Strengthening children's early maths learning through creating supportive environments and enhancing relationships

Early Start Conference

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Context

- 1 in 4 children in Australia's most disadvantaged communities and 1 in 5 in all communities are behind in their first year of school
- NAPLAN – 1 in 10 low SES children don't meet national minimum standards
- Participation rates in maths declining at higher levels

Developing children's early maths skills

- Early maths skills predicts later achievement
- Many parents uncertain or negative
- Nurturing parents' capacity and confidence to guide children's development critical, esp for disadvantaged families
- Maths in the 'everyday'
- Play is vehicle for maths development – National Early Years Framework
- Interesting, useful, fun ➲ positive disposition

Let's Count early maths program

- Designed by Profs Bob Perry, Ann Gervasoni and The Smith Family to improve maths skills of children 3 to 5
- Esp for children from **disadvantaged** backgrounds

Principles

- Strong partnerships between families and early childhood educators.
- All children, parents/carers and educators can be powerful mathematicians.
- Use of play, discussion and investigation as key pedagogical approach.
- Maths learning can be enjoyable for all when undertaken in relevant and meaningful context.

Let's Count – early maths program

Workshops for early years educators to enhance their skills and confidence to develop children's maths learning and support parents to do the same.

Educators engage with parents; give guidance on using everyday activities to notice, explore and talk about maths with their children.

Parents use ideas and resource packs to explore maths with children

Young children engaged in home environment develop stronger skills and positive attitude to maths

Let's Count – Evaluation methodology

- 4 communities and multiple early learning and care settings, 3 year timeframe

Children

- Maths Assessment Interview (MAI) - 9 domains, task-based, interactive, designed for young children (previously children in 1st yr of school)
  - Before and after participation , 2013 and 2014
  - Similar group from same centres who didn't participate, 2012
  - Approx 460 children

Educators

- Surveys pre and post training – 80+, 2013 and 2014
- Interviews at 3 points over a year – 43, 2013 and 2014

Parents/carers

- Interviews at 3 points over a year – 43, 2013 and 2014

Children's results

Task	March 2013 %	Dec 2013 %	Dec 2012 %
	SAME GROUP OF CHILDREN WHO PARTICIPATED IN LET'S COUNT		SIMILAR CHILDREN WHO DIDN'T PARTICIPATE
Count a collection of at least 20 items	17	55	37
Order numeral cards 0 to 9	10	52	31
Knows one less than 7 without recounting	10	40	25
Make a collection of 5 when asked	63	90	77
Accurately compares two lengths string and stick	43	73	65
Continues pattern	16	48	34

Results for 2014 were very similar

Educator – parent engagement

Proportion and frequency of parents talking with educators about maths, educator surveys

Proportion of parents	Survey 1 %	Survey 2 %
All	0	6
Most	7	12
Some	58	76
None	35	6

Proportion of parents	Survey 1 %	Survey 2 %
Daily	0	0
Weekly	0	24
Occasionally	65	67
Never	35	9

***Let's Count* influenced parent - educator conversations**

Key themes from educators

- Helped strengthen relationship with families and engage them with maths learning
- Supported continuity of learning between early childhood setting and home
- Positively impacted on educators' confidence and teaching practice
- Noticed children's engagement and advances in maths learning

It's been positive for building relationships with parents because they've felt we're acknowledging them as their child's educator...

*It's become a very family orientated project at home…*Let's Count's *brought the family on board.*

Lots of parents are emailing and bringing in photos and telling us wonderful stories about maths things their children are doing.

Key themes from parents

- Parents able to notice maths in everyday interaction with children
- Children's growing confidence, knowledge, enjoyment with maths
- Positive impact within families – older and younger children
- Increased communication about maths between parents and educators

Parents' comments

Having that program has boosted my confidence enough to say ok, she's catching on to this very quickly, she's talking about it at home, in general conversation…maybe she's going to be ok to go to school.

It was a nice reminder how simple things can be at home and immediate in your environment.

…it's definitely made me more aware of using more technical terms with her…

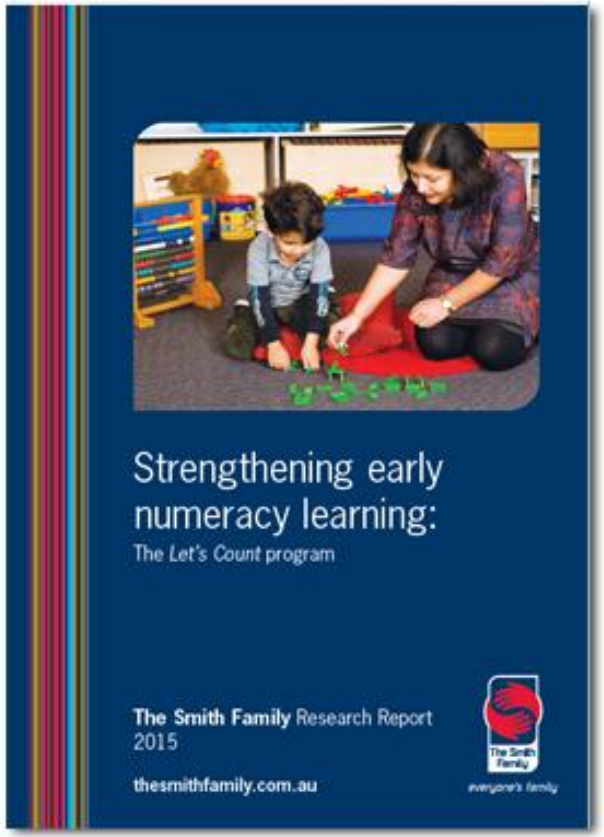
I definitely think my relationship with (educator) has changed …I talk to her so much more. We're engaging so much more. Even with other parents. We have this Facebook page as well, we're all communicating, all uplifting each other.

"I think it's fabulous, exactly how kids should learn most things, particularly when it can start at home from such a young age and not just at school in a formal setting. Sometimes you don't realise as a parent that you're actually doing it quite often, much more than you think…. it is a holistic approach rather than just 'Let's count to 10'."

Conclusion

- Positive impact on children, parents and educators
- Strong growth in children's maths knowledge and skills
- Stronger skills than children who didn't participate
- Positive maths attitudes and dispositions
- Parents and educators increased skills and confidence to support maths development of children
- Relationship between parents & educators enhanced ➲ continuity of supportive learning environments - early childhood setting and home
- Partnerships the basis for improving children's early maths development and for undertaking complex evaluations

More information



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