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.

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 43rd annual conference of the Mathematics Education Research Group of Australasia)*, pp. 96. Singapore: 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.

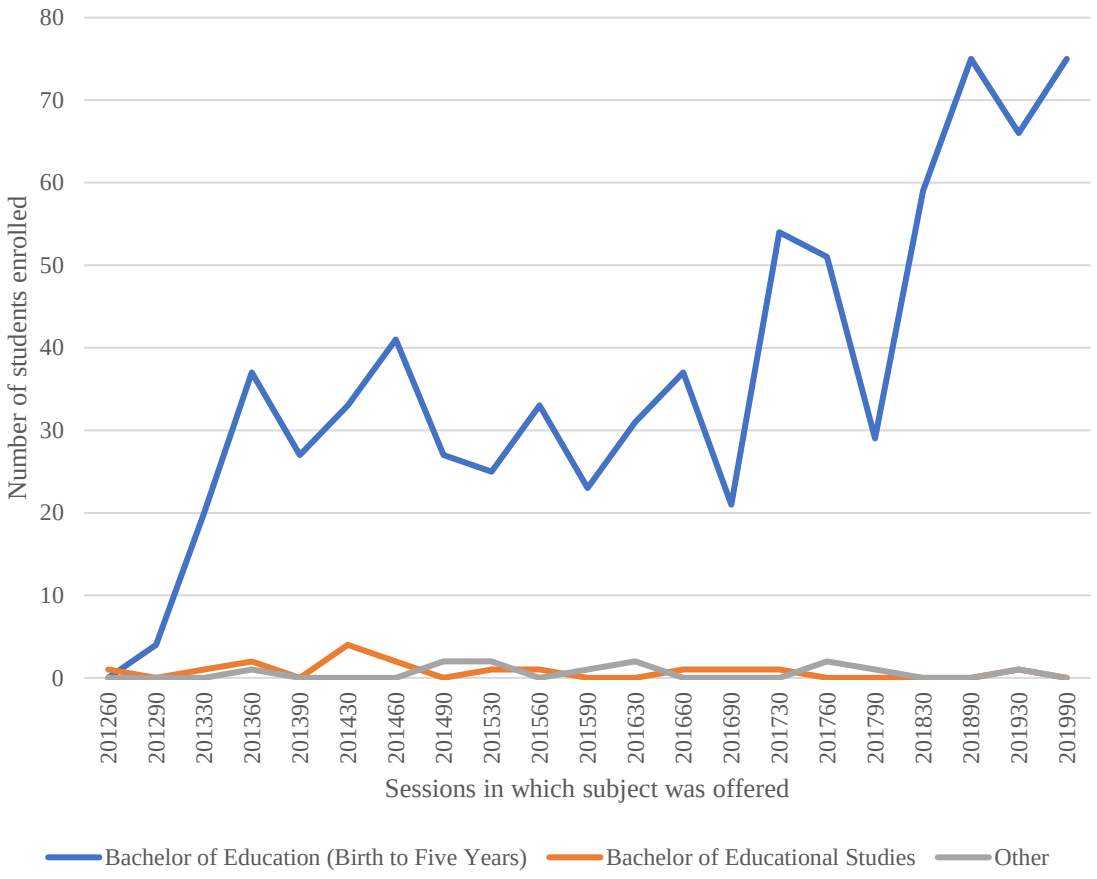

Figure 1. Enrolment pattern for EMC101 2012 - 2019

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

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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.