

Assessing the quality of Australian child care and kindergartens



Picture from Early Learning Centre, University of Melbourne.

E4Kids is a 5 year longitudinal study of more than 2600 children assessing the impact of participation in child care and kindergarten on child outcomes. The children entered the study at age 3 and 4 and the study will follow their learning and development to age 8.

To identify and understand the quality of early childhood programs may, at first, seem simple. Yet quality is a value-laden idea having many guises and provoking much debate among the profession and the community. Different aspects of quality can be examined when determining what an Early Childhood setting offers to young children. At the least, there is strong agreement across the literature and research that the interactions between adults and children are important to child outcomes. E4Kids is exploring these factors, among other priorities. This bulletin presents some of our first findings.

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In Brief:

This Research Bulletin presents 2010 data from the E4Kids Study on the quality of early childhood education and care services across Victoria and Queensland.

Why pay attention to quality?

Australian families, communities and government are increasingly aware of the capacity of child care and kindergarten services to support the learning and development of our young children. The evidence is clear that these early experiences are an important influence on a child's personal and social development in both the short-term and across the lifespan.

The importance of quality within early years' settings has been officially recognised in the development of a National Quality Framework. This Framework aims to raise quality and encourage continuous improvement and consistency in Australian education and care services. The Framework includes legislation (the Education and Care Services Law Act); a Quality Standard, and a rating and assessment process. The Australian Children's Education and Care Quality Authority oversees the implementation of the National framework from 1 January 2012 (acecqa.gov.au). Requirements such as qualification, educator-to-child ratios and other key staffing arrangements will be phased in between 2012 and 2020.

The E4Kids research program has been developed to provide an evidence base to determine the best ways to support higher quality in our childcare and kindergarten settings – an essential element in providing our children with a good start in their life.

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What is quality in early childhood settings?

When we talk about what influences quality in early childhood settings, we typically think about two different aspects of the classroom environment: structural aspects and process aspects. Structural aspects that predict the level of quality in an early childhood setting include the number of children in the room (group size), the corresponding number of adults (adult-to-child ratios) and the qualifications of the adults (Burchinal et al, 2000). Research has demonstrated that these structural features are associated with child outcomes in expected ways, with improved staff-to-child ratios, higher staff qualifications and smaller group size normally associated with better child outcomes. (Snow & Van Hemel, 2008).

However, improving these structural aspects does not automatically improve outcomes for children, as cause-effect relationships are complex. Further, there is still important disagreement about what kind of post secondary credentials best promotes positive classroom interactions and about the role of recent professional development

training relative to higher levels of pre-service training (Early et al., 2007, Kelley & Camilli, 2007, Blau, 2007). The curriculum pursued is also likely to be important (PCERC, 2008).

Process aspects of quality have been shown to have a fundamental impact on children's learning outcomes. The process aspects of quality are concerned with the nature of adult-child interactions and the activities and learning opportunities available to the children (Phillipsen, Burchinal, Cryer, & Howes, 1997). In essence, it is adults engaging with children in the environment, rather than solely the environment itself, that creates much of the quality (McCartney & Phillips, 2006).

Structural and process quality are related. For example, better staff-to-child ratios facilitate opportunities for high quality interactions which in turn have been shown to lead to long-term gains for children (Meunnig, et al, 2011; Mervis 2011). Similarly, great physical environments also create new learning possibilities for children.

Measuring quality

The measurement of the process aspects of quality, however, is difficult. There are few valid and reliable instruments that measure process quality, and their administration requires extended periods of direct observation and intensive training and monitoring of researchers. These difficulties remain the key issue in investigations into process quality (Sylva et al, 2006). The Early Childhood Environment Rating Scale – Revised Edition (ECERS-R) (Harms et al, 1998) and its Family Day Care companion (Family Day Care Rating Scale) (Harms et al, 1989) were developed to describe the quality of the preschool environments based on the interactions between children and adults and the kinds of activities available for children in the room.

More recently, the Classroom Assessment Scoring System (CLASS) was developed to measure process quality, including 'instructional' quality. Moreover, it is a measure that is sound theoretically, in that learning

environments that score highly on CLASS are known to improve the learning and development outcomes for the children in that learning environment (Pianta et al, 2008). In early childhood settings the CLASS measure assesses the level of emotional, organisational and instructional support available to children.

Although 'instructional support' is used in the literature on quality measurement, it needs to be acknowledged that this is an uncommon term in early childhood and unhelpfully suggests the teaching of specific knowledge to children. In fact, what 'instructional support' measures in CLASS is consistent with intentional teaching approaches in a play-based learning environment. It is about how teachers use discussions and activities to promote thinking skills, encourage children's language and extend learning through responses to children's ideas.

Why focus on intentional teaching?

Within play-based approaches to supporting children's learning, there is good evidence that 'intentional teaching' can make a major contribution to the learning and development of the child, starting as early as the first year of life (see insert on Finnish study). Intentional teaching requires the adult to be aware of the individual child's understanding and capabilities and then to 'nudge' them to extend their knowledge and skills

In the Abecedarian approach, for example, the techniques of conversational reading, learning games and enriched caregiving with children 0-3 years of age have been shown to have long-term positive impacts on children's learning and educational achievement into adulthood (Campbell et al, 2002). This approach is quite different to the formal teaching of literacy and numeracy skills to groups of children. Instead, adults promote the holistic learning and development of individual children in one-to-one exchanges. This holistic development includes promotion of language development, social and emotional intelligence and creativity.

In addition to assessing child outcomes through the longitudinal study, E4Kids is investigating practical intentional teaching approaches to better support children's learning. For example, a nested study is analysing intentional talk by educators in relation to mathematics in play. Another study, related to E4Kids, addresses staff training and implementation of techniques learned from the Abecedarian studies in the US.

How is E4Kids assessing program quality?

To achieve a comprehensive view of the quality of children's early educational experiences, the E4Kids Study collects data using CLASS, ECERS-R and a series of surveys that collect information about the quality of services reported by parents, educators and teachers, and directors or principals.

The CLASS measure

This Research Bulletin focuses on the quality of pedagogy using the CLASS measure. CLASS arranges 11 dimensions of child-adult interaction into three domains: emotional support; classroom organisation and instructional support.

The emotional support domain is associated with children's social and emotional development. It is concerned with aspects of the child: adult relationship that contribute to children feeling safe and supported in the learning environment. The emotional support domain pays particular attention to features such as use of positive and respectful communication, the extent to which the adult enjoys spending time with the children, the adults awareness and sensitivity towards the children's academic and social abilities and needs, and the degree of choice and autonomy afforded to the children (Pianta et al, 2008a).

The classroom organisation domain is associated with children's self-regulation and their opportunity to engage in varied activities. It includes a range of processes within the classroom

related to the way that time is managed and organised. It pays particular attention to the management of children's behaviour, the ways in which routines and transitions are handled and ways of promoting children's engagement and interest in the learning experiences. The key focus of the classroom organisation domain is that learning time is maximised (Pianta et al, 2008a).

The instructional support domain is associated with children's cognitive and linguistic development. It focuses on the quality of learning within the setting. It pays particular attention to the extent to which adults promote children's thinking, how they extend children's learning and how they encourage children's language development (Pianta et al, 2008a).

A more detailed summary of the CLASS measure can be found at teachstone.org

Training of CLASS field workers was undertaken with 39 staff in 2010 (16 in Victoria and 23 in Queensland). They were all trained by Professor Collette Tayler following her own training and accreditation as a trainer of the Pre-K CLASS tool in 2009.

To ensure that the assessors are reliable, that is, that they are consistently measuring the same thing, tests of reliability have been undertaken both as part of the training and in the field.

Staff were only accredited to collect CLASS data if they met the performance of the criterion of > 80% on five tests (and within the different dimensions that make up CLASS). The actual reliability/agreement of these staff were pleasingly higher than this benchmark, as follows:

- Clinical process reliability = 84.5%
- Fieldwork reliability checks = 94.4%
- Inter-rater agreement = 99%

This level of reliability/agreement gives confidence that E4Kids assessed quality, as measured using the CLASS instrument, in a consistent way across participating early childhood settings in 2010.

Programs assessed in 2010

To measure the quality of early experiences in the E4Kids study, a CLASS assessment of the learning environments for the 2,600 children involved in the study was undertaken in 2010. In summary, 1050 twenty minute observations were taken in 258 classrooms in E4Kids sites. The E4Kids sites comprise a range of long day care (LDC), limited hours care (LHC), family day care (FDC) and kindergarten (K) services located in greater Melbourne and Shepparton in Victoria and greater Brisbane and Mt Isa in Queensland.

Table 1 below shows the number of early childhood education and care services and rooms by geographic location and service type from which the data has been drawn.

Service type	Victoria				Queensland				Total	
	Melbourne		Shepparton		Brisbane		Mt Isa			
	Services	Rooms	Services	Rooms	Services	Rooms	Services	Rooms	Services	Rooms
LDC	28	48	6	9	60	73	3	4	97	134
LHC	1	1	3	3	1	1	0	0	5	5
FDC	2	14	1	8	2	20	1	10	6	52
K	13	27	8	9	11	32	4	8	36	76
Total	44	90	18	29	71	126	8	22	141	267

NB Data on kindergartens in Victoria includes a mixture of three-year-old and four-year-old stand alone kindergarten programs

What does the 2010 CLASS data tell us about program quality?

The results of the 2010 E4Kids data are summarised in Figure 1 below in relation to the three summary domains of the CLASS measure (as discussed above).

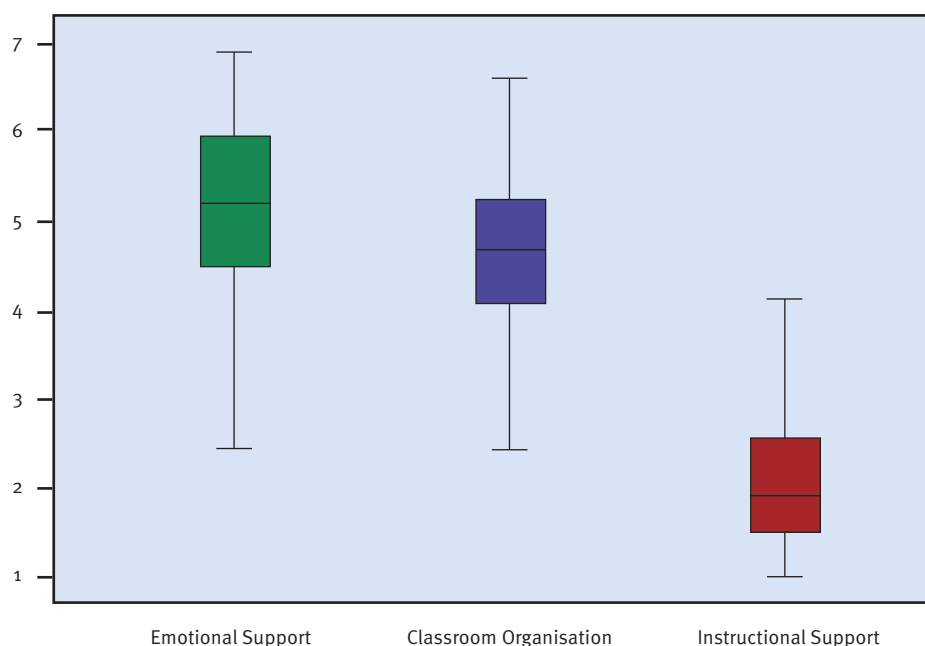


Figure 1: CLASS assessment of the quality of ECEC classrooms on three summary domains

CLASS uses a scale of 1 (lowest) to 7 (highest). In Figure 1, the coloured ‘box’ in each of the box plots represents the middle 50 percent of scores (25th to 75th percentile) with the dark line in each of these boxes represents the median score. Scores are usually referred to as low if 1 or 2, medium if 4 or 5 and high if 6 or 7.

The straight vertical lines emerging from the boxes and ending in a ‘T’ are called whiskers and represent the dispersion of scores.

Emotional support domain

Services scored the highest on the emotional support compared to the other two domains, with a mean of 5.12. This places them between the middle and the high range for emotional support. Within the emotional support domain, services tended to be rated higher on ‘positive climate’ – reflecting the good emotional connection between the adult and the children and among the children – than on the other two indicators (‘teacher sensitivity’ and ‘regard for student perspectives’). Very

few instances of expressed negativity were observed.

Organisational support domain

Services tended to score slightly lower in the classroom organisational domain than in the emotional domain, with a mean of 4.58. This still places them slightly higher than the middle of the scale. Services tended to be rated higher on ‘behaviour management’ – the adult’s ability to provide clear behavioural expectations and prevent and redirect misbehaviour – and ‘productivity’ – the adult’s management of instructional time and routines and provision of activities to engage children in learning activities – than on ‘instructional learning formats’ – the ways in which the adult maximises children’s interests, engagement and ability to learn from the learning experiences.

Instructional support domain

Services scored lowest in the instructional support domain compared to the other two domains, with a mean of 2.05. Within the instructional support

What the E4Kids study is not!

Where support for children’s learning is reported as low, this is not intended as a criticism of early childhood education and care providers. Child care services such as long-day care and family day care were, after all, mainly established to provide a caring environment for children to allow parents to do other things, principally employment. The policy direction of introducing an early education concept and learning outcomes from birth to all types of early childhood service is recent. The measurement instruments we use allow us to capture the full range of emotional, organisational and instructional support and provide scope to measure the change that occurs in services over time.

The findings in the E4Kids study should not be construed as making a case for formal subject matter or content-focused learning in child care and kindergarten settings, making them more school-like. The primacy of play-based approaches to learning in the early years is well understood and supported in the practice and theory of early childhood education and care. Play-based learning approaches are fundamental within the observational measures used by E4Kids.

domain services scored higher in ‘language modelling’ – the quality and amount of the adult’s use of language-stimulation and facilitation techniques – compared to ‘concept development’ – activities that promote and extend children’s thinking skills and understanding – and ‘quality of feedback’ – the extent to which teachers provide feedback to children to expand their understanding and encourage their continued participation.

What are the implications of 2010 CLASS results?

It is important to remember that these results are from four repeated measures on one day of the operation of the programs. There is good evidence to suggest that CLASS scores are consistent across the year with some fluctuations noted around holidays and toward the very end of the year (Pianta et al). Also, whilst CLASS was selected as a robust measure of the quality of observed adult-child interaction, no single measure can fully capture the reality of what happens in programs even during the period under observation.

In 2011, the measurement cycles are conducted twice, once in the first half of the year and once in the second half to test whether results change or are stable.

Emotional support and classroom organisation

Within the limitations of the CLASS measure and its use, emotional support for children and organisation within E4Kids sites appear from the data to be positive across most early childhood education and care programs. In relation to child care settings specifically, it may be said they are achieving what they were set up to achieve: a caring environment for children with a well organised set of activities.

On the debit side, some programs appear to be providing relatively low-quality emotional support and/or classroom organisation. The challenge is how to ensure that the good quality practices provided to most children should be available to all – recognising that what produces good quality emotional support and classroom organisation within services is complex.

Instructional support in a play-based environment

Perhaps the most concerning results are the generally low ratings of instructional support across all settings: kindergarten, centre-based child care and family day care. This is a concern in light of the research evidence, described earlier, that the individual learning support that adults provide children has been clearly linked to longer term outcomes. The ways that adults ask children questions make a major difference, connecting them to the real world, helping them plan and predict, engaging in back-and-forth conversations about things of interest and expanding their language and vocabulary.

New opportunities

There are ongoing opportunities for services to focus more strongly on the instructional components of their programs – experiences which promote children's higher order thinking, assist them to expand and reflect on their knowledge and understanding and give them opportunities to practice their emerging language skills. Curriculum documents such as the Early Years Learning Framework (DEEWR, 2009) provide guidance to early childhood educators on the features of professional practice and content that can help support young children's knowledge and understanding. Moreover, the new National Quality Standard provides an opportunity for services to reflect on the quality of programs they offer children and families and identify ways to continue to improve.

Instructional support in Finnish kindergarten study

A study of 1,268 children in Finland assessed the relationship between instructional support using the CLASS measure and task-avoidant behaviour and maths skills in kindergarten. The study found that task avoidant behaviour by children predicted children's low level of maths skills, but that the more instructional support was evidenced, the less that children were rated as showing task-avoidant behaviour (p. 376). The study concluded:

“The results of the presented study add to previous research by showing that adults can encourage children's engagement in learning and task-focused behaviour in kindergartens before formal education begins. By showing that instructional support is connected to children's task-focused behaviour, the Finnish study suggests further that, although kindergartens adopt play-centred approaches and there is no formal teaching of mathematics, kindergarten teachers' instructional practices are connected with the way children act in learning situations.

Our results show that the adults' role in promoting children's adaptive behaviour in learning situations is also important in play-centred learning activities. Consequently, there is a need to pay more attention to early educators' awareness of their influence on children and the means available to promote children's focus on task and adaptive behaviour. These results indicate that teachers can improve children's preparedness to face difficult learning situations by giving individualised feedback and providing interesting, challenging tasks. In addition they can encourage children's efforts and, by doing so, decrease their experience of anxiety in learning situations. Such anxiety easily leads to task avoidance” (p. 382-383)

Source: Pakarinen (2011)

What new analyses of program quality will be available in 2012?

In 2012 the E4Kids program quality findings will address:

- The combination of structural and process quality in the settings
- The ways in which 2010 and 2011 quality evidence varies across the study and within service types.

Conclusion

The improvement of program quality in early childhood education and care settings in Australia represents a major challenge to the Early Childhood sector as a whole. It is also an issue in which there is broad government

commitment to tackling through the National Quality Framework.

The data presented in this research bulletin provides early findings from a study, E4kids, designed to help create

the evidence base to support quality improvement in early childhood education and care settings.

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