A bird in the hand: What E4Kids tells about young children’s trajectories of development, the quality of programs and actions that may improve outcomes

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Abstract

- The abilities and capabilities that young children have when they begin school depend on prior family, community and early childhood education and care program experiences. They assist or impede transitions, and each child’s on-going progress.
- In Australia, family contexts and children’s early childhood education and care (ECEC) program pathways are diverse: families select different combinations of ECEC and educators work with young children to enact different kinds of play and learning experience, and accordingly, they assess and track children’s progress.
- The processes of moderating known learning and development difficulties, or low levels of skill development, are principally at the discretion of the early educators who support children within typical everyday programs, within available resources.
- The Australian E4Kids longitudinal study directly assessed the general cognitive ability and receptive and expressive language of a sample of 2,498 three- and four-year-old children, and tracked their progress into the early years of school. The abilities of these preschool children are reported, along with associations with family background characteristics and the abilities trajectory of different sub-groups. Children who are at risk of poor outcomes as they progress toward school are of particular interest in this paper. This group is contrasted with children who demonstrate high levels of development. The implications for supporting children at-risk of poor progress are discussed.
- Preschool refers to any approved early childhood education and care program for children in the years before the first school year.
Presentation Overview

1. Why have an E4Kids study?
2. ECEC program quality before school
3. Early findings about children’s development
4. Implications for ECEC pedagogy, and current child care and early learning policy decisions
Questions

1. What is the context for researching ‘quality’ in ECEC programs, via an E4Kids study?

2. What have we learned to date about the quality of Australian programs and children’s achievement status by the time they reach preparatory level - the first school year?

3. What are some implications of these findings?
Why have an E4Kids study?
Diverse environments, contexts and attitudes toward early childhood learning and development
E4Kids – Study Overview

Research design:

• 5 year longitudinal study of ~2,600 children (3-4 years old), their families, educators/teachers, directors/principals

Broad research aim:

To understand the contribution of the quality and usage of ECEC programs on children’s learning and development over time
E4Kids Sample and Location

Remote: Mount Isa
E4Kids n = 167 +
NPC n = 10

Greater Metro: Brisbane
E4Kids n = 961 +
NPC n = 62

Regional: Shepparton
E4Kids n = 336 +
NPC n = 16

Greater Metro: Melbourne
E4Kids n = 1028 +
NPC n = 71
Measures in E4Kids

♦ CHILD ASSESSMENT
Height, weight, waist
Cognition & Achievement: WJ-III
Friendships/social inclusion: Bus story

♦ PROGRAM ASSESSMENT
Pedagogy: CLASS
Other characteristics: ECERS-R, 3 subscales

♦ SURVEYS
Parent: ECEC program history/ access; child behaviour, social skills; parenting style; home learning environment
Director/Principal: structural aspects
Educator/Teacher: child behaviour, structural aspects

♦ DATA LINKAGE
NAPLAN
(and in Victoria SEHQ and AEDI)
Our structural quality measures

**Early Childhood Environment Rating Scale**
- Average Routines Score
- Average Activities Score
- Average Furnishing Score

**Teacher/Educator Education & Experience**
- Teacher’s highest education level in any field
- Teacher’s years of experience in early childhood services

**Group Size & Adult : Child Ratio**
- Largest number of children observed in the room
- Highest child : adult ratio observed in the room

direct measure  | staff report  | direct measure
Process quality measured by CLASS

- Emotional Support
  - Positive Climate
  - Negative Climate
  - Teacher Sensitivity
  - Regard for Child Perspectives

- Class Organization
  - Behavior Management
  - Productivity
  - Instructional Learning Formats

- Instructional Support
  - Concept Development
  - Quality of Feedback
  - Language Modeling

- Pianta, La Paro & Hamre, 2008
Theoretical model adopted for analysis of quality in ECEC rooms

**STRUCTURE**
What? Who? Where?
- EECERS-R environment,
- Staff training and experience
- Ratios and group size

**PROCESS**
How?
- Implementation
- Relationships
- Academic & Social
  - Interactions

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Children’s Academic & Social Development

Adapted from Pianta, La Paro & Hamre, 2008
Evidence of ECEC program quality in years before school
ECERS structural quality measures across centre types
## Other structural quality measures across centre types

<table>
<thead>
<tr>
<th>2010</th>
<th>Number of rooms</th>
<th>Teacher's Highest Education</th>
<th>Teacher’s Experience in Years</th>
<th>Child: Adult Ratio</th>
<th>Group Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long Day Care</td>
<td>87</td>
<td>Diploma</td>
<td>10.1 (7.4)</td>
<td>7.4 (2.7)</td>
<td>16.3 (4.8)</td>
</tr>
<tr>
<td>Kindergarten</td>
<td>85</td>
<td>Bachelor</td>
<td>15.2 (9.7)</td>
<td>7.2 (2.2)</td>
<td>17.9 (3.5)</td>
</tr>
<tr>
<td>Family Day Care</td>
<td>50</td>
<td>Certificate</td>
<td>11.6 (6.7)</td>
<td>3.6 (1.5)</td>
<td>3.7 (1.5)</td>
</tr>
<tr>
<td>All*</td>
<td>224</td>
<td>Diploma</td>
<td>12.2 (8.3)</td>
<td>6.5 (2.8)</td>
<td>14.0 (6.7)</td>
</tr>
</tbody>
</table>

* Includes 1 RES and 1 OCC Rooms
How are these measures related?

Correlations between latent constructs
(2010 data)
Process quality measured by CLASS.
What about access to these programs?
Who receives which levels of quality?
Early Development Matters
Children who experience more risk factors at home tend to enter ECEC programs later, and they attend fewer hours of quality care.
Where are the Highest Quality ECEC Programs?
How far do Families Travel to ECEC Programs?
Who Attends the Highest Quality ECEC Programs?

[Graph showing the percentage distribution across different Family SES quintiles for Classroom Organisation, Emotional Support, and Instructional Support domains.]
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Summary

• Structural quality reflects policy and investment history. Raising qualifications, improving ratios and the program-offer predict improved child outcomes, but the associations are complex and interrelated.

• In typical programs (i.e. no special initiatives, PL or interventions) E4Kids children who start high tend to stay high and children who start low tend to stay low. This is true in an absolute sense: the children who are below the expected value for their age tend to stay there. Also true in a relative sense: the trajectories tend to clump together so that those who are low at baseline are lower than their peers at the end of 3 years.

• There is room to improve the quality of pedagogical practices to better support children’s learning - the programs observed generally offered stable caring environments yet were not strong in ensuring cognitively challenging, language rich experiences.

• Demonstrating high levels of instructional quality in play settings is challenging: pathways to improve intentional teaching within play need to be taken.

• Watch for further evidence of the links between quality of ECEC and the children’s outcomes – expanded results expected in 2015.