diversity and market responsiveness (Poon, 2008). Most kindergartens in Hong Kong require formal application and an interview with the child.

Government assistance in the NPM kindergartens can include the remission of fees to needy parents through the Kindergarten and Child Care Centre Fee Remission Scheme; fee subsidies for parents; and financial support to teachers for professional development through the Pre-primary Education Voucher Scheme. In the 2007/2008 school year, for each child older than 32 months attending a local NPM kindergarten or KCCC, a subsidy of 10 000 Hong Kong dollars was given (Information Services Department, 2007). Only the NPM kindergartens are eligible for fee remission and vouchers. Both NPM and PI kindergartens are registered under the Education Ordinance with the Education Bureau, receiving recommendations on curriculum, pedagogy and administration. Regular inspections of both kindergartens are conducted by the Education Bureau.

In the 150 years under the British government, British rule of law and an educational system similar to the British system were adopted and well established. Traditional Chinese cultural beliefs nevertheless exert a directive force on the culture of schooling, which is evidenced by the fact that the education system in Hong Kong is geared toward examination success (Zhang, Biggs & Watkins, 2010). Students are banded across and within schools based on high-stakes examination performance. Students entering secondary schools at the age of 12 or 13 are assessed and placed in schools of bands one to three. Special schools (Practical Schools) exist for children deemed unmotivated. Because of the academic emphasis, pedagogical objectives at the pre-primary level have focused on academic preparation (Poon, 2008). Most preschool teachers therefore emphasise cognitive development.
Further, although early childhood education is not mandatory, most parents want their children to start early (Cheuk & Hatch, 2007; Luk, 2005). Teachers in Cheuk and Hatch’s study believed that parents preferred academic kindergartens instead of developmentally appropriate programs and desired large amounts of homework, believed to promote successful transition to primary schools. In addition, admission requirements and pressures of primary schools are known to be increasing. For example, some schools have implemented second-grade curriculum in first grade, increasing the pressure for early academics (Cheuk & Hatch, 2007). As a result, young children with special needs placed in mainstream kindergartens are often left behind. The expectation of adaption to the mainstream environment of scholastic achievements has made it difficult for young children with special needs to be successful learners (Crawford, Hui & Heung, 2000; Heung, 2006). This education environment has created tremendous obstacles for inclusion.

The language policy in Hong Kong is trilingualism (Cantonese, Mandarin and English). Many parents want English education (that is, using English is the medium of instruction) for their children, making kindergarten selection of critical importance, with parents making extra effort to achieve placement in kindergartens with good reputations. Some put their children in kindergartens that network with elite primary schools, move to prestigious districts, send their children to English playgroups and interview preparation classes, use forged home addresses on applications (Luk, 2005), or lie about the parents’ vocations.

**Overall structure of early childhood special and inclusive education services in Hong Kong**

Among the approximately 140,000 children enrolled in kindergartens and KCCCs, about 1–4 per cent have special needs (Information Services Department, 2007; Zhang, 2011). Most are placed in mainstream programs without appropriate support, despite the significant role of early interventions for children with special needs. Early childhood education has not been supported by the Hong Kong government to the same extent as mainstream primary and secondary education (Pearson & Rao, 2006). In the past, services were usually not available until school age and until the 1980s early childhood education was mainly provided by untrained teachers (Pearson & Rao, 2006). According to Lee and colleagues (2004), only about 60 per cent of kindergarten teachers have teacher-training qualifications in early childhood, while only two-thirds of CCC workers have completed their training.

Currently, some preschool training and early interventions for young children with special needs are provided by the Social Welfare Department. These services are provided through early education training centres, integrated programs in KCCCs, and special CCCs. In general, referrals to all these centres are made by social workers or staff of rehabilitation services to the Central Referral System for Rehabilitation Services of the Social Welfare Department. Other early intervention services in Hong Kong are provided mainly through the pilot program on child development, jointly organised by the Department of Health, Hospital Authority, Education Bureau and the Social Welfare Department, as well as a few private agencies.

**Early education training centres**

In Hong Kong, 36 early education training centres exist for children with disabilities from birth to age two years (Social Welfare Department, 2012b). These centres provide early intervention with emphasis on the family’s role. Children aged two to six years with disabilities are eligible if not receiving other preschool services.

**Integrated programs in KCCCs**

In 2012, of the 400 KCCCs, 208 registered to join integrated programs accepting both typical children and those with mild disabilities (Education Bureau, 2012a; Social Welfare Department, 2012d). These programs provide training and care for preschoolers with mild disabilities only (that is, mild intellectual, mild physical disabilities, mild or moderate visual and hearing impairments); children with severe disabilities are not accepted (Social Welfare Department, 2012d). These programs receive government subsidies and are typically operated by social service agencies such as Caritas Hong Kong, Haven of Hope and Hong Kong Christian Service (Hui, n.d.). The number of special needs children accepted into programs ranges from six to 24, with a ratio of special to typical children of 6:100. Each school has a special childcare worker and health personnel (Hui, n.d.).

**Special childcare centres**

There are two types of special CCCs in Hong Kong: one provides day care (N = 34) and one is residential (N = 6). These serve preschool children diagnosed with the following: autism, moderate to severe intellectual and physical disabilities, severe to profound hearing/visual impairment, deafness and blindness (Social Welfare Department, 2012a). Programs at the residential centres form part of the pre-school service for children as a continuum of training in the day special CCCs (Social Welfare Department, 2012a). In general, primary school placement for graduates of special CCCs depends on the severity of disability (Social Welfare Department, 2012c). Those with high-functioning intellectual disabilities may integrate into a mainstream school with intensive remedial support. Children with severe disabilities often transition to special schools, which may also provide residential care (Social Welfare Department, 2012c).
Comprehensive child development service

A pilot program on child development, Comprehensive Child Development Service (CCDS), was announced in the 2005 Education Bureau policy address, with the aim of providing comprehensive, integrated support to special needs children and their families (Education Bureau, 2012c). The Department of Health, the Hospital Authority, Education Bureau and the Social Welfare Department jointly organised the CCDS. Today it is an inter-departmental network that provides services such as assessment, health and educational activities, and counselling services.

Private service providers

Private service providers for young children with special needs exist. For example, the Child Development Centre at Matilda is a non-profit organisation that provides for children aged birth to six years with learning disabilities. The Watchdog Early Learning and Development Centre provides for children with cerebral palsy, Down Syndrome, autism, and learning disabilities, preparing children for entry into regular schools (AngloINFO Hong Kong, n.d.).

The historical movement toward inclusion and its impact on early childhood education

The impact of inclusion on early childhood education in Hong Kong is best understood in its unique socio-cultural context. The following sections briefly review the history of the inclusion movement in Hong Kong, the policies of special education and inclusion, and how underlying factors have shaped policy implementation and impacted on the development of inclusion in early childhood education. The major events in Hong Kong special education history and inclusion policies are summarised in Appendix 1.

Historical events in Hong Kong special education history and inclusion policies: Education agenda or other agendas?

The first special education school in Hong Kong (that is, the School for the Deaf) was founded by missionaries in 1935. The colonial government adopted a laissez-faire approach to special education, and its involvement in the care and education of children with special needs was minimal (Poon-Mcbrayer, 2004). For many years, students with special needs were provided with free, basic education in mainstream elementary schools only. In the 2009/2010 school year, the New Senior Secondary Education structure was implemented, allowing special schools to offer six years of free secondary education (Education Bureau, 2012d). At present, there are approximately 74 government-aided special schools providing services for children with the following disabilities: visual/hearing impairment, physical disabilities, intellectual disabilities, and social difficulties (Education Bureau, 2012d). The staff ratio is 1.5 teachers per class, with class size ranging from eight to 20, depending on the type of disability (Education Bureau, 2012d).

Hong Kong, pre-1997

The Hong Kong government first introduced integration in the Annual Report of the Education Department in the late 1960s. The Education Department attempted to include special classes for children with partial hearing within ordinary schools (Lian & Poon-McBrayer, 2002; Yung, 1997). This effort was perhaps symbolic, as government support of integration remained meagre. Inclusion was regarded as a concept from the West and a luxury for the developed countries (Potts, 1998).

According to the Board of Education (1996), implementing inclusive education aligned Hong Kong with developed nations in promoting human rights and equal opportunities. Integration reform was deemed essential in appearance, but not in substance. Westwood (1999) commented that the rhetoric of integration was well ahead of actual practice. For example, the White paper on rehabilitation—Integrating the disabled into the community: A united effort, formulated policy on rehabilitation in 1977 (Hong Kong Government, 1977). The stated intent of the White Paper was to raise public concern about disability and to recommend integration of children with disabilities into regular schools. This policy had little actual effect; in the subsequent 20 years, segregated education and services were expanded rapidly with special schools more than doubling, and the number of students placed in these programs quadrupling (Yung, 1997).

At the core of the issue was society’s emphasis on performance in standardised tests, with the government seeking to reduce public conflict. Integration was not mandatory; there was little incentive for change. Schools may blame the rigid, government-provided curriculum for the lack of reform. In any case, a logical inference is that, even if children with disabilities were mainstreamed, many would find it impossible to succeed (Crawford, Hui & Heung, 2000; Forlin, 2007). With inclusion a mere philosophical ideal, there was no feasible plan for implementation. As a result, in most cases, early childhood care and education served only typically developing children (Luk, 2005; Zhang, 2011).

Despite some progress being made, schools in general mainly use a deficit, medical paradigm. It appears that inclusion has remained an unimplemented dream in a culture of inertia and cynicism, established during the colonial period, which continues until today (Cheuk & Hatch, 2007; Forlin, 2007; Heng, 2006; Morris & Scott, 2003). In 1994, the United Nations Educational, Scientific and Cultural Organization (1994) World Conference on Special Needs Education proposed the endorsement
of inclusive education and support of development of special education as integral to all educational programs. The colonial government, deeply concerned with public appearance on the international stage, could not ignore the inclusion movement in the Western world; political and social agendas were held above everything (Heng, 2006; Morris & Scott, 2003). In 1995, the Hong Kong government issued the White paper on rehabilitation—Equal opportunities and full participation: A better tomorrow for all, which reaffirmed the policy of integration (Lynch, 1994).

In 1996, with the implementation of the Disability Discrimination Ordinance, an educational agenda to ensure equal opportunities for students with disabilities was presented by the government. The Report of the Sub-Committee on Special Education also stated that the concept of special education had been widened to include all children who, for whatever reason, were failing to benefit from school (Board of Education, 1996). The Ordinance met much resistance and there was no appropriate support structure at the school level (Forlin, 2007). This lack of support is evidenced by the lack of a formal requirement that pre-service teacher education programs contain a core unit on teaching students with special needs (Westwood, 1999). The most unsympathetic interpretation is that the government was struggling with the tension between the rhetoric of equal opportunities and the substance. In its essence, the inclusion of students with special needs is a matter of government support and control. It appears that the colonial government wanted to be seen as responding to concerns of other developed countries, but did not commit full support for implementation (Morris & Scott, 2003).

One may argue that at this time many people (including general education teachers) in Hong Kong had a segregationist view, forming strong, invisible barriers toward inclusion. Social and systemic problems can be major obstacles, but if the government believes in inclusion, social change is more likely to take place. One only needs to follow the development of the inclusion movement worldwide to understand the power of attitude and commitment.

**Hong Kong, post-1997**

Hong Kong’s return to China resulted in tremendous social, political and economic changes. Since the return to Chinese sovereignty, the government has been keen to prove its capability to maintain Hong Kong’s international status. Reforms in curriculum and in the Primary One Admission and Secondary School Places Allocation Systems, along with support measures to strengthen teacher/administrator competence, have been implemented. The issue of inclusion has gained prominence in educational discourse. Why has education been a priority, and what has prompted government support for children with special needs? The timing of reform implementation is not coincidental (Heng, 2006; Morris & Scott, 2003).

**Pilot project of integrated education, 1997–1999**

In September 1997, the Hong Kong Education Department launched a two-year pilot project exploring effective modes of school-based support for primary and secondary students with special needs. For the first time, students with hearing and visual impairments, physical disabilities, Autism Spectrum Disorders (with average intelligence), Attention Deficit and Hyperactivity Disorders, speech and language impairments, learning disabilities, and mild intellectual disabilities were placed in mainstream schools (Heung, 2008). Participating schools sought to make accommodation for the special needs population.

After the pilot project, the number of primary and secondary schools joining the pilot program increased from nine to 117 by 2003 and more than 700 students with disabilities were educated in integrated schools. Teachers were encouraged to undertake collaborative teaching with adaptations in curriculum content, teaching styles, and assessment to meet learning needs (Heung, 2008). Peer support activities were organised (for example, cooperative learning and big-brother–big-sister schemes) to facilitate learning and social inclusion. In addition, 19 of the 74 special schools in Hong Kong now functioned as resource centres to support regular education schools. Besides the pilot project, the government invested resources to integrate pull-out services. In 2000, the Education Department initiated an ‘intensive remedial teaching program’ for students with learning disabilities in primary schools (Education Department, 2001).

While the results were encouraging, Heung (2008) commented that there was a lack of overall direction or long-term goals. In addition, many general education teachers lacked the required skills to educate special needs children, leaving schools in need of resources and professional support (Crawford, Hui & Heung, 2000). Chan (1998) also suggested that Hong Kong was still at some distance from inclusive education. At primary and secondary levels, only children with select disabilities were eligible for official projects. Standardised curriculum, with some modification, was to be followed; thus, the government was willing to commit only to the provision of partial inclusive education (Poon-McBrayer, 2004). On the whole, the success of inclusion was limited, and was not happening at the early childhood level.

**The educational blueprint for the 21st century: Learning for life, learning through life—reform proposal for the education system in Hong Kong, 2000**

In his first Policy Address in 1997, C. H. Tung, the first Chief Executive of the Hong Kong SAR, stated that Hong Kong needed to decide how the education system should develop into the next century, and the Education Commission was asked to begin a thorough review of the structure of pre-primary, primary, secondary and tertiary
education (Tung, 1997). The Education Commission conducted a comprehensive review and proposed a blueprint for education development. This document highlighted global development and lifelong learning. Since then, diversity and respect have been promoted as key values, with schools encouraged to promote diversity and flexibility in meeting learning needs (Education Commission, 2000). However, what ‘global development’ and ‘life-long learning’ mean was not clearly indicated in the blueprint. It seemed that the term ‘global development’ has degenerated into a cliché (Goatly, 2002; Morris & Scott, 2003).

In 2000, the Working Party on Harmonisation of Pre-primary Services of the Government (Education Bureau, 2012b) was formed. Since then, steps have been made toward inclusion in early childhood care and education. The whole-school approach has been introduced, promoting collaboration in kindergartens and CCCs. The consultation document, Working Party on Harmonisation of Pre-primary Services, indicated that the Social Welfare Department would continue to monitor the special childcare centres under the childcare service ordinance (Education Department & Social Welfare Department, 2002).

In 2002, the working party recommended to the Legislative Council Panel on Education that resources for integrated programs be reallocated. This proposal was accepted, and in the same year, Chief Executive C. H. Tung formally introduced the kindergarten Integrated Education Scheme (Leung, 2002). These integrated programs allowed for inclusion in mainstream kindergartens. Qualifying children from these programs were given opportunities to achieve different exit points to integrated programs at kindergartens (Education and Manpower Bureau, 2002). The provision was the result of government and non-profit organisation collaboration (Education and Manpower Bureau, 2003); government subsidies were provided (Hong Kong Government, 2007b). But in the 2005/2006 school year, the government withdrew support of integrated kindergartens (Education and Manpower Bureau, 2003), and they were phased out. Currently, integrated services are available only in the childcare sector run by the Social Welfare Department (that is, the integrated programs in KCCCs previously described; Education and Manpower Bureau, 2003).

Although it appeared that, towards the end of the millennium, the time for change had come, there was very little evidence that placement of young children with special needs was carefully planned, and that the mainstream environments were conducive to their learning and development. Inclusive education came under this scheme more by default than intention.

The Disability Discrimination Ordinance—code of practice on education, 2001

The Ordinance, formulated by the Equal Opportunities Commission, came into effect in 2001 (Equal Opportunities Commission, 2001). The code is meant to ensure equal opportunities in education for students with special needs. The Ordinance also stated that ‘the Hong Kong education policy aims at helping students with special educational needs integrate into the mainstream as far as possible to receive education with their peers’ (Equal Opportunities Commission, 2001, p. 2). Schools were encouraged to raise awareness of individual differences and to promote a positive attitude towards those with special needs. While there were approximately 10 000 students with special needs attending mainstream schools in 2007, only a small percentage joined the Integrated Education Scheme aimed at integrating children with special needs into mainstream schools by adopting a whole-school approach (Gooch, 2007).

In the following year (that is, 2002), the whole-school approach toward inclusion was advocated in an Education and Manpower Bureau publication entitled Understanding and helping students with special educational needs, stating that all school personnel, including the school head, teachers, student guidance teacher/officer, non-teaching staff, students and parents, should accept students with special needs (Education and Manpower Bureau, 2002). In this way, a harmonious environment with a caring, supportive and inclusive school culture can be established (Education and Manpower Bureau, 2002). This publication asserted that an inclusive culture fosters whole-person education and benefits all students. Although it is stated in this publication that effective schools are educationally inclusive, schools still held the option to adopt this approach.

A lack of firm government commitment was demonstrated by the failure to provide sufficient funding and human resources. At the classroom level, teachers were not supported in their complex task. Further, although the whole-school approach proposed that students are not expected to achieve a standard curriculum (Education Bureau, 2010), no alternative curriculum was available (Forlin, 2007). Yeun, Westwood and Wong (2004) maintained that at this time it was unwise to expect mainstream teachers to fully meet special needs because of large classes (35+ students in primary and secondary classes) and lack of teacher skills and motivation. In the context of early childhood care and education, the needs for resources and skilled teachers were even more acute, mainly owing to the historically low status of early childhood education in Hong Kong (Cheuk & Hatch, 2007; Rao, 2002; Zhang, 2011). The absence of sufficient support showed that the viability of inclusion and the agenda behind the Ordinance should be questioned.
Surely, from countries that have a longer history of inclusion, Hong Kong can learn much about effective inclusive practices in early childhood care and education.

For example, looking at the inclusive education histories in the UK and USA, one can easily recognise that the situation of inclusive early childhood education in Hong Kong could be improved if only there was special education legislation to protect the rights of students with special needs. Was inclusion merely a lofty ideal? If this was the case, why were inclusion reforms introduced at a rapid rate without being substantially resourced? According to Morris and Scott (2003), this is the primary nature of symbolic policies. When the public shows concerns about educational problems, and when these concerns are important to the socio-political developments, it becomes necessary for the government to demonstrate its concerns to these issues and to promote new initiatives, but often with little support for their implementation.

**Indicators for inclusion: Catering to student diversity, 2004**

In 2004, the Education and Manpower Bureau (2004) introduced the *Indicators* as an instrument to support inclusive school development. The *Indicators* were adapted from the *Index for inclusion*, a United Kingdom document (Heung, 2006). The Hong Kong *Indicators* were organised under four domains: management and organisation, learning and teaching, student support and school ethos, and student performance. Through both self- and external evaluation, schools were to assess their support for individual learners. Contrary to expectation, according to Heung (2006), the introduction of the index did not help implement inclusion. The *Indicators* placed an emphasis on academic performance, undermining the significance of the *Indicators* and causing schools to remain hesitant to accept students with disabilities.

**2005–present**

According to the Education Bureau (2012d), ‘the aim of special education in Hong Kong is to provide children having special needs with education to help them develop their potential to the full, achieve as much independence as they are capable of, and become well-adjusted individuals in the community’ (p. 1). Although a laudable goal, there is no clear description of how children are to be helped to ‘develop their potential to the full’. In the same document, the Education Bureau also stated that under the existing policy, children with multiple disabilities or severe special needs should attend special schools for intensive support services (Education Bureau, 2012d). It is not explained why only those with less severe special needs are eligible to attend the mainstream schools or the connection between this placement policy and the ‘aim of special education in Hong Kong’.

Of note, the Education Bureau continues to encourage mainstream schools to accept students with special needs. For instance, according to the *Special education services* information sheet, published by the Education Bureau for the first time in 2008, the government offered a Learning Support Grant for each primary and secondary student placed in a mainstream school (Education Bureau, 2008; Education Bureau, 2012d). In addition, the government added new services and support for special needs students as follows: Intensive Remedial Teaching Program, New Funding Mode, Enhanced Speech Therapy Grant, school-based educational psychology services, and teacher professional development opportunities (Education Bureau, 2012d). The range of services for pre-primary schools is much less comprehensive.

Since 2008, the Education Bureau has advocated a three-tier intervention model (Education Bureau, 2008). In Tier One, students with mild learning disabilities are supported within the regular classroom through quality teaching. Tier Two provides ‘add on’ interventions, such as small group learning, and pull-out programs and the like for students with persistent learning disabilities and other special needs. Tier Three encompasses students with severe learning disabilities and other special needs who receive intensive support and the Individualized Education Program. The Education Bureau also indicated that schools with special needs or Academically Low Achievers (ALA; an Education Bureau term describing students academically behind by two or more years in two key learning areas) populations should adopt the whole-school approach (Education Bureau, 2008). According to the *Special Education Service Circular No. 9* (Education Bureau, 2008), each public sector primary school is assigned a Special Education Support Officer to help promote an inclusive culture and develop school-based policy. Some secondary schools have also been included (Education Bureau, 2008).

Milestones in Hong Kong special education history set the inclusion movement in early childhood in a broader societal context. As noted, early intervention and inclusion has not drawn much attention. Today, with the Kindergarten and Child Care Centre Fee Remission Scheme and Pre-primary Education Voucher Scheme, pre-primary institutions are becoming more inclusive as children from low-income families are granted opportunities to attend NPM kindergartens. Unfortunately, these financial resources are not available for young children with special needs. In sum, over the past almost 30 years, some progress toward inclusion has been made in Hong Kong. Movement remains slow with much societal resistance. Because most of the inclusive reforms were intended for primary and secondary education, the impact of inclusion on early childhood education has been meagre.

According to the Western continuum segregation–integration–inclusion, Hong Kong early childhood education, along with elementary and secondary education, is in the
integration stage, using the medical model. In the past few decades, movement has been made toward full inclusion, but there is still a long way to go. Many young children with special needs still experience a mismatch between their needs and the ability/willingness of kindergartens and CCCs to support them (Zhang, 2011). Further, there is a laxity of regulatory standards for pre-primary institutions in Hong Kong, and a lack of policies/incentives for improving early childhood inclusion.

Conclusion

What is the outcome of education reforms and policies on inclusive education in Hong Kong? Many reform measures have been under severe criticism (Cheuk & Hatch, 2007; Forlin, 2007; Heng, 2006; Morris & Scott, 2003; Wong, 2002). Inclusion in Hong Kong must be seen in the unique political, socio-cultural context, which had been under British administration for 150 years (Luk, 2005). As a place where ‘East meets West’, with Western cultures and colonial traditions grafted subtly onto a predominantly Chinese society, it is not surprising to find that Hong Kong has been trying, or least appearing to be, following the world trend of ‘education for all’. However, at the grassroots level, inclusion is still not accepted by the majority. Many kindergartens and CCCs are reluctant to include children with disabilities. Many complain that resources have not been dispersed appropriately (Cheuk & Hatch, 2007). There remains a shortage of skilled early childhood special education teachers (Pearson & Rao, 2006).

In 1994, the Subcommittee on Special Education, established by the Board of Education (1996), concluded that inclusion of students with disabilities remained an ‘aspiration’ rather than a reality. The report pointed out the need for time to meet the challenge of providing education appropriate for each child with special needs (Board of Education, 1996). Some years later, Crawford and colleagues (2000) stated that successful inclusion had been on the basis of individual effort and advocacy, rather than policy and reform. Today, many early childhood professionals remain sceptical regarding the practicalities of inclusion policy, since the reform has contributed to an increased workload (Zhang, 2011). Coupled with a lack of resources and lack of cooperation among schools and agencies, there are concerns about the future of inclusion in early child education in Hong Kong.

In addition, inclusion is contrary to the educational goal that guides curriculum design and student/teacher assessments, and the ability-banding system which emphasises competition and selection of students (Heung, 2006; Wong, 2002). The conflicting values of academic success and educational equality have posed formidable obstacles (McDonnel, 2003; Millar & Morton, 2007; Wong, Pearson & Lo, 2004).

If the inclusion policies set out by the government in the 20th century were driven by Western influence or other political agendas, it is not surprising to find limited success in these reforms, with wide gaps between policies and practices. With the return to Chinese sovereignty in 1997, the Hong Kong government was afforded the opportunity to rethink education and inclusion policy. The change from segregation to inclusion has been emotionally laden, with special education becoming an increasingly critical issue. Although government policies on inclusion existed as early as the 1970s, it was not until the 1990s that integration started to take shape. In the first 30 years of inclusion in Hong Kong, society was mainly concerned with elementary and secondary education while early childhood inclusion was mainly ignored by the government and the society at large.

In summary, lack of government commitment, societal apathy and an intensely competitive environment have undermined the development of inclusion in Hong Kong. In view of the current education climate, fundamental changes are necessary, or inclusive early childhood care and education will remain a philosophical ideal rather than a reality.

Challenges and opportunities

In the past few decades, the government has implemented reforms to improve education; many have not addressed societal challenges. Many obstacles must be overcome if effective inclusive practices are to become a reality. The large influx of immigrant children from mainland China has posed a special challenge. In July 2002, the Hong Kong SAR government discussed the right of abode (Hong Kong Government, 2002), concluding that children whose parents are Hong Kong citizens have the right to live in Hong Kong. Since then, the number of Chinese immigrants continues to grow (Hong Kong Government, 2002; Hong Kong Government, 2010; Ng & Liu, 1999; GovHK, 2011). Education for these Chinese immigrant children will be another challenge for already over-crowded schools. How to provide support for those with special needs will be another critical issue.

The pace of Hong Kong society places a great deal of pressure on children with special needs and their families. Many parents rely on schools to provide support and services to meet their children’s special needs, but, for most, those services will not start until school age (Education Bureau, 2012d). Unlike many Western countries’ mandated inclusion programs, in Hong Kong, there is no guaranteed right to a free, appropriate public education (Hong Kong is one of the countries where special education legislation does not exist). Further, many people in today’s modern society of Hong Kong still hold a negative attitude toward inclusion. For example, many parents do not want their children to be in the class with
those with special needs, and teachers are often reluctant to accept children with disabilities (Cheuk & Hatch, 2007; Zhang, 2011). Contextual and conceptual issues such as goals of education, curriculum modification, resource management, philosophy and ideology of inclusion, cultivation of an inclusive school culture, and parental roles need to be addressed to assure responsible inclusion implementation.

As we look at challenges and barriers, we must remember the long way Hong Kong has come. With the completion of the pilot project in 2003, Hong Kong has made a movement toward full inclusion. According to Zhang (2011), the proportion of children included in mainstream schools has increased, and opportunities have been created to further improve inclusive practices in early childhood education.

Research on early childhood and special education in Western countries has been extensive, while receiving relatively little attention from Hong Kong investigators. In order to ensure that early childhood care and education will lead to qualitative improvements in the lives of young children with special needs, there exists a need to carefully examine and improve the quality of inclusive practices in early child services. Therefore, in light of current global trends and local societal needs, the author urges researchers and practitioners to identify proven inclusive practices to maximise effectiveness; the need is immense, and our students are worth it.

Appendix 1. Major events in Hong Kong special education history and inclusion policies

<table>
<thead>
<tr>
<th>Year</th>
<th>Event/policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre–1997</td>
<td></td>
</tr>
<tr>
<td>1968</td>
<td>Annual Report of the Education Department (integration was formally introduced for the first time)</td>
</tr>
<tr>
<td>1977</td>
<td>White Paper on Rehabilitation—Integrating the Disabled into the Community: A United Effort</td>
</tr>
<tr>
<td>1995</td>
<td>White Paper on Rehabilitation—Equal Opportunities and Full Participation: A Better Tomorrow for All</td>
</tr>
<tr>
<td>1996</td>
<td>Disability Discrimination Ordinance</td>
</tr>
<tr>
<td>Post–1997</td>
<td></td>
</tr>
<tr>
<td>1997–1999</td>
<td>Pilot Project of Integrated Education</td>
</tr>
<tr>
<td>2000</td>
<td>The Educational Blueprint for the 21st Century: Learning for Life, Learning through Life—Reform Proposal for the Education System in Hong Kong</td>
</tr>
<tr>
<td>2001</td>
<td>The Disability Discrimination Ordinance—Code of Practice on Education</td>
</tr>
<tr>
<td>2004</td>
<td>Indicators for Inclusion: Catering for Student Diversity</td>
</tr>
<tr>
<td>2005–present</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>Education Bureau Circular No. 9/2008: Learning Support Grant for Secondary Schools</td>
</tr>
</tbody>
</table>

References


Education and Manpower Bureau. (2002). Understanding and helping students with special educational needs. Hong Kong: Author.


Music is universal in nature. A number of studies have found that music plays a critical role in early childhood education. It is a collective activity that can encourage social and emotional learning (Eisner, 2001). Young children who connect to musical experiences use their emotional and social intelligence (Andang’o, 2009; Niland, 2009). The creation of music is an excellent way to develop self-expression and pride of accomplishment in oneself. When young children are provided with musical activities, they are given the opportunity to develop creatively (Paquette & Rieg, 2008). Children also cognitively construct knowledge through music (Custodero, 2002b). Music can be a joyful and aesthetic form of play in which young children innately want to be involved. Music provides a ‘flow’ experience for children, which is defined as ‘a state of optimal enjoyment defined by the individual’s perception of high skill and high challenge for a given activity’ (Custodero, 2002, p. 3). This implies that musical activities provide intrinsic motivation for children to become involved in challenges by making them enjoyable. Music is a component of culture for young children. Music reflects social, historical, and local characteristics in the culture. Group members in a particular culture and the activities influenced by the people in that culture strongly affect children’s musical experiences and basic attitude toward music. Music includes a framework that limits the range of the experience through culture (Eisner, 2001).

Given that music plays many important and diverse roles for young children, it can be incorporated into enjoyable activities that provide interest for children, as well as opportunities to help children’s development appropriately. Research shows that music is not only ‘a favored subject’ among children, but also ‘a developmental tool’ that can provide many benefits for young children (Kim & Kemple, 2011). This would imply music can be considered as a medium to facilitate child development and implementation of music is part of developmentally appropriate practice. Music should be part of the curriculum because there are proven benefits for development and it plays a key role in promoting learning.

In terms of implementing developmentally appropriate musical activities, it is important to provide child-initiated and child-centered interaction that is supported by peers and teachers during musical experiences (Turner, 1999). This requires not only knowledge about music, but also...
an understanding of children’s developmental stages and needs (Scott, 2004). Therefore it is crucial for teachers to possess a holistic perspective of development. A study of developmentally appropriate practices (DAP) in kindergarten music classrooms revealed that a better understanding of positive music teachers’ beliefs toward DAP are congruent with more interactions, activities, and instruction in music (Miranda, 2004).

The DAP was published in 1987 and revised in 1997 and 2009 by the National Association for the Education of Young Children (NAEYC) (Bredekamp, 1987; Bredekamp & Copple, 1997; Copple & Bredekamp, 2009). The first edition of DAP published in 1987 was presented in response to increased academic pressure in early childhood classrooms. DAP is a known and accepted concept for early childhood educators worldwide and is the umbrella concept that includes diverse domains and whole child development. However, implementing DAP is subject to multiple approaches, varied perspectives and interpretations. For example, how to interpret and implement appropriate practice relies on teachers’ capacity and beliefs (Kim, 2011; Leung, 2012). There has been criticism of DAP from diverse cultural perspectives—in terms of ‘what is an ideal practice’ for each culture and country—instead of acceptance of the practice of the US as the only good practice (Horn & Ramey, 2003). Since its establishment in 1926, NAEYC, as the largest organisation involved in early childhood education, has strongly influenced early childhood curricula and practices worldwide, working for young children, teachers and families. In Korea, DAP has been largely accepted and become a foundation for national kindergarten curriculum since it was presented by NAEYC (Kim, Kim & Maslak, 2005; McMullen, Elicker, Wang, Erdiller, Lee, Lin & Sun, 2005). DAP and the accompanying guidelines have been a significant component in the preparation of prospective teachers in Korea, with emphasis on child-centered and play-based curriculum. Despite the importance of DAP in early childhood teacher education in Korea, there has been little research about how preservice teachers understand and interpret DAP. A great deal of research regarding teacher beliefs has focused on beliefs about DAP mostly in the US. It is valuable to study how preservice teachers’ beliefs about music and DAP develop in other countries that have used DAP guidelines in their teacher education.

Preservice teachers’ beliefs are important because teachers develop their own perspectives and beliefs early in the preservice teaching stage; once beliefs are developed, it is difficult to change them (Smith, 1997; Tschannen-Moran, Woolfolk & Hoy, 1998). Teachers hold beliefs about diverse developmental domains that range from abstract to specific concepts (Fang, 1996). In order to understand teachers’ belief systems and the relationship among specific domains at a deeper level, research on the relationship between beliefs in multiple domains (that is, music and DAP) is necessary. Figure 1 explains the hypothetical conceptual framework of how teachers’ beliefs about music and DAP are related, and how the beliefs about music and DAP are connected to implementation of music in the classroom. It is important to understand not only beliefs about music, but also music in a larger context, not separate from other developmental areas. Thus, the research questions addressed include:

1. What are the early childhood preservice teachers’ beliefs about music? How are beliefs about music different between teachers in Korea and the US?
2. What are the early childhood preservice teachers’ beliefs about DAP? How are beliefs about DAP different between teachers in Korea and the US?
3. What are the relationships between early childhood preservice teachers’ beliefs about music and DAP? How are the relationships different between teachers in Korea and the US?

### Methodology

#### Participants

A total of 214 preservice teachers in Korea and the US participated in this study. There were 117 teachers in the US enrolled in early childhood education programs at several universities in southern and northern areas. The participants in Korea comprised of 97 preservice teachers at the universities in Seoul and Kyoungkido, in South Korea. Participants’ ages ranged from 18 to 49 (M = 23.41) years. The participants’ teacher education programs in both countries had a highly structured sequence of courses, through which students proceed as a cohort. Participants in the US attend a two- or three-year program. 66 teachers in the US were at first year and 51 were at second year in the early childhood education programs. Participants in Korea attend a three- or four-year program. Among Korean preschool teachers, 56 students were at first year and 44 students at second year in their early childhood education programs. None of the participants in this study had taken the music class at the time of data collection.

#### Instruments

The Music Belief Questionnaire (Austin & Reinhardt, 1999) was used to assess beliefs about the importance of music. The questionnaire has 36 items, and participants rate their beliefs about music by using a Likert-type scale (ranging from 1 for ‘definitely false’ to 6 for ‘definitely true’). The questionnaire includes items related to beliefs about the importance of music (that is, that music education provides students with opportunities to improve their self-esteem; music education teaches students how to work together as a team; music education exposes students to a different form of intelligence or way of knowing). Under beliefs about music, there were aesthetic benefits,
quality-of-life benefits, and social-emotional benefits. Internal consistency reliability ranges from \( r = .72 \) to \(.86 \) (Austin & Reinhardt, 1999). This scale was translated into Korean by two faculty members fluent in English and Korean.

**Teacher Belief Scale (TBS)** was used to measure early childhood teachers’ beliefs about DAP. TBS was developed based on the NAEYC guidelines of DAP. It was originally developed by Charlesworth, Hart, Burts and Hernandez (1991), and was revised later by Charlesworth, Hart, Burts, Thomasson, Mosley and Fleege (1993). TBS has 37 items: one that asks the amount of influence in planning and implementing instruction, followed by 36 items that ask various developmentally appropriate and inappropriate beliefs. Subcategories of DAP items include appropriate social, appropriate individualisation, appropriate literacy activities, and appropriate integrated curriculum. Internal consistency reported using Cronbach’s alpha was between .58 and .84 (Charlesworth et al., 1993). TBS was translated into Korean in 2005 by the researchers who implemented DAP studies for inservice teachers (McMullen et al., 2005).

**Procedures**

Upon institutional review board approval, faculty members at early childhood programs in Korea and the US were contacted and asked for their permission to conduct the study. After receiving permission, preservice teachers were asked to voluntarily participate in this study. It was announced to all the preservice teachers in their classes that there are no obligations to participate and no penalties for non-participation. Each collected survey packet was given a number, and these numbers were used instead of names to identify each participant and to maintain confidentiality of participants. All questionnaires were administered in a face-to-face fashion at the end of one class session at each institution by faculty who taught the class or the author. Instructions were provided in written form and were also read aloud to the participants by faculty or the author who were present during the entire administration to answer any questions. Completion of all took approximately 30-40 minutes.

**Results**

**Beliefs about music**

The music belief scale scores of teachers in Korea ranged from 118 to 213 (the possible range is 36–216) and the mean score was 171.2 (SD=17.3). The mean score among teachers in the US was 58.7 (SD=5.4), ranging between 46 and 65. Higher scores on the music belief scale indicate that respondents felt the statements about the importance of music were true, and lower scores indicate that respondents felt the statements were false. The mean score and ranges of teachers’ beliefs in the US and Korea on the ‘aesthetic’ benefit, ‘quality-of-life’ benefit, and ‘social-emotional growth’ benefit are shown in Table 1. The teachers in this study indicated that they believed more aesthetic and social-emotional benefits than quality-of-life ones.

In order to investigate the differences between teachers in Korea and the US about music, an independent t-test was performed. There was not a statistically significant difference on the importance of music \((t(204) = .289, \ p = .591)\) between two groups. In terms of benefits of music, there was a statistically significant difference on aesthetic benefit \((t(211) = 5.92, \ p = .015)\). No group differences in quality-of-life benefit and social-emotional benefit.

<table>
<thead>
<tr>
<th>Table 1. Beliefs about benefits of music</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Country</strong></td>
</tr>
<tr>
<td>Aesthetic benefit</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Quality-of-life benefit</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Social-emotional benefit</td>
</tr>
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</tr>
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Table 2. Beliefs about subscales of DAP

<table>
<thead>
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<th>Country</th>
<th>n</th>
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<th>Std. Deviation</th>
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<tr>
<td></td>
<td>Korea</td>
<td>97</td>
<td>16.12</td>
<td>1.39</td>
</tr>
<tr>
<td>Appropriate social</td>
<td>US</td>
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<td>16.12</td>
<td>1.41</td>
</tr>
<tr>
<td></td>
<td>Korea</td>
<td>96</td>
<td>14.34</td>
<td>1.16</td>
</tr>
<tr>
<td>Appropriate individualisation</td>
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<td>117</td>
<td>8.28</td>
<td>1.41</td>
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<tr>
<td></td>
<td>Korea</td>
<td>97</td>
<td>8.44</td>
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</tr>
<tr>
<td>Appropriate literacy activities</td>
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<td>117</td>
<td>17.19</td>
<td>1.81</td>
</tr>
<tr>
<td></td>
<td>Korea</td>
<td>97</td>
<td>18.94</td>
<td>1.29</td>
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Table 3. Relationship between music and DAP of teachers in Korea

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<th>Appropriate social</th>
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<th>Appropriate literacy</th>
<th>Appropriate integration</th>
<th>DAP</th>
<th>Music</th>
<th>Aesthetic benefit</th>
<th>Quality-of-life benefit</th>
<th>Social emotional benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appropriate social</td>
<td>.282**</td>
<td>.388**</td>
<td>.201**</td>
<td>.699**</td>
<td>.185**</td>
<td>.161*</td>
<td>.066</td>
<td>.198**</td>
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<tr>
<td>Appropriate individualisation</td>
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<td>.323**</td>
<td>.432**</td>
<td>.686**</td>
<td>.282**</td>
<td>.268**</td>
<td>.209**</td>
<td>.201**</td>
</tr>
<tr>
<td>Appropriate literacy</td>
<td>.386**</td>
<td>.323**</td>
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<td>.703**</td>
<td>.270**</td>
<td>.248**</td>
<td>.204**</td>
<td>.239**</td>
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<tr>
<td>Appropriate integration</td>
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<td>.432**</td>
<td>.356**</td>
<td>1</td>
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<td>.355**</td>
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<tr>
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<td>.724**</td>
<td>.355**</td>
<td>.354**</td>
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<td>.299**</td>
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<tr>
<td>Music</td>
<td>.185**</td>
<td>.282**</td>
<td>.270**</td>
<td>.355**</td>
<td>.388**</td>
<td>1</td>
<td>.904**</td>
<td>.865**</td>
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<tr>
<td>Aesthetic benefit</td>
<td>.161*</td>
<td>.268**</td>
<td>.248**</td>
<td>.354**</td>
<td>.365**</td>
<td>.265**</td>
<td>.334**</td>
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<tr>
<td>Quality-of-life benefit</td>
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<td>.209**</td>
<td>.204**</td>
<td>.285**</td>
<td>.265**</td>
<td>.865**</td>
<td>1</td>
<td>.639**</td>
</tr>
<tr>
<td>Social emotional benefit</td>
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<td>.201**</td>
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<td>.299**</td>
<td>.334**</td>
<td>.874**</td>
<td>.751**</td>
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</tbody>
</table>

Note: * p< .05 **p<.005

Table 4. Relationship between music and DAP of teachers in the US

<table>
<thead>
<tr>
<th>Appropriate social</th>
<th>Appropriate individualisation</th>
<th>Appropriate literacy</th>
<th>Appropriate integration</th>
<th>DAP</th>
<th>Music</th>
<th>Aesthetic benefit</th>
<th>Quality-of-life benefit</th>
<th>Social emotional benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appropriate social</td>
<td>.436**</td>
<td>.437**</td>
<td>.489**</td>
<td>.829**</td>
<td>.196**</td>
<td>.159</td>
<td>.076</td>
<td>.241**</td>
</tr>
<tr>
<td>Appropriate individualisation</td>
<td>1</td>
<td>.393**</td>
<td>.348**</td>
<td>.690**</td>
<td>.201*</td>
<td>.254**</td>
<td>.058</td>
<td>.220*</td>
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<tr>
<td>Appropriate literacy</td>
<td>.437**</td>
<td>.393**</td>
<td>1</td>
<td>.382**</td>
<td>.704**</td>
<td>.153</td>
<td>.112</td>
<td>.144</td>
</tr>
<tr>
<td>Appropriate integration</td>
<td>.489**</td>
<td>.348**</td>
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<td>1</td>
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<td>.277**</td>
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<td>.160</td>
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<tr>
<td>DAP</td>
<td>.829**</td>
<td>.690**</td>
<td>.704**</td>
<td>.760**</td>
<td>1</td>
<td>.275**</td>
<td>.268**</td>
<td>.139</td>
</tr>
<tr>
<td>Music</td>
<td>.196*</td>
<td>.201*</td>
<td>.153</td>
<td>.277**</td>
<td>.275**</td>
<td>.1883**</td>
<td>.864**</td>
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<tr>
<td>Aesthetic benefit</td>
<td>.159</td>
<td>.254**</td>
<td>.112</td>
<td>.294**</td>
<td>.268**</td>
<td>.883**</td>
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<td>.160</td>
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<td>.864**</td>
<td>.640**</td>
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<td>Social emotional benefit</td>
<td>.241**</td>
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<td>.174</td>
<td>.279**</td>
<td>.305**</td>
<td>.873**</td>
<td>.709**</td>
<td>.650**</td>
</tr>
</tbody>
</table>

Note: * p< .05 **p<.005
Beliefs about DAP
The mean score of DAP among preservice teachers in Korea was 57.83 (SD = 3.6), ranging between 46 and 65 (possible range 13–65). The mean score of DAP among teachers in the US was 56.32 (SD = 5.1), ranging between 44 and 65. Higher scores on DAP indicate that participants believed the statements on DAP are important. Overall scores demonstrate that preschool teachers in Korea and the US possess relatively strong beliefs about the importance of DAP as compared to the possible range.

In order to examine whether there are differences in beliefs of DAP between two groups, an independent t-test was performed. There was a statistically significant difference on DAP (t(210) = 21.23, p = .000). In addition, beliefs about ‘appropriate social’ (t(211) = 22.44, p = .000) and ‘appropriate integrated curriculum’ (t(212) = 12.05, p = .001) were statistically different between teachers in Korea and the US. This finding shows that teachers in Korea possess stronger beliefs about DAP than preservice teachers in the US.

Relationships between music and DAP
Among teachers in Korea, there was a statistically significant correlation between beliefs about music and DAP (n = 91, r = .549, p = .000). This indicates that, for preschool teachers in Korea, stronger beliefs about music are positively correlated with stronger beliefs about DAP. Table 3 shows that all subcategories of music and DAP are positively correlated to beliefs about music.

Among teachers in the US, the relationship between music and DAP is presented in Table 4. There was a statistically significant moderate correlation between beliefs about music and DAP. In addition, subcategories of music—aesthetic and social benefit and DAP-appropriate social, appropriate individualisation and appropriate integrated curriculum—are positively correlated to beliefs about music.

Discussion
The purpose of this study was to examine and compare preservice teachers’ beliefs about music and DAP in Korea and the US. It demonstrates that these early childhood preschool teachers in Korea and the US possess relatively strong beliefs about the importance of music. This result is consistent with a study of early childhood preschool teachers’ beliefs about music conducted by Kim and Kemple (2011). In the comparison between the two groups, the findings showed that early childhood preschool teachers in Korea hold stronger beliefs about music than do teachers in the US. Analysis of aesthetic, quality-of-life, and social-emotional benefits of music showed that these early childhood preschool teachers from both countries hold relatively strong beliefs in three domains. Since a recent review of the literature yielded little research on early childhood teachers’ beliefs about music in Korea, this outcome provides new and useful information to understand how early childhood teachers perceive the importance of music in Korea.

Preservice teachers in this study also demonstrated relatively strong beliefs about DAP. This result is consistent with previous studies on preservice teachers (File & Gullo, 2002; Kim, 2011; Stipek & Byler, 1997). In the group comparison, early childhood preschool teachers in Korea showed stronger beliefs about DAP than did teachers in the US. In addition to overall DAP, there were statistical differences among subcategories of DAP: appropriate social and appropriate integrated curriculum. Teachers in Korea more strongly believed that social activities and integrated curriculum are important for young children.

The findings of this study show a statistically significant relationship between early childhood preservice teachers’ beliefs about music and DAP. This implies that preschool teachers who have more positive beliefs about the importance of music also believe more that DAP is important. This result supports the idea that music can act as a developmental tool. Previous studies have introduced several diverse functions of music that facilitate children’s cognitive, social, emotional, aesthetic and cultural development (Caulfield, 1999; Custedero, 2002; Esner, 2001; Fox, 2000; Mueller, 2003; Sims & Cassidy, 1997; Tarnowski, 1999). If a teacher believes that music can be an active medium for instruction and has the potential to help the holistic development of young children, he or she might be able to see the role of music in DAP. This outcome is also consistent with the results of a study by Miranda (2004).

In terms of group comparison, teachers in Korea possess stronger beliefs about the relationship between music and DAP. In particular, beliefs of preschool teachers in Korea on all the subscales of music and DAP were strongly correlated to each of the other components compared to the teachers in the US. The curriculums of early childhood education programs in Korea have been influenced by the US for many decades. Although DAP and a child-centered approach based on constructivism began and developed in the US, there has been growing academic pressure and transformations in education in the US since No Child Left Behind Act. Many US public schools reduced recess, music and arts instruction in order to teach more academic subjects (Persellin, 2007). As a result of these changes, teacher education also has more focus on literacy, reading, math and science. These current changes may have an influence on preservice teachers’ beliefs.
Implications

Teacher educators may benefit from this study in designing a music curriculum for early childhood teacher education and integrating music into other courses, because it provides new and useful information on early childhood preservice teachers’ beliefs about music and the components that influence those music beliefs. This information may help educators in teacher preparation programs to understand what needs to be changed in order to provide developmentally appropriate music integration curriculums and to equip early childhood preservice teachers with information about appropriate music content and practical knowledge in the context of DAP.

This study may influence the design and implementation of teacher education programs in Korea and the US, not only in regard to music curricula but also to other subjects. This illuminates an understanding of the relationship among different domains of beliefs. This study provides the manner in which other subjects and music interact in early childhood education curricula. Also, descriptions from preservice teachers about the relationship between music and DAP beliefs, how these beliefs have developed, and how these beliefs have changed over time will give the field a better understanding of the process of belief development in preservice teachers.

There are limitations of this study. It was conducted with a small group of preservice teachers enrolled at particular universities in Korea and the US; and most were middle-class females. Generalisation of the results of this study will be limited in terms of teaching context, race, and socioeconomic status.

References


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