



THE MATHEMATICAL  
ASSOCIATION OF VICTORIA



# 2024 Melbourne Mathematics Conference



The Mathematical Association of Victoria (MAV) in collaboration with The University of Melbourne's Faculty of Education present a conference focusing on transformations: an opportunity to reflect upon and redefine our practice.

## TRANSFORMATIONS: An opportunity to reflect upon and redefine our practice.

Embracing reflective practice stands as the cornerstone of implementing effective teaching pedagogies. Reflection serves as a pivotal tool that empowers educators to continuously refine and elevate their teaching approaches by providing a platform to analyse, assess, and identify areas for future professional development. However, engaging in purposeful reflection can often prove challenging amidst the dynamic and ever-evolving landscape of school education.

### Stream 1: Primary mathematics teaching and learning (F-6)

Friday 14 June, 2024

For all primary teachers to build confidence and develop professional ability as a primary mathematics educator in a supportive, hands-on environment.

#### Focus includes:

- exploring the effectiveness of reflection as a tool for educators to continuously refine their teaching approaches
- understand the key changes to the Victorian Curriculum Mathematics V2.0
- using formative and summative assessment to understand the learner's progression
- developing as a professional educator

### Stream 2: Early childhood teachers

Friday 14 June, 2024

For early childhood teachers to build confidence and develop proficiency in early mathematics education.

#### Focus includes:

- playful pedagogies
- numeracy competencies
- mathematics proficiencies and their place in early mathematics education

Register now: <https://bit.ly/3xrXZpL>

#### Keynote sponsors



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## Early childhood mathematics teaching and learning

### Friday 14 June, 2024

Due to popular demand, the early childhood stream of the Melbourne Mathematics Conference returns! Our program is tailored to highlight fantastic examples of embedding rich mathematics education into the daily lives of our youngest learners, while also sharing recent research findings in the field. Come join us as we embark on the newest chapter of early childhood mathematics education.

Session	Presenters	Title	Room
Registration 8.30am	Ground level, Kwong Lee Dow Building, 234 Queensberry St, Faculty of Education, The University of Melbourne		
Welcome and Workshop 1 9am–10.15am	Cristina Guarrella and Cath Pearn	A1: Playful maths transition in the early years	Q218
Break: 10.15am–10.45am			
Workshop 2 10.50am–11.50am	Katherine Canobi, Halina McNally, and Jane Page	B1: Supporting the numeracy competencies needed for school mathematics: Early childhood educators' wellbeing and views on mathematics teaching and learning	Q218
Workshop 3 11.55am–12.55pm	Rachel Pollitt and Sakan Pyseth	C1: Play-based mathematics and the proficiencies	Q218
Lunch and networking: 12.55pm–1.45pm			
Workshop 4 1.45pm–2.45pm	Melissa Dann and Rebecca Waingold	D1: More than numbers... creating a learning environment where every child can confidently navigate mathematical experiences with proficiency and joy.	Q218
Workshop 5 2.50pm–3.50pm	Andrew Lorimer-Derham	E1: Happy hour begins early! Happy hour is embedded into this session. Join us for a chat, to network and debrief.	Q230



*Reflective practice encourages educators to continuously refine their teaching methods, adapt to the evolving needs of their students, and strive for continuous improvement in mathematics instruction. By fostering a culture of reflection, mathematics educators can enhance their teaching effectiveness and ultimately support students in achieving deeper mathematical understanding.*

**Register now**  
<https://bit.ly/3xrXZpL>

## Day 2: Early childhood mathematics teaching and learning

Friday 14 June, 2024

Time	Title/abstract	Presenter biography
Keynote 1: 9am-10.15am	<p><b>A: Playful maths transition in the early years</b></p> <p>Play is a flexible, creative, enjoyable and intrinsically motivated endeavour that provides a numeracy context for mathematics teaching and learning in the early years. As a pedagogy, playful learning involves teachers' intentional use of evidence-based learning objectives to inform the preparation of meaningful learning environments that promote play and learning through teacher-child interactions (Ilgaz et al., 2018). Play is often described as the, 'work' of young children in early childhood education and care (ECEC) settings and children's familiarity with playful pedagogies and their use in school settings can be critical for positive transitions to school. In this workshop, we provide hands on opportunities to develop playful numeracy and mathematics experiences that support children's transition from ECEC to their first year of school, aligned with both the EYLF 2.0 and the Victorian Curriculum Mathematics V2.0</p>	<p><b>Cristina Guarrella and Cath Pearn</b></p> <p>Dr Cath Pearn is a lecturer in mathematics education at The University of Melbourne. She has taught in the Master of Teaching programs across all levels: early childhood, primary and secondary. Cath has provided professional development for South Australian teachers and educators in the Preschool Numeracy and Numeracy R-2 programs. She is particularly interested in the identification and assistance for students at all levels mathematically 'at risk' of not meeting national minimum standards and those who are not achieving their mathematical potential. Cath is also a Senior Research Fellow in the Assessment and Reporting Division at ACER. Cath developed Mathematics Intervention, a program for Year 1 students mathematically 'at risk', which she continues to support. Her PhD investigated the links between fractional competence and algebraic reasoning of middle-years students.</p> <p>Dr Cristina Guarrella is a Melbourne Postdoctoral Fellow at The University of Melbourne. Applying a bioecological approach, Cristina examines teaching interactions within context to understand influences on teaching practice. Cristina's current research aims to contribute to the quality of assessment practice in early childhood education and care by developing and supporting teachers to embed learning progressions that articulate children's knowledge and skills development in science, technology, engineering and mathematics. Cristina has co-authored a range of teaching resources including the NT Preschool Science Games and publishes in the area of early childhood science education.</p>

Workshop 1:  
10.50am-  
11.50am

**B1: Supporting the numeracy competencies needed for school mathematics: Early childhood educators' wellbeing and views on mathematics teaching and learning**

The aim of this study was to investigate early childhood education and care (ECEC) teachers and educators' wellbeing and views on mathematics to better understand how these teachers and educators support the numeracy learning foundational to school mathematics. Eighty-five Australian ECEC teachers and educators completed an online survey comprising established scales of ECEC professional wellbeing, mathematics anxiety, attitudes and beliefs about teaching and learning mathematics in ECEC, and open-ended questions about children's mathematical learning experiences. Eight survey respondents also participated in focus groups. Findings indicate that teachers and educators' mathematics anxiety and wellbeing predict their views on mathematics teaching and learning in ECEC. Qualitative findings highlight the rich and varied practices and methodologies of ECEC teachers and educators in designing and facilitating opportunities for young children to recognise and explore key mathematical skills and concepts.

**Katherine Canobi, Halina McNally, and Jane Page**

Katherine is a research fellow in the REEaCh (Research in Effective Education in Early Childhood) Centre in the Faculty of Education at The University of Melbourne. She has worked as a lecturer in cognitive and developmental psychology and supervised PhD students in Australia and the UK. Katherine was also awarded an Australian Research Council (ARC) Discovery Projects grant to explore cognitive development in early arithmetic as sole chief investigator and ARC postdoctoral fellow at Melbourne University. Her research has been published in leading international journals in cognitive science, developmental psychology and educational psychology. She is currently researching early numeracy along with ways to understand, measure and enhance educator wellbeing and mathematical learning in early childhood.

Halina McNally is an early childhood educator and researcher. With a background in early childhood education and intervention, she has been a Parent-Child Mother Goose Trainer since 2018. Halina has worked in a variety of early childhood settings including standalone kindergarten, long day care, primary school, early childhood intervention, community health, and as a professional learning consultant. Much of her career has been as a keyworker at The Royal Children's Hospital Early Childhood Intervention Service. She is a Project Officer on the Educational and Developmental Gains in Early Childhood (EDGE) project in the REEaCh Centre. Halina holds a Bachelor of Education from RMIT University and is enrolled in a Graduate Certificate in Education Research at The University of Melbourne.

Jane Page is Professor and Associate Director, Pedagogy and Leadership Research, REEaCh Centre. She has been a teacher of young children and a university academic for over 38 years. Jane has researched with children, teachers and educators, educational leaders, service providers and families across Australia, and with the federal and state governments on a range of projects that build understandings of the impact of educational leadership, coaching, teaching and assessment practices on children's learning and development in the years prior to school. Through her research partnerships, Jane aims to generate new knowledge on the factors and processes that drive high-quality early childhood education to ensure equitable learning outcomes and pathways for young children.

<p>Workshop 2: 11.55pm - 12.55pm</p>	<p><b>C1: Play-based mathematics and the proficiencies</b> Early childhood play-based mathematics teaching and learning promotes children's foundational understandings of mathematics concepts during open-ended explorations, which at times flow between being child led, adult guided and intentionally taught. When children transition from early childhood programs into Prep classrooms, can open-ended play-based teaching strategies still meet the requirements of the Australian mathematics curriculum? This presentation expands on the way in which play-based teaching strategies can influence children's mathematics learning, across the proficiency strands of understanding, fluency, problem-solving and reasoning in number and algebra, measurement and geometry, statistics, and probability.</p>	<p><b>Rachel Pollitt and Sakan Pyseth</b> Dr Rachel Pollitt is a research fellow at the Research in Effective Education in Early Childhood Centre (REEaCh), Graduate School of Education, at the University of Melbourne. In 2015 she was awarded APA Scholarship for her PhD research which focused on mathematics and play-based assessment strategies in Early Childhood Education. Rachel has worked in the early childhood profession for the past ten years, as a director and teacher in early childhood centres, delivering professional learning, and leadership coaching. Her research interests include early childhood mathematics teaching and learning, growth coaching and educational leadership. Rachel has presented her research findings at conferences and in several publications which focus on practical ways to link research outcomes with teaching strategies.</p> <p>Sakan is a qualified early childhood and primary teacher with a deep interest for STEM education, particularly mathematics in the early years. Through his work at Haileybury Newlands ELC, he recognized the transformative potential of providing diverse learners with equitable access to STEM learning. Currently, Sakan is dedicated to integrating mathematical concepts into the curriculum through hands-on, inquiry-based approaches. His commitment extends beyond the classroom as he collaborates with colleagues to develop engaging STEM activities and advocates for the integration of technology to enhance learning experiences. With his innovative teaching methods and unwavering dedication, Sakan inspires young minds to embrace the wonders of mathematics, fostering a love for problem-solving and critical thinking from an early age. Sakan aspires to lay a solid groundwork for his students' future academic success and lifelong curiosity in STEM fields.</p>
<p>Workshop 3: 1.45pm -2.45pm</p>	<p><b>D1: More than numbers... creating a learning environment where every child can confidently navigate mathematical experiences with proficiency and joy.</b> How teachers reflect on embedding meaningful mathematical concepts is a conversation on the minds of early childhood teaching teams. The delicate balance of the way teachers provide opportunities for intentional teaching, while also embedding mathematical language in our everyday interactions with children, matters.</p> <p>In this presentation we will use vignettes from practice and educator responses that prompt us to reflect on what we do, and why. We will also explore ways to create a safe space for exploring, problem solving and discovering broad mathematical concepts in an early years context. Participants will have time to reflect and workshop on their understandings about what children need to know about mathematics for the transition to school.</p>	<p><b>Melissa Dann and Rebecca Waingold</b> Rebecca Waingold and Melissa Dann work at Early Childhood Management Services and are passionate and committed to supporting children to develop a positive and open disposition towards mathematical learning. Melissa is a teacher with 20 years of experience in early years education. Much of this time was spent in the primary school setting as a Foundation teacher. Melissa works as a practice coach to support teaching teams to reflect on their practice and develop their knowledge and skills. Melissa's open approach is centred in relationship and encourages curiosity and reflection.</p> <p>Rebecca is an experienced teacher working in sessional kindergartens. As director, Rebecca leads a team of passionate educators as they create a joyful and inclusive learning environment. Rebecca thrives on the challenge of working with diverse groups of children, ensuring that there is a place for all children in her program.</p>

<p>Keynote 2: 2.50pm – 3.50pm</p>	<p><b>E1: Happy Hour begins early!</b> This playful session will explore a range of creative activities designed to engage any learner, build skills and confidence and promote rich mathematical discussion. Come prepared to participate!</p> <p>This session will describe why ‘smiles’ are one of my key measures of success and demonstrate how a playful approach to teaching can completely transform student dispositions toward maths. This will be a very hands-on experience.</p>	<p><b>Andrew Lorimer-Derham</b> Andrew helps people find joy in maths. He has dedicated the last 10 years to helping bring more intentional fun into maths classrooms across Australia through unique hands-on games, puzzles and school workshops. Andrew’s greatest expertise is crafting rich mathematical activities students will happily give up their lunchtime to continue. He has recently partnered with Maths Mate to reimagine the Year 7-8 textbook. Andrew is the founder of Think Square and has worked with numerous math associations, Cricket Australia, app developers, radio stations, magazines and charities to bring creative ideas to life. Andrew will inspire you to see possibilities, take risks, and think outside the box as you shape the next generation of mathematicians.</p>
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Reflective practice in mathematics education involves educators engaging in critical self-reflection on their teaching practices, instructional strategies, and student learning outcomes. It entails systematically examining teaching experiences, identifying successes and challenges, and considering how these experiences can inform future instructional decisions and improvements.

## 2024 Melbourne Mathematics Conference

### Date

Friday 14 June 2024

Stream 1: Primary teachers

Stream 2: Early childhood teachers

### Venue

Kwong Lee Dow Building, 234 Queensberry St  
Faculty of Education, University of Melbourne

### Time

9am–3.50pm, happy hour begins at 2.50pm and is part of the final workshop.

### Contact

For information about bookings email Di Liddell,  
dliddell@mav.vic.edu.au.

**Registrations close on Friday 31 May, 2024.**

MAV Member registration (20% discount): \$300 per day  
Non-member: \$375 per day

### Special MAV membership offer

To receive the member rate, you must first be a MAV member. If you are not a MAV member and wish to attend this conference, you can join the MAV (small school discount also available). Alternatively, join as an individual member. Contact [mgreen@mav.vic.edu.au](mailto:mgreen@mav.vic.edu.au) to redeem this offer **prior** to completing your conference registration.

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