# Let's Count: Success and expansion

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This symposium reports on recent developments for *Let's Count*, the preschool mathematics program implemented across Australia since 2010 by The Smith Family, a national, independent children's charity helping disadvantaged Australians to get the most out of their education, so they can create better futures for themselves. *Let's Count* is an early mathematics program that has been designed to assist educators in early childhood contexts to work in partnership with parents and other family members to promote positive mathematical experiences for young children (3-5 years). The program aims to foster opportunities for children to engage with the mathematics encountered as part of their everyday lives, talk about it, document it, and explore it in ways that are fun and relevant to them. The success of *Let's Count* has been reported many times at MERGA conferences, including the Beth Southwell Practical Implications Award paper in 2016.

The papers presented in the symposium will build on the success of *Let's Count* by considering a number of recent initiatives in delivery and scaling up of the project in order to make it available to a more extensive set of participants across Australia and internationally. Based on a series of program evaluations, the three papers in the symposium will consider delivery methods beyond the usual face-to-face workshop presentations to early childhood educators and will anticipate future developments as *Let's Count* undergoes a program revision during 2020-2021.

The proposed symposium program is as follows. Introduction to Let's Count (Bob Perry) – 5 minutes

- Paper 1: Ann Gervasoni & Anne Roche Let's Count in an online environment
- Paper 2: Amy MacDonald & Paige Lee Let's Count in early childhood teacher education
- **Paper 3:** Sue Dockett & Bob Perry *Let's Count* and community professionals

Discussant – Wendy Field, Head, Programs and Policy, The Smith Family - 10 minutes Questions and Discussion

The symposium will be chaired by Bob Perry and there will be ample time for discussion and questions.

## Let's Count in an online learning environment

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Let's Count Online is a new e-learning approach to delivering Let's Count professional learning. It was evaluated in 2018. The findings suggest that the e-learning platform was successful, and that the outcomes for educators were similar to those achieved by participants using the face-to-face workshop professional learning model. Several key differences in outcomes were noted, and these inform recommendations for refining Let's Count Online.

### Introduction

Let's Count (Gervasoni & Perry, 2017) is an early mathematics program that assists educators, in early childhood contexts, to work in partnership with parents and other family members to promote positive mathematical experiences for young children. Professional learning associated with Let's Count was first offered for educators in 2010 using a face-to-face workshop learning environment and between session activities and investigations. Following the positive evaluation of Let's Count, (Gervasoni & Perry, 2015a, 2015b; Perry et al., 2016), The Smith Family received Federal Government support to make Let's Count available to more communities across Australia. It was then decided to develop and pilot a complementary e-learning professional learning approach, Let's Count Online, with the capacity to reach more educators across Australia.

An important goal when developing *Let's Count Online* was maintaining the successful outcomes achieved through the original *face-to face* professional learning model. For this reason, *Let's Count Online* was evaluated in 2018 to determine the extent to which the outcomes achieved by educators who participated in the *Let's Count Online* course were similar to or varied from the outcomes achieved by educators who participated in the face-to-face model during the *Let's Count* longitudinal evaluation (Gervasoni & Perry, 2015a, 2015b; Perry et al., 2016). It was anticipated that the evaluation findings would assist The Smith Family to determine the effectiveness of the *Let's Count Online* platform for delivering the professional learning underpinning the *Let's Count* initiative for families. The evaluation also sought to gain insight about participants' experiences of the e-learning platform, and its effectiveness, so as to recommend any improvements for the *Let's Count Online* Course. The evaluation method and findings are presented in this paper, along with recommendations for further developing *Let's Count Online*.

#### **Evaluation Method**

The *Let's Count Online* evaluation used a mixed methods approach, drawing on both quantitative and qualitative approaches. Data were collected through online surveys, and telephone interviews with participants. The design of the surveys and interview schedules were informed by the instruments used in the *Let's Count* Longitudinal Evaluation (Gervasoni & Perry, 2015a) to enable valid comparisons to be made between the participant outcomes for the two program delivery formats.

All those who registered for *Let's Count Online* during the 2018 evaluation period (n=814) were invited to participate in the evaluation and complete two online surveys – one prior to commencement of the *Let's Count Online* course (Time 1) and two weeks after

2021. In Y. H. Leong, B. Kaur, B. H. Choy, J. B. W. Yeo, & S. L. Chin (Eds.), Excellence in Mathematics Education: Foundations and Pathways (Proceedings of the 43<sup>rd</sup> annual conference of the Mathematics Education Research Group of Australasia), pp. 97-100. Singapore: MERGA.

completion of the course (Time 2). The Time 1 (T1) survey was completed by 207 participants and the Time 2 (T2) survey by 60 participants. Thirty-three participants completed both surveys. Participants were drawn from every state and territory in Australia. Telephone interviews with seven case-study participants took place twice – two weeks after the commencement of the e-learning course and two weeks after its completion. The duration of the course was approximately 8 weeks and took place at a time of participants' choosing.

Qualitative and quantitative data from the surveys were used in conjunction with interview data to provide a picture of any changes in the respondents' reported attitudes to mathematics and mathematical pedagogies, and the effectiveness of the e-learning platform for professional learning. Data from the *Let's Count Online* Evaluation were compared with findings from the *Let's Count* Longitudinal Evaluation (Gervasoni & Perry, 2015a) to determine whether the outcomes for participants varied in respect to their mathematics dispositions, skills, and levels of confidence in developing children's mathematical knowledge. Data were also analysed to determine how *Let's Count Online* might be improved to deliver the *Let's Count* professional learning program more effectively.

## **Key Findings**

A summary of the key evaluation findings is presented below. Of particular interest are comparisons between educators' dispositions, skills and confidence; their attitudes to a range of teaching strategies; and their engagement with the professional learning models.

## Dispositions, Skills and Confidence of Educators

With respect to educators' attitudes to mathematics (either increasing or decreasing) between T1 and T2 surveys, the findings showed that these were similar for most statements for both the online and face-to-face cohorts. For example, for both programs at T2 there was an increase in the proportion of participants who believed *mathematics is something that I do every day*, and *their liking of maths*. Also, the *Let's Count Online* participants' confidence in developing children's mathematical knowledge increased more than for the face-to-face course participants, however, their confidence was lower overall.

### Educators' Attitudes to a Range of Mathematical Teaching Strategies

At both T1 and T2, educators were presented with 24 statements about a range of mathematical teaching strategies and asked to indicate whether they agreed or disagreed on a five-point Likert scale. For 15 of the 24 statements, the initial and final percentages, as well as the change in percentage, are relatively similar between participants in the two programs. In contrast, for some statements there was a reduction in the proportion of educators in the face-to-face program who indicated that they agreed with the statement from T1 to T2, but this proportion increased for the online course participants. These statements suggest that the online course appeared to have promoted, for some participants, pedagogies that were more school like or traditional, than did the face-to-face course. These trends are reflected in the increased 'schoolification' of much of early childhood education (Moss, 2013), but are not well-aligned to approaches recommended for mathematics education in the early years. Illustrative statements were:

It is important that children represent their mathematics through the use of conventional symbols.

Workbooks and worksheets are essential in learning and teaching mathematics in early years settings.

It is important that the experience of *Let's Count Online* is strongly aligned with the theoretical underpinnings of *Let's Count*, early childhood approaches to learning and teaching, including those espoused by the *Early Years Learning Framework for Australia* (Department of Education, Employment and Workplace Relations [DEEWR], 2009), and reform approaches to mathematics education. The findings suggest that this is mostly, but not always true, of *Let's Count Online*.

A key focus of *Let's Count* is engagement between educators and family members centred on children's mathematics learning. In the T2 survey, *Let's Count Online* participants rated their engagement with a set of teacher practices before and after Let's Count Online. They reported lower levels of 'talking about children's mathematics learning with family members' or 'building on the mathematics that family members tell them children are using at home' prior to the program, (means of 4.4 and 4.1 out of 10 respectively). The mean rating for these practices after *Let's Count Online* was 7.0 and 6.9 respectively. This suggests that the course prompted an increase in both practices, but these activities were less common for some.

## Comparison Between Let's Count Online and Face-to-Face

Interview data indicated that there was not as much accountability for participants' engagement and learning in the online course compared with the face-to-face model. This was possibly due to the different level of accountability for the between session tasks embedded in *Let's Count Online*, compared to the *Family Gatherings Report* required of the face-to-face participants. In the face-to-face model, participants presented the outcomes of family engagement strategies to other participants and received feedback and inspiration from the experiences of colleagues, and from the course facilitators. They also discussed their observations of children's mathematics learning during the period between workshops, and had the opportunity for this learning to be extended through the guidance of facilitators. This learning opportunity was not included in the *Let's Count Online* model.

The findings also suggest that there was a lesser understanding of the aims of *Let's Count* developed by *Let's Count Online* participants. Interview data suggested that the course was more likely to reinforce the pedagogical practices that the educators were already using, rather than stimulating new pedagogical practices. Also, the *Let's Count* mantra of *Notice*, *Explore*, *and Talk About Mathematics* was less a feature of *Let's Count Online* participants' reflections in the interviews and survey data than for face-to-face participants.

### Low Level of Difficulty for Let's Count Online

The findings suggest that the same level of professional and academic rigour may not be afforded by the *Let's Count Online* learning environment compared with the face-to-face workshop environment. This view was reinforced by one participant stating that *Let's Count Online* did not reach the level of challenge he was seeking for his staff, and another who explained that *Let's Count Online* was the sort of course she could complete while watching TV with her family. Perhaps the *online* course is more characterised by passive engagement with the intended learning opportunities than active engagement. Possible strategies to increase the level of difficulty and active engagement for participants may include providing a *Let's Count Online* facilitator who can provide online or real-time feedback, or the opportunity to complete the course in workplace groups to promote discussion and feedback.

#### Conclusion and Recommendations

Overall, the findings from the *Let's Count Online* evaluation suggest that the e-learning platform was successful for delivering professional learning for educators associated with the *Let's Count* program. The participants in the evaluation were very positive about *Let's Count Online*, and many appreciated the chance to access the professional learning when opportunities for the face-to-face workshops were not available in their region. However, some educators endured technical issues and a lack of online support for rectifying these. There were some important differences noted when comparing the *Let's Count Online* professional learning model with the face-to-face model. For example, the reported low level of difficulty, passive engagement and lack of accountability for learning reported by some *Let's Count Online* participants suggests that the *Let's Count Online* course may benefit from some further development.

The following recommendations provide direction for how *Let's Count Online* may be refined and strengthened to better assist educators meet the aims of *Let's Count*.

- 1. Develop opportunities for feedback associated with the learning activities embedded in *Let's Count Online*. This may include a facilitator to provide online or real-time feedback, or the opportunity for participants to complete the course in groups within a workplace or early years setting, with a leader in each setting to facilitate discussion about the professional learning, and monitor and support engagements with parents, and observations about children's mathematics use, language and learning.
- 2. Review the *Let's Count Online* content and materials to identify and alleviate any dissonance with the theoretical underpinnings of *Let's Count*.
- 3. Ensure that any refinement of the *Let's Count Online* course includes:
  - a. Sustained emphasis on the *Let's Count* mantra notice, explore and talk about mathematics in everyday contexts.
  - b. Strategies to sustain educator/parent communication across an entire year of implementation.
  - c. A prominent, actively monitored help-line, including email and phone support.

#### References

Department of Education, Employment and Workplace Relations (DEEWR) (2009). Early Years Learning Framework for Australia. https://docs.education.gov.au/node/2632

Gervasoni, A., & Perry, B. (2015a). *Let's Count Longitudinal Evaluation Unpublished Final Report 2015*. Melbourne: Monash University.

Gervasoni, A., & Perry, B. (2015b). Children's mathematical knowledge prior to starting school and implications for transition. In B. Perry, A. MacDonald, & A. Gervasoni, *Mathematics and transition to school - International perspectives* (pp. 47-64). Dordrecht, The Netherlands: Springer.

Gervasoni, A. & Perry, B. (2017). Notice, explore, and talk about mathematics: Making a positive difference for preschool children, families, and educators in Australian communities that experience multiple disadvantages. In J. Sarama, D. H. Clements, C. Germeroth, & C. Day-Hess (Eds.). *The development of early childhood mathematics education*, Vol 53, pp. 169-225). ACDB, UK: Academic Press.

Moss, P. (2013). The relationship between early childhood and compulsory education: A proper political question. In P. Moss (Ed.), *Early childhood and compulsory education: Reconceptualising the relationship*, pp. 2-49. London: Routledge.

Perry, B., Gervasoni, A., Hampshire, A., & O'Neill, W. (2016). *Let's Count*: Improving community approaches to early years mathematics learning, teaching and dispositions through noticing, exploring and talking about mathematics. In B. White, M. Chinnappan, & S. Trenholm, (Eds.). *Opening up mathematics education research (Proceedings of the 39th annual conference of the Mathematics Education Research Group of Australasia)* (pp. 75–84). Adelaide: MERGA.

## Let's Count in early childhood teacher education

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In 2011, the *Let's Count* professional learning program was developed into an elective distance education subject offered at Charles Sturt University. The resulting subject, EMC101: Let's Count, has been offered every year since 2012, and has to date been completed by 796 students. This paper details the subject design and provides enrolment and evaluation data that attest to the success of the subject.

## History and Development

In 2011, the first author was contracted by The Smith Family to develop the *Let's Count* program into a distance education subject at Charles Sturt University, as a means of sustaining the *Let's Count* initiative and achieving a wider impact on the early childhood field (MacDonald, 2015). The subject EMC101: Let's Count has been offered at Charles Sturt University since mid-2012, and is primarily offered as an elective in the Bachelor of Education (Birth to Five Years) degree program. It is also available as an elective in a number of other degree programs across the University, and is available for single subject study, independent of a degree program. The authors of this paper have both been Subject Coordinators of EMC101, and have been responsible for teaching, developing, and evaluating the subject.

## Subject Design

EMC101: Let's Count is designed to be an elective subject that brings together pedagogy and practice. The subject provides a link between the workplace or community of the student and their professional practice. The subject is designed so that a series of six modules deliver the content, which is supported by current literature, anecdotes, reflective discussion questions, and practical examples. The modules provide various ways for students to engage with the content and critically reflect on their pedagogy and practice in relation to young children noticing, talking about and exploring mathematics in everyday situations. Key examples are provided, and students can use discussion forums and text-based chat sessions to engage with the modules and associated activities as well as their peers and tutors. After the modules have been delivered, the *Let's Count* program ideas are put into practice through two assessment items: (1) Family Gatherings; and (2) Learning Stories.

### Family gatherings

For assessment item 1, students are required to plan, implement and reflect on a Family Gathering, and present this using Microsoft PowerPoint©. This assignment is a workplace or community-based assessment item, where students actively engage with families in their setting to support them to notice, talk about and explore maths in everyday situations with their children. The Family Gathering can be organised and run in any way that suits students and the families with whom they collaborate. Family Gatherings have taken many forms, and each session new and inventive ways are explored by students. Examples include: using private social media groups, email, early years communications apps; individual face-to-face meetings; larger group information sessions; casual conversations during pick up and drop

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off times; home visits, park play sessions, excursions; and often, a mixture of some of the above. Students are encouraged to consider the context of their families as well as their own context during the planning of their Family Gathering, and also to be flexible and responsive to the needs of the families they work with, as well as their own circumstances. There is no one 'right' way to complete their gathering; the aim is simply to support families to notice, talk about and explore maths with their children.

At the end of the session, after assessment item (2) has been submitted, students are invited to share their Family Gathering presentation with their peers. Students who consent to this, have unmarked and de-identified versions of their presentations uploaded by the Subject Coordinator to a showcase location in the learning management system, and all students are able to access and view these presentations. On average, between five and ten students per session opt to share their work with their peers; however, many more view the presentations. Once some are uploaded, it is not uncommon for other students to email with permission to share theirs, after seeing the value in the showcase. Interestingly, students who received all variation of grades opt to share their work.

#### Learning stories

For assessment item (2), students are required to write three short learning stories as well as present a 1,000-word statement on the role of learning stories in early childhood mathematics education, including assessment and communication with families. The learning stories can be taken from the Family Gathering or from additional observations of children that were involved in the Family Gathering. Students are required to include information on the context, an analysis of the mathematical learning that occurred, as well as provide meaningful feedback and suggestions to the child and family, and suggest ways they plan to support the child as the educator. The statement requires students to critically consider the role of learning stories in early childhood mathematics education. Students are asked to specifically consider learning stories as a form of communication with families, as well as a method of mathematics assessment.

#### **Enrolment Data**

EMC101 has to date been completed by 796 students. Charles Sturt University offers three sessions of study per year: Session 30 (for example, titled 201630), which runs March-June; Session 60, which runs July-October; and Session 90, which runs November-February, including the Christmas-New Year period. The subject was first offered in 201260, and was offered in all three sessions of study until 2018, at which point a change in the BEd (Birth to Five) course structure reduced the subject offerings to the 30 and 90 sessions only. Figure 1 displays the enrolment patterns for EMC101 across the nine years for which it has been offered. The student numbers displayed represent the number of students who completed the subject in each session. As can be seen in Figure 1, enrolments have consistently trended upwards across the years of offering the subject. Dips are evident in the summer session offerings, as one might expect. Unsurprisingly, the majority of enrolments are drawn from the BEd (Birth to Five) program. The subject also consistently attracts enrolments from the Bachelor of Educational Studies degree program; a program servicing students who are pursuing careers in, for example, community education or classroom support. However, it is interesting to note the participation from a range of other degree programs including Bachelor of Arts, Bachelor of Accounting, and Bachelor of Science. Anecdotal evidence indicates that students from these diverse degrees are attracted to the subject because it develops their skills in working with children and families, as well as communicating mathematical ideas.

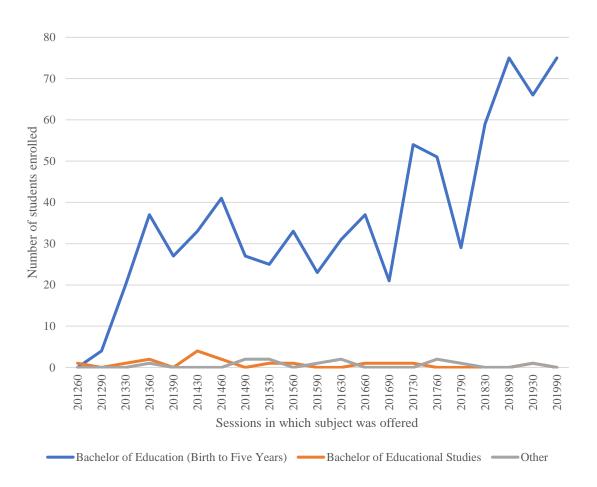


Figure 1. Enrolment pattern for EMC101 2012 - 2019

#### **Evaluation Data**

Subjects at Charles Sturt University are formally evaluated through a Subject Experience Survey (SES), which is completed by students in all subjects across the university. The survey consists of 21 compulsory core items (18 Likert scale items and three short response items) as well as a number of optional items at the Subject Coordinator's discretion (Charles Sturt University, 2020). EMC101 consistently achieves SES scores which are both very high (>4 on a 5-point scale) and higher than the School mean. Example SES data from three recent offerings is presented in Table 1.

Table 1
Example Student Evaluation Survey (SES) data

	201830		201890		201930	
Item	Subject Mean	School Mean	Subject Mean	School Mean	Subject Mean	School Mean
The learning activities in this subject helped me to learn effectively.	4.4	3.9	4.3	3.8	4.4	4.0

The learning activities in this subject created opportunities for me to learn from my peers.	3.8	3.7	4.0	3.5	4.1	3.7
This subject incorporated study of current content.	4.3	4.1	4.3	4.1	4.4	4.2
The assessment tasks in this subject helped me to learn effectively.	4.4	3.9	4.3	4.0	4.4	4.0
I could see a clear connection between the learning outcomes, learning activities and the assessment tasks in this subject.	4.3	4.1	4.3	4.1	4.5	4.1
The learning activities enabled me to judge the quality of my own work.	4.3	3.7	4.3	3.7	4.2	4.1
The learning activities in this subject extended my knowledge.	4.4	4.0	4.3	4.0	4.4	4.1

In addition to the SES data, the subject has been evaluated through a small-scale research evaluation. Past EMC101 students were invited to participate in an email interview about their experiences in the subject (MacDonald, 2015). Eighteen educators participated in the evaluation and all reported positive experiences in the subject, evident through comments such as the following:

I'm not confident with maths but after undertaking the course I felt I benefitted as well as the children. It gave me the confidence to implement more 'maths' type activities and to talk confidently about maths [Stephanie, VIC].

I've learned so much from this subject and it deepened my knowledge in maths. I can understand maths better through children's play and I discovered that I can 'see' mathematics all around me every day [Apple, Brunei Darussalem].

I enjoyed doing the learning stories, in particular giving advice to the parents on how they can extend on mathematics learning at home. I encourage parents to be more hands on in their child's learning and recognise that they are the number one teachers of their child [Carissa, NSW].

Through working on such projects with children and families as equal partners we are enabled to share and celebrate children's learning. The family I worked with were clearly proud of the child's numeracy understanding and thinking. The child was seen as competent by all and her family expressed an intention to further extend on her numeracy learning in their everyday lives [Sarah, NSW].

#### Conclusion

It appears that the translation of the *Let's Count* program to a university subject has been a successful endeavour. The elective subject consistently has a high participation rate, with 796 students completing the subject to date. The subject consistently performs well on formal subject evaluation surveys. Moreover, it can be seen from the research evaluation that students find the subject valuable for developing their confidence in mathematics, their ability to identify mathematics in children's everyday lives, and their skills in communicating with families around their children's mathematics learning.

#### References

Charles Sturt University. (2020). *Evaluating learning and teaching*. Available online from: https://www.csu.edu.au/division/learning-and-teaching/home/analytics-and-evaluations/eval-learn-teachhome

MacDonald, A. (2015). *Let's Count*: Early childhood educators and families working together in partnership to support young children's transitions in mathematics education. In B. Perry, A. MacDonald, & A. Gervasoni (Eds.), *Mathematics and transition to school: International perspectives* (pp. 85-102). Singapore: Springer.

## Let's Count and community professionals

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The Let's Count Community Professional Pilot 2019 took place in six sites across three states (New South Wales, Queensland and South Australia). The aim of the pilot program was to implement the Let's Count face-to-face program for the first time with a group of people who work with young children and their families but who are not trained early years educators working within early childhood education and care centres. This paper reports on the evaluation of the pilot program with specific emphasis on expanding the reach of Let's Count whilst maintaining its integrity and outcomes.

The authors were commissioned by The Smith Family to undertake an evaluation of the *Let's Count* Community Professional Pilot 2019. The aim of the evaluation was to ascertain the effectiveness of face-to-face implementation of the *Let's Count* program in mixed groups of early years trained, centre-based educators and other community professionals. Data were generated using surveys before and after the training sessions and telephone conversations after each of these sessions. Seventy-nine participants and six facilitators or program coordinators were involved in at least one aspect of the evaluation.

## Background

Since 2010, the *Let's Count* program in mathematics has supported centre-based early childhood educators using a face-to-face professional learning model in geographical sites across Australia consisting of two workshop days with approximately 4-6 weeks between the workshops. In 2019, The Smith Family specifically targeted these community professionals when mixed groups of early childhood educators and such community professionals undertook face-to-face *Let's Count* program sessions together and engaged in the between-sessions requirements of the program in their own workplaces. The *Let's Count* program and its impact on early childhood educators, young children and their families has been well documented (Gervasoni & Perry, 2017; Gervasoni et al., 2016; Perry et al., 2016; Perry & MacDonald, 2015). This paper reports on the evaluation of the *Let's Count* Community Professionals Pilot 2019. The research questions for the evaluation are listed in the Results section of the paper.

## Methodology

The Community Professionals Pilot 2019 was undertaken in six sites across three states (two sites in each of NSW, Queensland and South Australia). The evaluation used multiple methods involving both qualitative and quantitative approaches.

Both authors were present for the first session of each group in order to meet participants and undertake preliminary surveys and background discussion with all participants, *Let's Count* facilitators and Program Coordinators willing to be involved in the evaluation. As well, participants were asked if they would undertake the follow-up activities in the evaluation – two telephone conversations – one between the two program sessions and one approximately three weeks after the second session - and post-Session 2 online surveys. No child data were generated in this evaluation.

The numbers of participants in the Community Professionals Pilot 2019 and the evaluation are provided in Table 1. The community professionals came from many different backgrounds and endeavours including education (other than early childhood); social work; library and information science; business administration; aged care; sports coaching; sociolinguistics; music therapy; and law. There were paid and volunteer workers from libraries, playgroups, HIPPY (Hippy Australia, n.d.) and other community support groups.

Table 1
Participation in data generation

Participant Type		Data Generation Approach			
Early Childhood Educator (E)	Community Professional (CP)	Survey 1	Survey 2	Conversation 1	Conversation 2
44	35	44 E, 33 CP	12 E, 13 CP	14 E, 11 CP	7 E, 7 CP

## Results and Discussion

Only a summary of the results can be provided here. This is done by answering each of the research questions, with a particular emphasis on the responses of the community professionals.

What were the community professionals' expectations of the program?

Many of the community professionals who participated in the *Let's Count* Community Professionals Pilot 2019 knew little about what to expect from the program before Session 1. All of the community professionals anticipated that the 'mixed' model would be of benefit to them as they would be learning alongside experienced early childhood educators. Some wondered whether they would be able to 'keep up' with the early childhood educators and some brought long-held reticence about their own abilities both to do mathematics themselves and to facilitate young children's learning of mathematics. There was no indication from the early childhood educators that they experienced any difficulties arising from the presence of the community professionals.

Great networking. Great experience. A big thing was that ideas bounced off each other. (CP)

There were no disadvantages [with the mixed group]. It was great to have different ideas, read about some, and get some ideas not out of long day care such as ways to give different ideas at home. Opportunity to think outside the box and give us new ideas. No problems, only advantages with community professionals group. It opened up my eyes. (E)

It was great to see the different perspectives of the community professionals, especially perspectives on what parents are doing and thinking when the community professionals go to family homes. We can't do that. It was great to see what they're doing – they often don't have a lot of resources, so must use basic things at home. (E)

What did the community professionals see as the benefits of engaging with Let's Count to themselves and their organisations?

Many of the community professionals have not only learned a great deal about facilitating young children's learning of mathematics from their experiences in *Let's Count* but have also used this knowledge in their own contexts. Many of them have different links with the families of the children with whom they interact than early childhood educators typically have, and these strong links have encouraged their use of *Let's Count*. Contexts

such as HIPPY, playgroups, library-based experiences, music therapy and several volunteering opportunities with children and families who have complex support needs have facilitated interactions around mathematics learning for children and families. Many of the community professionals now see that they can be leaders in their organisations around the establishment of effective practices in mathematics education.

It went really well and was an opportunity for us to grow and expand on what we learnt. It was a great starting point for young people's programs in the library.

Let's Count provided opportunities to think about what we could do and what is possible in our environment. It provided space and opportunity to brainstorm and hear about what other places are doing re talking with families about numeracy concepts and to reflect on what we are doing and what we can do as a team.

I will add *Let's Count* to the programs I am already involved in, including neighbourhood networks and refugee and migrant hubs.

What do community professionals see as the benefits of engaging with Let's Count to the children and families of their communities?

Being able to provide children and families who do not access centre-based early childhood education with appropriate, interesting and play-based mathematical experiences was seen as a major benefit of the community professionals' engagement with *Let's Count*. Many of the community professionals who participated in the *Let's Count* Community Professionals Pilot 2019 also enjoyed the opportunity to be involved in group professional development and in the recognition that the group gave them for their own work in the early childhood space.

This is valuable work because the focus is on parent engagement. It is important to influence a number of areas as not all children attend early childhood education centres. *Let's Count* has a place targeting and promoting needs of working with children and families in whatever context.

I liked the diversity of the group, across different learning environments. I enjoyed meeting people and seeing how *Let's Count* really helped across the programs, from very young children to Kindergarten aged 3-5. Learning about how people integrate maths with very young children as well was interesting. It made you think outside the square, more than about your own little environment. You can learn so much from each other. It is important to be aware of other groups and programs in your community.

In what ways did the early years trained educators experience the Let's Count program sessions?

As for the community professionals, early childhood educators participating in the *Let's Count* Community Professionals Pilot 2019 were very satisfied with the 'mixed group' model. They were particularly grateful for the diversity of perspectives which the community professionals brought to the training sessions and for the variety of approaches they adopted in using *Let's Count* in their contexts. Many of the early childhood educators praised the ways in which some community professionals were able to interact with both children and families and wished for the same flexibility in their own settings. Many early childhood educators recognised that the *Let's Count* program was not 'rocket science' and, in some cases, reinforced and extended current practice while others were grateful for the 'reminder' about what was possible.

Different perspectives were an advantage. We are supporting all children, not all of them are at early childhood education centres. A lot of children are at home not attending early childhood education

centres but may go to library, so we can reach more children and families. We all learn from each other and there were some really good ideas. We are here for all children and the whole community.

Did the pilot work? Really well. Some non-educators apologised when presenting, but we thought they brought different perspectives that were very helpful. They made us think about different ways and about how they engage with different contexts, it added a new dimension. It was really good. I would encourage everybody to take the opportunity to do *Let's Count* training.

Librarians do it differently. They have parents there, can share parent information and have games out for parents to try. All groups should be mixed. It is much more beneficial with community professionals than just early childhood educators. All [participants] took something different away from the training.

Let's Count is applicable to all working with children and families.

#### Conclusion

The 'mixed group' model of the *Let's Count* training program where early childhood educators and community professionals undertake the program together has worked well for all involved. There have been real benefits to early childhood educator participants in that they have seen different ways for interacting with children and families and different ways of facilitating the mathematics development of young children than they would have been exposed to in a more homogenous group of participants. Community professionals have not only learned that mathematics learning can be incorporated into their core work but also that they can do this with minimal disruption to their programs. All participants have indicated that they really valued the opportunities to network with other professionals from across their communities who are also committed to the education and wellbeing of children and families. A number of participants have indicated that they would like to see the community professionals model as the norm in terms of face-to-face *Let's Count* training and this recommendation has been accepted by The Smith Family.

#### References

- Gervasoni, A., & Perry, B. (2017), Notice, explore, and talk about mathematics: Making a positive difference for preschool children, families, and educators in Australian communities that experience multiple disadvantages. In J. Sarama, D. H. Clements, C. Germeroth, & C. Day-Hess (Eds.), *Advances in Child Development and Behavior, Vol. 53* (pp. 169-225). Burlington: Academic Press.
- Gervasoni, A., Perry, B., & Parish, L. (2015). The impact of *Let's Count* on children's mathematics learning. In M. Marshman, V. Geiger, & A. Bennison (Eds.), *Mathematics education in the margins* (Proceedings of the 38th annual conference of the Mathematics Education Research Group of Australasia), pp. 253–260. Sunshine Coast: MERGA.
- Hippy Australia. (n.d.). HIPPY. https://hippyaustralia.bsl.org.au/
- Perry, B., Gervasoni, A., Hampshire, A., & O'Neill, W. (2016). *Let's Count*: Improving community approaches to early years mathematics learning, teaching and dispositions through noticing, exploring and talking about mathematics. In B. White, M. Chinnappan, & S. Trenholm, (Eds.). *Opening up mathematics education research (Proceedings of the 39th annual conference of the Mathematics Education Research Group of Australasia)* (pp. 75–84). Adelaide: MERGA.
- Perry, B., & MacDonald, A. (2015). Educators' expectations and aspirations around young children's mathematical knowledge. *Professional Development in Education*. 41(2), 366-381. https://doi.org/10.1080/19415257.2014.990578