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Child care workers' and centre directors' beliefs about child care quality

and professional training

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Abstract

While there has been extensive research exploring quality in child care programs for children over 3 years, less attention has been directed to the nature of infants' experiences in centre-based child care programs. In this study, six child care workers and six centre directors located in centre-based child care programs in metropolitan Australia were interviewed about their beliefs about quality care and training for infants. In each of the participating centres, the infant programs were also observed using an observational measure which focused on the nature of adult-infant interactions. Both centre directors and child care workers expressed beliefs that quality in infant care was related to affective dimensions (e.g., care, love, attention) and programming for infants' learning and development. They also expressed views that infant care training should have a strong practical focus to provide the necessary knowledge and skills for interacting with infants. Only centre directors discussed beliefs about quality programming explicitly in terms of the impact on infants' learning. Further, the centre directors were more likely to reflect on the nature of staff learning when engaged in infant care training programs. Implications for training are discussed.

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Background

Increasingly in many western countries, infants under 12 months of age experience non-parental child care, primarily a result of parental commitments in employment. In Australia in 2005, 34% of children under 1 year of age were cared for by adults other than their parents for some part of each week and, of these children, 4.5% participated in centre-based long day care programs (Australian Bureau of Statistics [ABS], 2006). Given the proportion of infants who participate in formal child care programs from an early age, it is important to consider the quality of care that they receive. Responsive and stimulating care in child care programs, as well as at home, is linked theoretically (e.g., Bronfenbrenner & Morris, 1998) and empirically (e.g., Clarke-Stewart, Vandell, Burchinal, Brien, & McCartney, 2002; Phillips, Mekos, Scarr, McCartney, & Abbott-Shim, 2000) to better developmental outcomes for young children. While there has been extensive research exploring the quality in child care programs for children over 3 years, less attention has been directed to the nature of infants' experiences in centre-based child care programs.

Young children's experiences in centre-based child care programs are determined, in part, by the adults with whom they interact. Child care workers are expected to hold sophisticated knowledge about children's capacity to learn and how they can optimise young children's developmental potential (Whitebook, 2003). To meet this objective of promoting children's early learning, it is necessary to consider how professional training programs enable practitioners to provide high-quality learning environments for young children and how ongoing learning is supported in practice. A key determinant of the quality of infants' experiences in long day care programs is the quality of the staff employed in the centre. Their practices and beliefs about their role in teaching young children are strongly influenced by their level of qualifications and the quality of their professional training programs which will also reflect the societal and policy contexts in which early childhood services are provided and how work with young children is understood (Moss, 2000). The leadership provided by centre directors will also impact on the quality of practices through the support that is given to staff to engage in ongoing discussion and reflection about their work with children in the everyday life of the centre (Moss, 2000). This paper will focus on child care workers' and centre directors' beliefs about quality in infant programs, practices within infant programs, as well as directors' and child care workers' beliefs about the elements of professional programs that are important in order to prepare child care workers to work effectively with infants.

Quality in child care

Quality is conceptualized as features of the child's experiences within programs that are presumed to be beneficial to their well-being and thus their learning and development. Quality is increasingly

recognised as a relative concept shaped by social-cultural values, as well as national, economic and political contexts in which the early childhood services are provided (Woodhead, 2000). Although the relativity of quality is acknowledged, empirical research findings primarily from the United States have driven common understandings about the elements that constitute quality child care (Ramey & Ramey, 2006). Such research findings support a view that quality has structural and process determinants. Structural determinants are those components of quality which can be easily and reliably measured and, which most often, are the basis for child care regulations. Structural determinants include staff-child ratios, group size, physical environmental conditions (with a particular focus on health and safety), and staff qualifications (Organisation for Economic Cooperation and Development [OECD], 2002, 2006). Process determinants of quality are conceptualised as the dynamic exchanges between individuals and context that include children's interactions with child care workers and their participation in different activities (Vandell & Wolfe, 2000).

Infant care quality

Ramey and Ramey (2006) proposed a set of key process variables to define quality child care that have wide acceptance by practitioners, parents, and policy makers in the United States. These have relevance to care contexts for infant, toddler and preschool age groups. Ramey and Ramey identified a four dimensional model that included health and safety (to ensure the needs of children's emotional and physical well-being are met); adult-child interactions (characterized by warmth, responsiveness and sensitivity); learning and language activities (child-responsive, frequent and enjoyable); and caregiver-family links (relationships with parents are consistently respectful, supportive and informative). Other researchers have described similar quality variables in European early childhood contexts. For example, Pierrehumbert, Ramstein, Karmaniola, Milkjovitch and Halfon (2002) developed a 7-dimension framework for quality which is similar in nature to that proposed by Ramey and Ramey (2006). It includes availability (adult supportive and available); stimulation (activity based learning); firmness (firm and determined with the child); warmth (positive and warm interactions); autonomy (child can work at own pace); achievement (e.g., learning about early numeracy); and organization (safe playgrounds). Stimulation and achievement are concepts that appear to be similar to the description by Ramey and Ramey of learning and language activities, while the dimensions of availability, firmness, warmth, and autonomy reflect the dimension of adult-child interactions. Organisation bears a strong resemblance to health and safety practices. Pierrehumbert et al. (2002) do not explicitly described links with parents although the characteristics of quality that relate to children (warmth, stimulation, respect) can also easily be applied to the caregiver-parent relationship.

The general principles of quality described by Ramey and Ramey (2006) and Pierrehumbert et al. (2002) also apply to infant care. How quality infant care programs are provided is open to many interpretations across social and cultural contexts (Penn, 1999). Research from the United States has found that infants in child care settings experience considerable variation in the quality of care received (Cost, Quality, & Child Outcomes Study Team, 1995; NICHD, 1997). In Australia, Nyland (2004) noted that infant care practice does not always match the rhetoric of infants as competent, pre-verbal communicators. She noted that there is often a lack of reciprocity in interactions with infants which is characterised by adult-centred rather than child-centred practices. Milgrom and Mietz (2004) also described how child care workers were positive in their interactions with infants but had very little focus on intellectual stimulation. The frequency of these

interactions between staff and infants was also reported to be minimal. This is of concern given our understanding of how joint attention sequences in adult-infant interactions promote respectful relationships with children and their social, emotional and cognitive development (Rolfe, Nyland & Morda, 2002).

Broader policy contexts for quality infant care

To promote quality interactions with young children, a favourable policy environment that regulates the structural quality of child care services is essential. This is supported by Ramey and Ramey (2006) who indicated that their proposed model of quality must be embedded within effective broader policy contexts. In the state of Queensland, where this research was conducted, the regulations for child-adult ratios in infant programs stipulate one adult for every four infants, with a maximum group size of eight infants for a group that has children between the ages of six weeks to two years (Queensland Government, 2003). Nyland (2004) suggested that the legislated adult-infant ratios may not support interactions characterised by extended joint interaction sequences.

While the various Australian states hold responsibility for the structural regulatory environment of child care, the national government in the last three decades has taken increasing responsibility to ensure the supply, affordability, and process quality of child care programs. The national Quality Improvement and Accreditation System (QIAS) was introduced into long day child care centres throughout Australia in 1994 by the Commonwealth Government (National Child Care Accreditation Council [NCAC], 2001). Its focus is on the process aspects of quality and it identifies seven quality areas (e.g., staff relationships with children and peers, partnerships with families, children's experiences and learning). It was designed to link the achievement of standards of process quality in child care centres to the payment of Childcare Benefit to centres to offset fee costs to families (i.e., a 'carrot' and 'stick' approach to ensure that centres participated in the QIAS). Rolfe et al. (2002) offered a critique of this system of accreditation and the separation of structural and process regulation between the two levels of government. The economic rationalist approach of linking quality processes to economic incentives by the Commonwealth Government while the state governments regulate the structural elements (e.g., adult-child ratios and group sizes) is not an effective policy environment for child care. Structural variables and process variables cannot be effectively disentangled from each other. Milgrom and Meitz (2004) are also critical in their views about the QIAS as a way to measure quality. Specifically, they are concerned that the overarching principles are too broad and do not place enough emphasis on the importance on the quality of adult-infant interactions in terms of elements such as responsiveness to infant cues.

Training in child care for quality in infant care

Another important structural variable of quality relates to the professional qualifications for work in child care. The key to quality child care lies with the workforce (Ramey and Ramey, 2006) and its professional preparation (OECD, 2006; Osgood, 2006; Pianta, 2006). These views are also reflected in the Australian context where the early childhood workforce and training have been the focus of many national and state reports (e.g., *The National Agenda for Early Childhood: A Draft Framework* [Department of Families & Community Services, 2004]). Over the last decade, the Commonwealth Government, with the co-operation of the state governments, has implemented

significant changes to vocational education programs in a range of industries, including child care. Since the late 1990s, under a national training system in Australia, all vocational education qualifications have been based on training packages that consist of a set of nationally endorsed standards for recognising, and assessing students' skills (Smith & Keating, 2003). The standards for child care in the Diploma of Children's Services, which is the common qualification for child care workers across Australia, include: planning care routines; establishing and implementing plans for developing responsible behaviour; documenting, interpreting and using information about children; caring for children; supporting the development of children in the services; and working in partnership with families. These standards provide a strong skill focus for practice.

In infant programs, effective training is especially critical for promoting quality care. Compared to older children, very young children are less able to negotiate the physical and social environment and so are more dependent on the adults in their care environment. Thus, they are more vulnerable to negative effects of poor quality care and inadequately trained staff. Responsive, sensitive, stimulating adult-child interactions are reliably linked to the level of education of child care workers (Karp, 2006; Whitebook, 2003). Higher levels of education and specialised child care training are important predictors of quality in infant care programs (Burchinal, Roberts, Riggins, Zeisel, Neebe, & Bryant, 2000; Kreader, Ferguson, & Lawrence, 2005b).

Professional and specialised education improves quality of child care by ensuring that individuals gain a strong knowledge and skill base about child development and how to effectively plan group programs for young children. However, there is also some evidence that individual psychological characteristics of child care workers (e.g., beliefs, reflective and cognitive capacities) are linked to child care quality, although little research has focused on these aspects (Pianta, 2006). Penn (1999) argued that quality practice in infant care is underpinned by critically reflective practitioners who are also well-informed. With a slightly different emphasis, Nyland (2004) drew on contextual theory to propose that any child care centre constitutes a specific developmental niche and that the enactment of child care workers beliefs' about quality in practice will reflect the social, cultural and organisational context in which the individual is employed. These ideas suggest that we need to know more about the beliefs and knowledge that child care workers gain through their professional preparation and how this training is enacted in the context of the child care centre (Karp, 2006).

Specifically, beliefs related to learning and knowing have the potential to offer insight into child care practice. By focusing on deep learning (learning for meaning) and critical reflection in professional programs, and not just the knowledge base, it may be possible in develop a model that promotes the child care worker as a researcher of their own practice (Moss, 2006). The "child care worker as researcher" engages in co-construction of knowledge with others, including children and parents which means that infants and toddlers are respected for their competence and their participation is encouraged (Penn, 1999). Co-constructed knowledge is viewed as "perspectival, partial, and provisional" (Moss, 2006, p. 36) for both the child care worker and children. Knowledge is perspectival because it is not a direct reflection of some external reality but a personal construction of that "reality" and involves a critique of multiple perspectives (parents, children and other workers). Knowledge is partial and provisional because it is always evolving. It is constructed on the basis of evidence from a range of sources both theoretical and personal and as new evidence is evaluated, knowledge changes. The worker constructs knowledge in relationships with others and draws on theories from a variety of perspectives. A similar view of knowledge as complex, evolving, tentative and evidenced-based was described Kuhn and Weinstock (2002). These beliefs about knowledge and knowing are described as evaluativistic personal epistemologies. Conversely, according to Kuhn and

Weinstock, individuals with objectivistic epistemological beliefs view knowledge as static, absolute and not needing to be critiqued because such knowledge is merely transferred from expert to learner.

Professional preparation should involve challenging and critiquing beliefs about knowing and knowledge in order to create an evidence-based approach to working with infants and children. Although the nature of infant care training may vary across contexts, a common approach should be one that promotes critical reflection and lifelong learning (Department of Education, Science and Training, 2006). Effective professional preparation would focus on core content (beliefs and knowledge) and core learning processes (critical reflection, evidenced-based construction of knowledge) in order to construct child care practice as a research endeavour (Moss, 2006).

In this current study, child care workers' and centre directors' beliefs about quality care and training for infant programs are explored. This paper will examine what constitutes quality in infant care, the nature of practices in infant programs, and how professional programs might prepare child care workers to work effectively with infants.

The Study

Six child care centres, located in the metropolitan area of a large city in Australia, participated in this exploratory research to investigate the beliefs of child care workers (n=6) and centre directors (n=6) about quality infant care and training. The centres were identified as providing quality infant programs on the basis of recommendations by professionals in the early childhood field. The quality of centres was also confirmed by their 3-year accreditation status which is the highest rating in the Quality Improvement and Accreditation System (QIAS) in Australia (NCAC, 2001). The centre directors were contacted by phone and invited to participate in the research. Centre directors were then responsible for inviting the child care worker in the infant program to participate in the research.

Participants

Australian child care workers in long day care centres are called group leaders and are required by state legislation to hold a two-year qualification (Diploma of Children's Services) (Queensland Government, 2003). In the past, equivalent qualifications to this diploma have been called the Associate Diploma of Child Care or the Diploma of Child Care and Education. All the child care workers in this study held the required qualification or equivalent. Group leaders are normally responsible for direct care and program planning, including documenting, interpreting and using observation and other information to design and implement the program for the children, and also for communication and engagement with families.

Centre directors are required to hold a three-year qualification with a specialised focus on early childhood education which can be a three-year year Advanced Diploma in Children's Services or a three-year University award (e.g., Bachelor of Early Childhood) (Queensland Government, 2003). Five of the directors were qualified to this standard. The other director held a Diploma qualification and was enrolled to complete the three-year qualification of an Advanced Diploma of Children's Services (special exemptions to the required qualifications can be obtained, for example, if the director is enrolled in program to upgrade her qualifications). Centre directors are responsible for the leadership and management of the centre including staff management (e.g., industrial matters, performance, professional development) and administration.

The participants in this study were all females. The child care workers' qualifications, work experience in child care, and years of experience in infant programs are described in Table 1. All child care workers had been in the field for at least 7 years with at least 2 years of experience in infant care programs. Table 2 is a summary of the centre directors' qualifications, work experience in child care, and years of experience in the current centre. The centre directors were also experienced in child care and had between 9 and 20 years of general child care experience and at least 6 months experience in their current centres.

Insert Table 1 here

Insert Table 2 here

Interviews with child care workers and centre directors

Centre directors and child care workers were interviewed about their beliefs about quality care and training for infant care. The audio-taped interviews were approximately 60 minutes in duration and took place at the participants' child care centres. The participants responded to the following questions:

- What do you think is 'quality care' for infants/toddlers?
- Did you find your early childhood training program useful to the work you do?
- What aspects of the program did you particularly find useful?
- Is there any particular area which you think could be covered more extensively in the early childhood training program to work with infants and toddlers?

The interviews were transcribed verbatim and the transcripts were analysed using a predominantly inductive approach but which also drew on relevant literature to interpret responses. This descriptive-interpretative approach to analysis made it possible to take account of many viewpoints before deriving theory (Maykut & Morehouse, 1996). The categories that emerged were then audited by a second author to establish trustworthiness and credibility (Denzin & Lincoln, 2000). These analyses were then reviewed by the authors in order to arrive at judgments by consensus about the nature of the child care workers' belief systems.

Observations of practice

In each of the participating centres, the infant programs were observed for three hours on two separate occasions using the *Checklist for Interactions* presented in Appendix A. This observational measure focused on the nature of interactions that adults have with young children and reflects qualities of responsiveness, autonomy and involvement. This measure was developed from the theoretical framework proposed by Henry (1996). *Responsiveness* relates to young

children's need to build trust with caregivers and focuses on the warmth and sensitivity of the interactions and the manner in which respect and attentiveness to children is evident. This dimension is measured by five items. *Autonomy* is associated with empowerment and focuses on how caregivers support the development of mastery of skills, encouragement of independence, and self-regulation of behaviour through positive explanatory control. This dimension is measured by three items. *Involvement* relates to the manner in which caregivers support children's learning through support for engagement with materials and with others (adults or peers) and through verbal interaction and turn-taking, thus stimulating learning. This dimension is measured by four items. Each item for the dimensions of *Responsiveness*, *Autonomy*, and *Involvement* was rated on a three-point scale: 1 (never); 2 (occasionally); and 3 (often). The observational data, used to make judgments about the quality of practice, was then triangulated with child care workers' espoused beliefs about quality of practice in infant programs. This provided a means by which we could explore if beliefs were enacted in practice. It was not possible to engage in the same processes of triangulation with centre directors, because they did not have direct daily contact with infants.

The interviewer and observer of practice was one of the authors. She is an experienced early childhood teacher and researcher. Training and practice to use the observational measure involved two of the authors. A range of segments from video tapes of infant and toddler programs were reviewed. In this process, the observers independently observed and rated the practices on the items of the *Checklist for Interactions*. If agreement was not obtained on any items at the first viewing of a video segment then the segment was reviewed and the criteria discussed for how the item would be rated on the three-point scale.

Findings

Child care workers' and centre directors' beliefs about infant care were related to two main themes: beliefs and practices for quality care in infant programs and beliefs about professional training for quality infant care. Each of these will now be described in detail.

Beliefs and practices for quality care in infant programs

Child care workers and centre directors were asked to describe what they thought constituted quality care in infant programs. The two main categories of responses that emerged were related to the affective dimensions of quality care and programming for learning and development. Each of these categories is now discussed and comparisons made between the beliefs of child care workers and directors. Child care workers' beliefs about quality are also related to observations of their practices as measured by the *Checklist for Interactions* to investigate the extent to which beliefs were enacted in practice.

Affective dimensions of quality care. Child care workers and centre directors thought that quality care in infant programs was related predominantly to supporting infants emotionally. These affective dimensions were variously described by centre directors and child care workers as the need for genuine interest, love, attention, support, individualisation of care and parent interactions.

Four child care workers and five centre directors described quality care for infants in terms of providing a caring and loving environment as evidenced in the following quotes:

> I think quality care for infants and toddlers is just a really caring environment. …The staff …
> have to be genuinely interested in children. I think you have to legitimately really love children

> to be able to care for them. (Child care worker 2)

> … Bearing in mind the lots of support and attention which the children need. …So quality care is about ensuring that the children are receiving as much as the staff can give the love, attention and care and primary support as far as their social and emotional and physical needs go. (Centre director 4)

Building on these affective notions of care, support, and adult-child interactions, three centre directors reflected on how quality care promotes trust, security and community for young children. These centre directors were able to articulate how the affective dimensions of quality care impacted on children's well-being:

> It's creating an environment that promotes trust and a sense of community for both the children and their parents. … So building up relationships based on trust I feel, is part of my parent-staff relationship. … So, I think creating a warm and trusting environment is the most essential part for the baby room to keep it low stress for babies and parents. (Centre director 5)

In addition to the affective dimensions, the individualisation of care, often through the use of routines, was considered to be a salient aspect of quality infant care for all child care workers and five of the centre directors.

> Quality care I think is catering to their needs. With the babies, their nappy changing, their food and their sleep. (Child care worker 5)

> It is very important that we have an understanding of what the child's routine is at home so that when they make the transition into the childcare centre, we try to make it as smooth as possible and to ensure that each child has an individual routine so that there isn't one set routine that we all follow. It's very individual depending on what their individual practices, beliefs and values are at home and the individual child's needs, interests are. We work at planning around those individual needs, interests and strengths, and working with the parents. (Centre director 3)

It was interesting that only the centre directors articulated the value of parent interactions in supporting infants in their centres. For five centre directors, it was important to communicate with parents to link the centre and home environments.

> …It is very important to establish communication links between parents and childcare workers. We have a variety of different ways that we maintain links - through our journals, parents are welcomed to take them home …welcomed to have their input as well. So that we encourage them to have an input in their child's learning as well. We see them as their main teachers…and that we work together in a partnership. (Centre director 3)

In addition to wanting to communicate effectively with parents, five centre directors indicated that quality care involved providing an environment that, as much as possible, reflected an extension of the home environment:

> I guess quality care for infants and toddlers is as much as possible caring about the child and the family. The 'homing' environment…Carrying on what they do at home as much as possible here. (Centre director 4)

For the child care workers, the enactment of affective dimensions of care was observed and recorded using the *Checklist for Interaction*. All child care workers were rated highly on the dimension of *Responsiveness*. *Responsiveness* relates to young children's need to build trust with caregivers and focuses on the warmth and sensitivity of the interactions and the manner in which respect and attentiveness to children is evident. In fact, all or almost of them, were rated as engaging 'often' in

four out of the five sub-dimensions which were:
- 'interacts with children in a warm and friendly manner' ($n = 6$)
- 'displays affection to children and engages in warm physical contact'($n = 5$)
- 'responds to children's verbal and non-verbal initiatives for communication' ($n = 5$)
- 'interacts with children in ways that are not intrusive or disruptive' ($n = 5$).

On the final dimension, 'Engages in playful interactions with children', three of the child care workers were rated as often engaging in this practice and the remainder rated as occasionally engaging in this practice.

Programming for learning and development. A further aspect of quality care described by all of the centre directors and two child care workers related to programming for learning and development. What was interesting about these responses was the extent to which programming was related to the nature of infant learning by centre directors and child care workers.

> I think the program has to be of a standard as well, and has to be good quality (Child care worker 2).

> We work at planning around those individual needs, interests and strengths … We are looking at taking observations of the child and looking at how can extend on their learning and development, how we arrange their environment … so that we can encourage them to make choices … do problem-solving … establishing friendship with others and fostering that learning throughout each day. (Centre director 3)

Two child care workers simply articulated a belief that planning of programs for infants/toddlers should be of a high standard. It is interesting that the comments made by these child care workers did not reveal anything about the nature of the learning experience for infant/toddlers, which was a focus of the centre directors' comments. This lack of focus on infants' learning was also reflected in the observations of child care workers' practice using the dimension of *Involvement* in the *Checklist for Interactions*. *Involvement* describes the way in which caregivers support children's learning. Scoring on the dimension of *Involvement* indicated that three child care workers were rated as engaging in the following practices 'often':

- 'supporting learning through teachable moments that arise spontaneously'
- 'encouraging language development by listening to children and engaging them in conversations'
- 'facilitating children's engagement in planned or unplanned activities', and
- 'extending children's knowledge and skills through incidental teaching'.

The other three child care workers were rated as only using these practices 'occasionally' or 'never' on these four items. Two child care workers were rated as 'never' using the practice of 'supporting learning through teachable moments that arise spontaneously' or 'extending children's knowledge and skills through incidental teaching'. This could imply that these child care workers do not seem to appreciate the importance of either spontaneous or teacher-directed activities for young children, although they did provide the children with easy access to toys, books and other materials in the room.

Autonomy in practice, using the third dimension of the *Checklist for Interactions*, is associated with empowerment and focuses on how child care workers support the development of mastery of skills, encouragement of independence, and self-regulation of behaviour through positive explanatory

control. Most child care workers were rated highly on this dimension:

- 'Provides children with opportunities to learn for themselves' (*n*=5 rated 'often'; *n*=1 rated 'occasionally')
- 'Expresses approval to children's actions with an appropriate intensity and gives praises for ordinary behaviours' (*n*=4 rated at 'often'; *n*=2 rated at 'occasionally')
- 'Encourages positive behaviour without criticism or negative reactions' (*n*=3 rated 'often'; *n*=2 rated 'occasionally'; *n*=1 rated 'never').

It is of interest that while developing children's autonomy was not described as a component of quality in any of the interviews, it did emerge as a feature of child care workers' practices in the observations. The checklist was used to observe practices for supporting autonomy predominantly through the use of positive affirmations. Therefore, the comments described earlier by child care workers about the affective aspects of quality infant care are once again supported in these observations.

Summary of beliefs and practices in quality care in infant programs. In summary, both centre directors and child care workers expressed beliefs that quality in infant care comprised affective dimensions and programming for infants. In regard to the affective dimensions of quality, both centre directors and child care workers described individualised care, love, support, and attention however, only the centre directors articulated why these were important in terms of promoting trust, security and community. Further, only centre directors considered how effective parent interactions can support individualised care. The other dimension of quality care was related to programming for infants' learning and development. This view of quality was referred to by all centre directors and two child care workers, however it was only the centre directors who articulated why programming was important for infants' learning.

Beliefs about professional training for quality infant care

Child care workers and centre directors were also asked what they thought was important for effective training for quality infant care. They were asked to describe their own vocational educational experience; what aspects they found useful; and if there were particular areas which they thought could be covered more extensively in order to be effectively prepared to work with infants and toddlers. The responses of both centre directors and child care workers centred on two main themes: training for improved knowledge and skills and training through a practical focus in infant care.

Improved knowledge and skills for infant care. There was an extensive list of skills and elements of knowledge which both child care workers and centre directors believed could be addressed more comprehensively in professional training. The child care workers expressed views that their vocational training needed to provide them with information or guidance on a range of issues. Some child care workers wanted more information about how to plan/program and use observation skills as shown in the following quotes:

> I think the planning could have been explained more clearly. It sort of came across to me I felt like I was only there to cater for needs. They didn't seem to focus on just doing things because it was fun, because they [children] are interested. .. I sort of got the impression from them that

> while development was really important, that's all you were there for (Child care worker 5)

> We needed observation skills, child development, understanding children's behaviour, and programming (Child care worker 6)

The need to understand child development was also evident in these responses. In particular one child care worker wanted to know more about attachment theories as the basis for quality infant care:

> I think they could probably look more at attachment theories and I think that's what they are now. But I really believe that's the basis. (Child care worker 4)

Finally a range of other skills and knowledges were mentioned as being important: respect for children, interpersonal dynamics, behaviour management, and issues related to nutrition, health and safety. These are exemplified respectively in the following quotes:

> Yes, it prepared very well. I think it is mainly an attitude off valuing the child. The training taught us to respect the child as an individual…But the problem is there is not enough on working with staff and the dynamics of the centre and how important that is to supervise the centre. (Child care worker 3)

> I wasn't specifically taught how to handle children who were fighting, how to handle children who were biting. (Child care worker 1)

> We needed more on nutrition, health and safety, understanding children's behaviour, and planning a curriculum for infants and toddlers. (Child care worker 2)

Implicit in all of the responses was a view of training as transmission of skills or knowledge. Child care workers described their need to be "given" information which they felt was important in order to be effective in infant care practice. There was no discussion of why these skills were required, or the extent to which they might be active in the process of constructing this knowledge.

The centre directors also described a need for training to provide more skills and knowledge in a range of areas similar to those described by the child care workers. Some centre directors talked about the significance of programming for infants:

> There is a lot on infant/toddler 'care on physical needs' but there should be more on 'care on emotional needs'. And just a bit more focus on programming specifically for babies room. ..Because it is a different kind of planning for younger children to the older children, they are different and you have less participation from the child in the infants room being that they don't have the verbal skills to tell you what they want you to do…So, my advice to anyone working in the early childhood industry, is to be open to learning, finding out the latest research and be aware of the regulations and the guidelines, the legal side of child care. (Centre director 4)

Another centre director indicated that programming was informed by a sound knowledge of child development:

> Perhaps, going through more areas of development in that first stage, first 10 months would be beneficial. I think programming … Having a better understanding of child development is going to help you in your programming. (Centre director 6)

While the following centre director talked about behaviour management as important aspect of training, it is significant that she considered training for infant care to be a process of ongoing professional development for informed practice:

> It is important to be evolving in what we currently do and how we can do things a little differently. So, keeping your mind open to new ideas and continuously doing that professional

> development so that we do stay fresh in our ideas as far as caring for infants especially. It is specialized field when you do work with them. Behaviour management is very important. (Centre director 3)

Maintaining an informed perspective was also evident in the following centre director's views on training for interpersonal communication and interactions:

> Communication with parents and the importance of parents within the early childhood setting I don't think is covered enough. People like Anne Stonehouse have written a lot of material, and I have shown them to my staff, encouraged them to read. (Centre director 5)

Finally two centre directors described a range of skills and knowledges needed for infant care such as strategies for creative experiences, documentation, interactions with infants and safety issues:

> I think maybe a little bit more songs and rhymes, making play dough, and creative experiences – that sort of things would have been good to learn in my program. (Centre director 1)

> Knowledge not taught in training includes documentation, interactions with infants, safety. (Centre director 2)

It is significant that a number of centre directors seemed to have different views to the child care workers about how knowledge and skills might be experienced in training. Centre directors 3 and 4 talked about the acquisition of knowledge and skills in child care as constantly evolving and the need to remain open to new ideas. Centre director 5 described the significance of being informed through linking practice to key readings. These centre directors expressed a view of knowledge and learning as tentative, evolving and needing to be supported with evidence (readings), while the child care workers appeared to describe training as transmissive. It was clear that both child care workers and centre directors could articulate the type of knowledge and skills required as an outcome of effective training, however there were differences between some centre directors and child care workers in how they described the acquisition of such knowledge and skills. The next section describes how such knowledge and skills could be obtained through a practical focus in training.

Training through practice. Both child care workers and centre directors, articulated a common view that knowledge and skills needed to be develop in practical settings, although once again differences emerged in how knowledge and skills are developed through such practice. Four child care workers and five centre directors described how a strong practice focus was needed to promote the acquisition of relevant knowledge and skills. Child care workers indicated that practical experiences were important but it was not clear why or how these related to the process of learning in the training context.

> I think in this industry, the best thing to do is the practical. It is easy to go to college and teach someone how to do this and how to do that. But when you actually get into the workplace, it is completely different. And I found that with my first job here. (Child care worker 1)

> Pracs [field experiences] were sufficient but I suppose the more experience you have in the field the better. (Child care worker 3)

> I found it was good to get the developmental information. I also remember doing/learning about creative experiences that toddlers or children enjoy doing. Actually having little workshops in the class where we had to actually do a practical hands-on. I guess it's like kids learn from hands-on. (Child care worker 5)

> When you work, putting theory into practice is more important. Experience in being a mum is

also more important. (Child care worker 6)

All of these comments indicated that practical experiences were important, but did not reveal why or how they were useful. On the other hand, a number of centre directors while expressing a need for practical experiences in training, seemed to be able to articulate better the nature of learning and depth of understanding that was required for such experiences. For example, one centre director indicated that child care workers needed to access multiple perspectives in their practical experiences:

> It is always a problem ensuring that where the students go is high quality centre… are seeing good role models. I think it is a problem when students learn externally and if they are only learning from one area one centre – that they are just seeing one idea, one way of doing things, they come away with their diploma or their cert (training could be improved)… I think it could probably be extended in the amount of practical work they do have (Centre director 3)

Three centre directors talked about the importance of understanding practice, rather than replicating others' approaches to infant care. This suggests the importance of training that develops reflective thinking in child care workers. For example, centre director 6 described how it was important to ask a lot of questions to understand the rationale for certain infant care practices.

> Prac needs to be 2 to 3 weeks each time. You need to make sure there are different tasks that you need to physically do while you are in the room. So, that either your trainer who is coming to observe you, can actually see you physically do that. … So that at the end of it, they know that you are confident at changing nappies, you are confident at feeding a child the bottle. You need to spend as much time as possible in that environment. And ask lots of questions. Ask staff why they do certain things in a certain way. Have the opportunity to speak to the parents, and get some feedback on how the centre does certain things, and whether that's something that they fully back it. Get feedback from both sides. (Centre director 6)

The other two directors who advocated for the importance of understanding practice did so by describing the need to make connections between theory and practice. In both these responses there is a sense that it is important to understand practice through theory:

> I think definitely there should be a balance (of theory and practice). I guess that you can learn all the theory in the world but when it comes to putting it into practice, it could be completely different to what you thought it would be. The whole practical element is very important. I really gained a lot of benefit from working in the environment where I was learning. So, being able to put the theories I was learning into practice straight away. (Centre director 4)
>
> Get as much prac experience as possible. Definitely, do as much reading as possible on inter-relationships with parents in childhood settings. Look at programming as a wide varied wonderful thing. It's a tool and not a straight jacket. Definitely, to ask more questions. Most importantly, to observe people who do it effectively. (Centre director 5)

Finally one centre director indicated simply that more practical experience is important to balance out the theoretical inputs in training:

> I think it is unfortunate that they don't have more practical experience before they start. So, I suppose one gets so much theory - theories on development, theories on working with families and theories on this – but practical stuff would be good, too. (Centre director 1)

This focus on practical aspects of training by centre directors and child care workers is similar to what Misko (2001) found in a study of students' perceptions of child care training in Queensland. The students in her study indicated that "practical experience was always or almost always the best part

of the program" (p.26). Although most centre directors and child care workers expressed strong views that practical experiences were important in training for infant care, it is interesting that a number of these centre directors were able to explain these practical experiences in terms of learning processes. The child care workers' beliefs about training for working with infants were more focused on being provided with skills/knowledge and then applying them in the field. There was little discussion of active and meaningful processes about their own learning, how theory related to practice, or why certain practices are significant as was the case for some centre directors.

Discussion

Beliefs and practices in quality care in infant programs

Centre directors and child care workers defined quality infant care as meeting the affective needs of infants. This focus on the affective dimensions of quality care has also been noted in a range of research that reports on how early childhood professionals view the significance of warmth and responsiveness as key characteristics in early childhood practice (Lin, Gorrell, & Silvern, 2001; Milgrom & Meitz, 2004; McWilliam, de Kruif, & Zulli, 2002). Such affective beliefs were also enacted in the observed practices of the child care workers. All of the child care workers were rated as high in responsiveness to the infants in their care which supports their expressed beliefs about the importance of the affective aspects of quality care. However, only centre directors reflected on why such qualities were significant for promoting trust, security and community. Further, only some centre directors considered quality infant care in terms of the broader factor of parent interactions. Nyland (2004) suggested that this focus on home-like qualities is often advocated but may be difficult to achieve within the structural context of high adult-child ratios.

Another difference noted between centre directors and child care workers was that all centre directors referred to programming as critical for quality in infant care and often articulated why programming was important for infants' learning. Two child care workers commented on programming as a component of quality care but did not explicate the role of programming in infants' learning. Less emphasis on infant learning was also evident in the child care workers' observed practices with three child care workers were rated as supporting involvement for the infants in their care though engaging in incidental or planned learning activities.

Why is it that these child care professionals, in particular the child care workers, considered affective dimensions as the main determinant of quality care? Why did the child care workers not articulate a strong view of quality related to infant cognition and learning? Parents and the community at large often consider that the role of child care is to provide for children's physical and emotional needs and enable parents to engage in employment. Often, there is not a strong focus in infant programs on providing intellectual stimulation for the very young (Milgrom & Meitz, 2004). These more publicly held images of quality infant care do not support a conception of quality that focuses on education as well as care. Further, Nyland (2004) noted that attachment theory has often been the focus of training programs in Australia for infant care. Nyland also suggested that such a focus on attachment is of concern because it serves to construct the child in care as vulnerable in the absence of their mothers and this undermines the view of the infant as a competent being. Press (2006) also recognises that children need to be constructed as competent,

participatory human beings in addition to a focus on "children's rights to provision and protection" (p. 49).

At the individual level, it is possible that beliefs about affective dimensions of quality may be the outcome of less sophisticated epistemological beliefs (beliefs about knowing and learning). Entwistle, Skinner, Entwistle and Orr (2000) suggested that less sophisticated beliefs often result in focusing on one domain (affective or cognitive), as was the case with this group of child care workers. Such beliefs also mean that individuals may be less reflective about the processes of teaching and learning and less likely to describe evidenced-based practice, as was noticed in this group of child care workers. Only the centre directors reflected upon quality and training with respect to how children's learning could be enhanced and through the need for evidenced-based practice and knowledge, suggesting more sophisticated epistemological beliefs. There is growing evidence that quality care programs impact on infants' cognitive and language development (Burchinal et al., 2000). However, in order to promote support for enhancing children's learning as an important dimension of quality infant care it may be that child care workers' beliefs need to be underpinned by more sophisticated epistemologies through which knowledge about practice is conceived of as complex, evolving, tentative and evidenced-based. Kuhn and Weinstock (2002) described these beliefs about knowledge as evaluativistic personal epistemologies. Similarly, Moss (2006) referred to such knowledge as "perspectival, partial, and provisional" (p. 36) and linked this to the image of the child care worker as researcher. Knowledge is perspectival because it involves a critique of multiple perspectives (parents, children and other workers) and both partial and provisional because it is evolving and evidenced-based, similar to evaluativistic epistemological beliefs.

Beliefs about professional training for quality infant care

Differences also emerged between some centre directors and child care workers in terms of how they described the acquisition of required knowledge and skills in training programs. All of the child care workers viewed training as a process of transmission of knowledge or skills. Conversely, a number of centre directors demonstrated awareness that knowledge and skills related to infant care are constantly evolving, that one needs to remain open to new ideas and that practice needs to be informed by theory. Further, both centre directors and child care workers indicated that practical experiences were important in training for infant care but again there were differences between centre directors and child care workers. Some centre directors explained such practical experiences in terms of sophisticated ways of knowing and learning such as accessing multiple perspectives, making links to theory, and understanding why certain practices are considered to be important. These beliefs about training in infant care reflect evaluativistic epistemologies (Kuhn & Weinstock, 2002) inherent in the image of the child care worker as researcher (Moss, 2006).

For child care workers, there was little discussion about the nature of learning for either infants (beliefs about quality) or themselves (beliefs about training) with a view that knowledge and skills needed to be transferred rather than constructed through effective training. These views suggest an objectivist view of knowledge which is conceived of as absolute and able to be transferred from expert to novice (Kuhn & Weinstock, 2002). On the other hand, some centre directors described knowledge as tentative, evolving and needing to be supported with evidence (e.g., readings). This can be described as an evaluativistic epistemology (Kuhn & Weinstock, 2002) by which knowledge is seen as constructed through weighing the evidence from various sources to arrive at a personally

reasoned position.

Implications for training

A substantial body of research suggests strong links between epistemological beliefs and levels of qualifications (Alexander & Dochy, 1995; Schommer, 1998). It seems that exposure to multiple competing theoretical perspectives in further and higher education contexts may support individuals in the process of reconceptualising knowledge and knowing as pluralistic, tentative, evidenced-based and evolving rather than absolute and transferable. This may helps us to understand why Howes, Phillips and Whitebook (1992) demonstrated that the level of formal education was the best predictor of quality as measured by caregiver responsiveness and overall practice. In regard to infant care, formal qualifications in education with an early childhood specialization are also strong predictors of quality care.

The findings from the current study support the idea that epistemological beliefs and levels of qualifications are related. All of the child care workers who held two-year Diploma qualifications (with one pursuing an Advanced Diploma) demonstrated elements of beliefs about knowing and knowledge as more objectivist in nature. This stands in contrast to the more evaluativistic beliefs espoused by centre directors who held higher level qualifications. Four directors held a four-year Bachelor of Education with one director qualified at the Advanced Diploma level (three-year trained). It appeared that the centre directors who had higher qualifications than the child care workers were more able to articulate sophisticated epistemological beliefs. Given the links between sophisticated epistemologies and further education found in this study, and the link between early childhood quality and levels of education noted in the literature (Saracho & Spodek, 2007; Whitebook, 2003) future research might investigate the extent to which the nature of epistemological beliefs and qualifications influence the quality of infant care.

Karp (2006) advocates for research into what constitutes effective professional preparation for child care workers and we would argue that such research needs to focus specifically on the nature of child care workers' pre-existing beliefs and cognitions. By addressing beliefs, and not just the knowledge base, we may be able to find ways to promote the image of child care worker as researcher (Moss, 2006) through processes aimed at deep learning and critical reflection. Penn (1999) and Brownlee and Berthelsen (2004, 2006) advocate for flexible, evidenced-based processes of learning to be a focus for professional preparation programs. Such approaches to learning and teaching mean that workers would be more inclined to weigh up multiple perspectives (research and experience) as a base for good practice with infants and toddlers, without relying on maternal "instincts" and personal experiences inherent in the image of the worker as substitute mother (Moss, 2006). Brownlee and Berthelsen (2004, 2006) believe that professional preparation programs aimed at developing more evaluativistic beliefs need to draw on what is described as relational pedagogy. This approach to teaching and learning encourages the personal construction of knowledge using evidence in a context of valuing and trusting the learner as competent. It relies on supporting individuals to make connections between theory and personal experiences. Further research is needed to investigate how infant care professional preparation can be constructed in order to promote child care workers as co-researchers with children, staff and families.

Apart from a focus on preservice professional preparation, what constitutes effective continuing training while engaged in practice also needs to be considered (Moss, 2000). In 2004, around 60% of all Australian long day care centre staff had some form of relevant qualification (Department of

Family and Community Services, 2005). However, within any program in a child care centre, assistants to the group leaders are likely to be untrained and this will impact on the quality of care that young children receive in group programs. There is some evidence that strategies used in mentoring and on-site professional consultations may have an impact on quality (Campbell & Milbourne, 2005; Fiene, 2002; Kreader, Ferguson, & Lawrence, 2005a; Ramey & Ramey, 2006). Such approaches to continuing education are likely to engage elements of relational pedagogy through individualised and small group mentoring. These individualised approaches to professional development are more likely to promote constructivist learning because theory and personal experiences are linked in an atmosphere of trust and respect between learner and mentor.

Many child care workers accept or are placed in child care positions for which they may have not been adequately prepared during their professional training. Added to this, the increasing casualisation of the child care workforce has severe implications for service delivery, stability of contact with children and delivery of quality programs (Misko, 2001). Lack of a clear identity and recognition within the community are also issues faced by child care workers. Goodfellow (2003) proposed that there needs to increased recognition of the knowledge and skills of child care workers and attention given through professional development to engage in the wisdom of practice through reflection and self-evaluation. It also assumes that professionals, who have the responsibility for program development, have the capacity to undertake those professional responsibilities required of them in order to ensure ongoing quality improvement. Such activity also requires staff to recognise the nature and extent of their value judgments in program decision making.

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Table 1. Description of child care workers' qualifications and experiences

Centre / Position	Qualification in early childhood	Years of experience in early childhood	Years of experience in infant programs
Centre 1: Child care worker 1)	Diploma	7 years	2 years
Centre 2: Child care worker 2)	Diploma	8 ½ years	3 ½ years
Centre 3: Child care worker 3	Associate Diploma	16 years	5 years
Centre 4: Child care worker 4	Associate Diploma	23 years	10 years
Centre 5: Child care worker 5	Diploma (and enrolled in an Advanced Diploma)	11 years	3 years
Centre 6: Child care worker 6	Diploma	17 years	2 years

Table 2. Description of centre directors' qualifications and experience

Centre / Position	Qualification in early childhood	Years of experience in early childhood	Years of experience in centre
Centre 1: Director 1	Bachelor degree	12 years	6 years
Centre 2: Director 2	Bachelor degree; Masters degree	16 ½ years	6 ½ years
Centre 3: Director 3	Diploma; Bachelor degree	12 years	6 months
Centre 4: Director 4	Diploma (and enrolled in an Advanced Diploma)	9 years	3 years
Centre 5: Director 5	Diploma; Bachelor degree	18 years	5 years
Centre 6: Director 6	Diploma; Advanced Diploma	20 years	1 ½ years

Appendix 1: Checklist for Interactions

S/No	Interaction Practice	Check the appropriate column (√)			Comments
		Never 1	Occasionally 2	Often 3	
	Responsiveness *				
1	Interacts with children in a warm and friendly manner (e.g. talks to children even if they are very young and cannot respond with language).	0	0	6	
2	Displays affection to children and engages in warm physical contact (e.g. indicates liking through gentle touch, pats, cuddles).	0	1	5	
3	Engages in playful interactions with children (e.g. interactions have elements of fun and light-heartedness).	0	3	3	
4	Responds to children's verbal and non-verbal initiatives for communication (e.g. children make attempts to communicate through eye contact, waving arms, reaching, calling, or crying).	0	1	5	
5	Interacts with children in ways that are not intrusive or disruptive (e.g. reads the child's mood well; interactions are paced appropriately).	1	0	5	
	Involvement *				
6	Supports learning through teachable moments that arise spontaneously (e.g. using different sensory modalities to draw attention to experiences - "Look at that", "Hear that", "Feel that" or "Smell that").	2	1	3	
7	Encourages language development by listening to children and engaging them in conversations that involve turn-taking (eg imitating sounds made by infants, elaborating conversations with toddlers using simple questions or comments).	0	2	4	
8	Facilitates children's engagement in planned or unplanned activities (e.g. providing easy access to materials; music, singing, reading or movement activities).	0	3	3	
9	Extends children's knowledge and skills through incidental teaching (e.g. teaches children new things through simple directives or modelling).	2	1	3	
	Autonomy *				
10	Provides children with opportunities to learn for themselves (e.g. provides help only if necessary to avoid frustration by being ready to step in, model actions or providing verbal prompts).	0	1	5	
11	Expresses approval to children's actions with an appropriate intensity and gives praises for ordinary behaviours (e.g. interactions are characterised by smiles or positive comments that provide encouragement).	0	2	4	
12	Encourages positive behaviour without criticism or negative reactions (e.g. directions are phrased in positive terms; behaviours are ignored, if appropriate).	1	2	3	

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