E4Kids: Effective Early Educational Experiences for Kids Study

The early experiences of young children occur within their homes, child care setting, kindergartens, schools and beyond. Early life experiences shape children: they play a part in building character and interests, and the ways children see and understand people, places and what matters in their lives.

E4Kids is a research collaboration established in 2009 to shed more light on the contribution of early experiences to the learning and development outcomes of a diverse sample of young children across Australia. Knowing what counts, when and by how much, to children’s ongoing social and academic achievement is important if we want to make a difference and increase the opportunities for our children to thrive. The E4Kids Research Bulletin series will provide you with a snapshot of the research and findings as they unfold.

E4Kids is a study of more than 2600 children from Brisbane, Melbourne, Shepparton and Mt Isa being conducted from 2010-2015. Most children were recruited into this study at age 3 or 4 and the plan is to follow them to age 8. The study sets out to answer the question: what is the effect on children’s learning development and social inclusion of participating in Australian child care and kindergarten services?

Why this study?

Our growing understanding of the development of the young brain and the importance of learning in the early years has led to a question shared by parents, governments, and early childhood professionals and services: how well are our child care and kindergarten services supporting young children’s learning in this critical period?

The spotlight is particularly on the potential of child care to make a major contribution, though realising that its traditional role post 1970s has been more to do with care than education.

Australian governments invest over $4.6b annually into early childhood education and care services, comprising a range of different child care services and kindergartens (sometimes referred to as preschool). The question for government is how are these resources best used to maximise their value for young children and families?

The E4Kids Study was established to help answer that question, in a way that recognises the diverse range of families and early childhood education and care services (child care and kindergarten) that are in place across Australia.

This study will not have all the answers. What it will do is produce new evidence about the quality of early childhood education and care programs through assessing their direct impacts on children and their families.

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Assessing the quality of Australian early childhood education and care services

To subscribe to E4Kids mailing list for future issues, please visit our webpage at, www.edfac.unimelb.edu.au/E4Kids/mailing_list.html
Who funds the study?

The main sources of funding for this study are:

<table>
<thead>
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<th>Source</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Australian Research Council</td>
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</tr>
<tr>
<td>Victorian Government</td>
<td>$1.46m</td>
</tr>
<tr>
<td>Queensland Government</td>
<td>$1.4m</td>
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<tr>
<td>Commonwealth Government</td>
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<tr>
<td><strong>TOTAL FUNDING</strong></td>
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How will the study assess the impact of participation in child care and kindergarten services on children’s learning and development?

The study starts from the working assumption that the main influences on children are a combination of their individual characteristics and capacity (including genetic inheritance, temperament and health), their family and home life, early childhood education and care (ECEC) programs, the different communities they participate in and broader social conditions.

A very important part of children’s involvement outside the family home is their participation (or not) in ECEC programs. This study assesses the effect of this participation on child outcomes, including during the preschool and early school years up until the year in which the child turns eight years of age. It does this by directly investigating children’s attendance in ECEC programs before school, the quality of those programs, and progression in the child’s learning and development assessed on an annual basis. Moreover, the study sets out to gather sufficient information on other influences on the child, such as family, community and later the school environment, that it can control for these influences and assess the actual influence of participation in child care and kindergarten services.

This analytic model is described in Figure 1 below.

### Basic analytic model

**IV: Background Context**
- Child characteristics
- Home characteristics
- Family characteristics
- Community characteristics

**IV: ECEC Programs**
- Quality
  - Curriculum
  - Facilities / physical Environment
  - Structure
  - Pedagogy

- moderating effects
- direct effects

**Outcomes (both initial and growth)**

- **DV: Child Outcomes**
  - Cognition
  - Social inclusion
  - Health and Well-being

- Time series

- NAPLAN Age 8

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**How were the children in the study selected?**

The study began with the identification of all long day care, family day care, kindergarten and occasional care programs in greater Melbourne, greater Brisbane, Shepparton (regional centre in Victoria) and Mount Isa (remote area in Queensland). A random selection of these programs was then drawn to include a range of high and low socio-economic status (SES) communities based upon the postcode data of where these services were located.

The rooms in these services in which 3 and 4 year olds were enrolled were then identified and the parents of all children in these rooms were invited to join the study. An annual data collection was then implemented. It covered the children’s learning and development, family circumstances and an observational measure of the quality of the programs attended by children.

In addition, 158* children not enrolled in child care or kindergarten services in 2010 were recruited from a pool of families identified through Commonwealth Government records.

*Figure as of 07 Oct 2011
What is quality in child care and kindergarten services?

This is a central question for this study, given that the level of quality is shown in other studies to have a significant influence on children's outcomes. We know, of course, that adult/child interactions are a major component of quality. There are of course many surrounding factors that contribute to everyday talk and activity with young children. In many ways, seeking an answer to the question of what is inside 'quality' that contributes to children's learning and development over time is why this study was set up. By the completion of this study we will have better answers because we will know a lot more about the impacts of different program characteristics measured in the study on child outcomes.

We do know from other studies that quality is made up of both structural and process factors. Structural factors include the standards set by licensing and regulations. Higher standards are associated with higher quality, including the professional qualifications of early education and care staff, group sizes of children and the ratio of staff to child in the program. They can be regarded as necessary conditions for higher quality but are not sufficient to ensure high quality programs.

Process quality is about the quality of the day to day interactions between adults and children. How well are children emotionally supported by caring adults? How good are the activity routines in engaging children? How well is children's learning supported and extended? This quality of adult/child interactions is probably the most important impact on children's learning and development outcomes. ‘E4Kids is assessing the quality of adult/child interactions in child care and kindergarten using the CLASS measure.

E4Kids study and our system of early education and care

Victoria and Queensland were initially selected for this study because of the contrasting aspects of their child care and kindergarten provision. The figure below presents the proportions of children (0-5 years) participating in various forms of child care and kindergarten in Queensland, Victoria and nationally.

![Figure 2: Children aged 4 and 5 attending child care and children attending kindergarten in the year before school 2010](image)

The main contrast between Victoria and Queensland here is the much lower participation rates in government funded preschool. Queensland has set itself the goal of universal provision of preschool for all four-year-olds by mid 2013. Universal provision of 15 hours per week of preschool is also a Coalition of Australian Governments (COAG) commitment nationally. Queensland also has higher rates of participation in government approved child care.

**Children participating in E4Kids Study**

Figure 3 presents data on children enrolled in E4Kids Study by service type.

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Percentage of Children</th>
</tr>
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<tbody>
<tr>
<td>Long Day Care</td>
<td>70</td>
</tr>
<tr>
<td>Kindergarten</td>
<td>60</td>
</tr>
<tr>
<td>Family Day Care</td>
<td>50</td>
</tr>
<tr>
<td>Occasional Care</td>
<td>40</td>
</tr>
</tbody>
</table>

*Figure 3: Children participating in E4Kids study by service type

NB Kindergarten figures are a mix of children enrolled in ‘stand alone’ three-year-old and four-year-old kindergarten.

**Recruitment of a comparison group of children**

A sample of 158* children not enrolled in ECEC programs in 2010 were indentified through Commonwealth Government sources and recruited to the study. This comparison group will be an important source of information for establishing the impact of participation in ECEC programs on child outcomes.

*Figure as of 07 Oct 2011

**Who are the major stakeholders in this system?**

Reform efforts arising out of the findings from the E4Kids Study will be undertaken with major stakeholders in the quality of early childhood education and care centres, including:

- Children for whom these early experiences can be critical to their current wellbeing and their longer term learning and development
- Parents of children attending these programs
- Providers of early childhood programs and services, including community groups, local government and for-profit businesses
- State and Territory governments and the Commonwealth government that finance and regulate early childhood education and care services

**What do the findings from a similar study from the UK tell us?**

The Effective Provision of Pre-School Education (EPPE) is Europe’s largest longitudinal investigation into the effects of preschool education on children’s developmental outcomes (age 3-7 years). The study has been now extended to follow these children to 16 years+.

The EPPE study provided an inspiration for establishing the E4Kids Study. One of the key researchers in the study, Iram Siraj-Blatchford, is an investigator for E4Kids. This has allowed E4Kids to benefit directly from the knowledge and lessons of EPPE.

It could be expected that the findings from the E4Kids study may vary considerably from those of the EPPE study given the differences between Australian and English societies and our quite different provision of early childhood education and care services.

**EPPE Key results**

Findings from the original EPPE study of children from age 3-7 are summarised below:

- Impact of attending a preschool centre
  - Preschool experience, compared to none, enhances children’s development.
  - The duration of attendance is important with an earlier start related to better intellectual development and improved independence, concentration and sociability.
  - Full-time attendance led to no better gains for children than part-time provision.
  - Disadvantaged children in particular can benefit significantly from good quality pre-school attendance, especially if they attend centres that cater for a mixture for children from different social backgrounds.
The quality and practices in preschool centres

- The quality of preschool centres is directly related to better intellectual/cognitive and social/behavioural development in children.
- Good quality can be found across all classes of early years settings. However, quality was higher overall in integrated settings, nursery schools and nursery classes.
- Settings which have staff with higher qualifications, especially with a good proportion of trained teachers on their staff, show higher quality and their children show more progress.

- Where settings view education and social development as complementary and equal in importance, children make better progress.
- Effective pedagogy included interaction traditionally associated with the term ‘teaching’, the provision of instructive learning environments and ‘sustained shared thinking’ to extend children’s learning.

Types of preschool

- There are significant differences between individual preschool settings in their impact on children. Some settings are more effective than others in promoting positive child outcomes.

- Children tend to make better intellectual progress in fully integrated centres and nursery schools.

The importance of home learning

- The quality of the learning environment of the home (where parents are actively engaged in activities with children) promoted intellectual and social development in all children (Sylvia et al, 2003, p2).

Reference


Broader E4Kids research program

In addition to the E4Kids longitudinal study of children, both the University of Melbourne and the Queensland University of Technology are supporting smaller and more intensive pieces of work related to improving the quality of early childhood education and care services.

These pieces of work include:

- Testing the use of mathematics language in ECEC services to prepare young children for mathematics learning
- Examining the impact of sleep/rest policy on child sleep patterns, behaviour, learning and well-being
- Examining differential effects of ECEC provision for children with different emotional, social and activity levels (temperament)
- Examining the factors that are barriers and enablers for Aboriginal families in accessing ECEC services
- Determining young children’s socio-emotional wellbeing and their lived experience
- Exploring and promoting the mental health and wellbeing of Family Day Carers
- Equity and selection: the varied exposure of young children to ECEC programs, and the effects on academic and social achievement
- The contribution of ECEC quality to children’s transition to school
- Tracking the implementation, by parents and ECEC service providers, of 3A (the Abecedarian Approach Australia) for improving family literacy and the learning of children aged 0-5 years
- The refinement and reliable application of the National Quality Standard Assessment Rating tool Assessment and rating tool within diverse Australian ECEC settings
- Developing a measure for assessing National Quality Area 1: educational program and practice in a variety of Australian ECEC services.