



THE MATHEMATICAL  
ASSOCIATION OF VICTORIA



Independent  
Schools Victoria

## New Frontiers of Learning

# Human centred maths

A joint professional learning event  
for mathematics educators from  
Foundation to Year 10



- Link student wellbeing and SEL (Social and Emotional Learning) to engagement in mathematics to improve student outcomes.
- Explore the new frontiers of learning with like minds looking to change and improve practice.
- Explore the Victorian Curriculum: Mathematics, including proficiencies and capabilities.
- Select sessions streamed according to teaching levels.
- Opportunity for small facilitator led conversation sessions.
- Open to teachers from all school sectors.



**When:** Tuesday 6 September 2022

**Where:** Independent Schools Victoria, 24-40 Rosslyn St, West Melbourne

**Who should attend:** Teachers of Foundation - Year 10

**Book at:** [www.mav.vic.edu.au/events](http://www.mav.vic.edu.au/events). Registrations close Thursday 1 September

Session	Presenters	Title
Registration: 8.45am-9.15am		
Opening and welcome: 9.15am-9.30am		
Keynote 9.30am -10.30am	Louka Parry	<p><b>A: Social and Emotional Learning in Mathematics – Engagement for meaningful learning:</b> Our capacity to learn, unlearn, and relearn is our greatest asset. We explore the changing landscape of work, learning, and society, outlining global shifts and what they mean for our learning ecosystems in an ever more interconnected and uncertain world. To thrive, we all need skill sets and perceptions that take advantage of emerging opportunities, adapting in ways that integrate and apply new knowledge to promote engagement across cultures, domains, and disciplines. The learning future must embrace concepts around change, curiosity, wholeness and questioning. It must weave key insights from across the globe with the real world context of organisations, schools and teams. How might we hope to weave future focussed and human-centred education into the teaching of domains such as mathematics?</p> <p>Key provocations:</p> <ul style="list-style-type: none"> <li>• A renewed narrative for addressing challenges and reluctance for maths education.</li> <li>• Enable life-long, life-wide, and life-deep learning by addressing emotional and pre-conceived barriers.</li> <li>• The importance of understanding student self-determination and humanity-centred design, especially in domains such as mathematics.</li> </ul>
Morning tea and networking: 10.30am-11am		
Workshop B 11am -11.45am	Led by Deb Carmichael and Nikki Maguire	<b>B: Exploring new frontiers:</b> Take a deeper dive into the keynote presentation and our conference theme in a guided small group discussion. Meet fellow attendees and connect Louka's message with the day ahead.
Workshop C <i>Select from a workshop or facilitated conversation</i>  11.55am -12.55pm	Nikki Maguire	<b>C1: Flourishing cultures of learning – Goldilocks lives here (F-3):</b> Students flourish in learner-centred classrooms. The teacher knows them well and challenges them to take risks. How might we create flourishing classrooms so that our students embrace mathematics and challenges as lifelong learning skills? Join us to learn how to create 'just right' flourishing learning cultures in our classrooms. Unpack why learners have difficulty in mathematics specifically, identify the cognitive functions required to be a successful maths learner and learn practical strategies to create mediated learning environments.
	Peter Sanders	<b>C2: Building teacher confidence (3-8):</b> In this workshop Peter will share task and activities to build teachers' confidence in teaching mathematics. As part of his research at tertiary level, Peter interviewed pre-service primary teachers about their successes, difficulties and anxieties with and about mathematics. The stories he was told were fascinating and resonated with his own experiences of conceptual difficulties and maths anxiety amongst primary teachers and students. This presentation tells the stories of some of these students' mathematical journeys from as far back as their own primary school maths education, through secondary to adult numeracy experiences. The implications of these stories for in-service teachers and students, particularly those who may be maths anxious, or have conceptual difficulties with mathematics will be explored. He will share tasks and activities to negate teacher anxiety, develop conceptual understanding and build confidence.
	Dr Sophie Specjal	<b>C3: Rich mathematical interactions (7-10):</b> This interactive, hands-on session explores how teachers can facilitate rich mathematical interactions in their classrooms through evidenced based design, teaching and learning practices. It focusses on championing talk and interactions for deep level learning within the maths classroom and how to effectively design, implement and evaluate surface and deep level learning opportunities. Sophie offers practical tips to encourage participants in developing their own talk practices as well as engaging students in tasks that allow them to define and describe their understandings through talk and move toward a shared understanding of mathematics through reasoning and problem solving. Participants will engage in the design of surface, deep and transfer level tasks and discuss how the design and implementation of these tasks promotes reasoning, mathematical argumentation, and mathematical sense-making.
	Deb Carmichael	<b>C4: Conversation: Leading your team (F-10):</b> Leaders play a crucial role in driving vision, psychological safety and growth opportunities for their teams. How can we keep our teachers thriving and bringing their best selves to the classroom? This conversation is aimed at Faculty Heads and Team Leaders interested in sharing strategies to support and nurture team members.

**How do I book?**

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Workshop C <i>Select from a workshop or facilitated conversation</i>  11.55am –12.55pm	Ben Ertez and Benji Gersh	<b>C5: Conversation: Taking care of yourself: being socially and emotionally equipped to engage mathematical minds (F-10):</b> After recovering from serious illness, Ben returned to work radically changed from his experience. The way he thought about life and priorities had changed. Ben asked himself: How was he to communicate these changes with his colleagues? How would he meet the challenges of adjusting to meetings, schedules, deadlines? A reoccurring thought during this time was that his experience was not unique, so why did he need to do it alone? Whether it be childbirth, bereavement or caring for a sick relative, significant life changes deeply impact our professional lives. It is not realistic to expect that the personal will not affect the professional. Join Ben and Benji from Greater Space in conversation as they discuss how they support the wellbeing of educators and why it is crucial in engaging mathematical minds.
	Jennifer Bowden	<b>C6: Conversation: Engaging your school community – maths at home, family maths nights (F-10):</b> Families are a child's first educator and this role does not halt on day one of school. Families lay the foundation for future educational success. A student's community makes a difference to their attitude, motivation to learn, and academic achievement through showing their positive attitude towards mathematics and being engaged in mathematics and numeracy at home. In this conversation we will consider what you and your school are currently doing to engage families in mathematics education. We will share strengths and ideas for improved engagement.
Lunch and networking: 12.55pm–1.45pm		
Workshop D <i>Select from a workshop or facilitated conversation</i>  1.45pm –2.45pm	Jen Bowden	<b>D1: Exploring the Anticipate Phase of the Launch, Explore, Summarise Instructional model (F-3):</b> This session draws on some of the findings from the EMC3 (Exploring Mathematical consequences of Connected, Cumulative and Challenging task) project, by exploring the inclusion of the Anticipate phase to the Launch, Explore, Summarise instructional model. The Anticipate phase of this instructional model, aims to support teachers during the collaborative planning of challenging tasks. Through this presentation, attendees will gain an understanding of how to best plan for the implementation of challenging tasks in their everyday classroom practice in the early years of school.
	Peter Saffin and Leonie Anstey	<b>D2: Introducing the Middle Years Maths Challenges (5-8):</b> The new Middle Years Maths Challenges were produced by MAV and DET, and are designed to link the mathematics curriculum to student interests. These high interest, human centred, guided inquiry tasks are designed to ignite student curiosity, increase engagement, and decrease maths anxiety. The Challenges also build teacher confidence and capability in teaching and assessing the proficiencies in innovative ways. Come along and unpack the challenges, and prepare to implement them back at school.
	Danijela Draskovic	<b>D3: Lesson starters and warm-ups to engage students (7-10):</b> A key component to engaging students is to get them hooked in at the beginning of the lesson. In this hands-on workshop, participants will explore activities that will warm up students to scaffold their learning in readiness for the lesson. The activities have potential to cater to multiple levels and engage all students.
	Deb Carmichael	<b>D4: Conversation: Ontario SEL in Maths – what can we learn? (F-10):</b> The new Ontario maths curriculum includes supporting a student's emotional learning needs, helping them thrive academically and mentally. In this conversation we'll explore how this looks and what the takeaways might be for your context.
	Peter Sanders	<b>D5: Conversation: Diving into Maths Anxiety, for teachers and students (F-10)</b> As part of his research at tertiary level Peter interviewed pre-service primary teachers about their successes, difficulties and anxieties with and about mathematics. The stories he was told were fascinating and resonated with his own experiences of maths anxiety amongst primary teachers and students. In this conversation Peter will share the stories of some of these students' mathematical journeys from as far back as their own primary school maths education, through secondary to adult numeracy experiences. The implications of these stories for in-service teachers and students, particularly those who may be maths anxious (or have colleagues who may be!), or have negative attitudes about mathematics will be explored, as will the broader messages for mathematics education.
	Ben Ertez and Benji Gersh	<b>D6: Conversation: Taking care of yourself: being socially and emotionally equipped to engage mathematical minds (F-10):</b> After recovering from serious illness, Ben returned to work radically changed from his experience. The way he thought about life and priorities had changed. Ben asked himself: How was he to communicate these changes with his colleagues? How would he meet the challenges of adjusting to meetings, schedules, deadlines? A reoccurring thought during this time was that his experience was not unique, so why did he need to do it alone? Whether it be childbirth, bereavement or caring for a sick relative, significant life changes deeply impact our professional lives. It is not realistic to expect that the personal will not affect the professional. Join Ben and Benji from Greater Space in conversation as they discuss how they support the wellbeing of educators and why it is crucial in engaging mathematical minds.
Summing up and feedback (stay in current room): 2.45pm–3pm		

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## Keynote speaker **Louka Parry**

Louka Parry is the CEO and Founder of The Learning Future and works globally as a speaker, learning strategist and education futurist. He speaks on innovation, leadership and change having worked with thousands of leaders and educators from diverse contexts all across the world, including in high-level policy for a such as the OECD, UNESCO, and the European Commission, and with all Australian States and Territories.

A rapid learner, he speaks five languages, has visited over 80 countries, and holds two Masters degrees, one in Instructional Leadership from the University of Melbourne and another in Applied Linguistics, and has also completed executive studies at Harvard and a residency at the d.school at Stanford University. Through his work, he has acquired expert knowledge in leadership, strategy, communication, wellbeing and organisational change and culture. As an education leader, he was promoted to Principal at only 27 years old and in 2012 he was named South Australian Inspirational Public Secondary Teacher of the Year.

As CEO of The Learning Future, he is committed to transforming learning structures, systems and societies that better empower individuals to develop the key human capabilities that matter most now and into the future. He sits on the Steering Committee for Learning Creates Australia and also co-leads Karanga: The Global Alliance for Social-Emotional Learning and Life Skills, which connects the global education community at the forefront of the future of education and social-emotional learning to empower children, educators and communities all across the globe.

## Presenters

### **Deb Carmichael**

Deb Carmichael has worked in independent schools for over 25 years as a teacher, department head and in senior executive roles. During this time, she was involved in a number of projects including professional learning models, classroom observation, student leadership and curriculum development. Deb is now an Innovation and Learning Leader at Independent Schools Victoria, working in The Innovation Design Lab for Learning. This allows her to use her experience, ideas, interest in current research and passion for teaching and learning to engage and work with fellow educators.

### **Peter Sanders**

Pete is an experienced primary maths educator with twenty years experience teaching primary age children, most of these as a Mathematics curriculum coordinator in primary schools in the UK and in Melbourne. Pete then lectured in primary mathematics at La Trobe University for twelve years, developing the mathematics teaching capabilities of pre-service primary teachers. Pete has also been Assistant Principal of a primary school in the UK and successfully led the numeracy team in the Berwick South Innovations and Excellence cluster. Pete is currently working as a consultant for the Mathematical Association of Victoria and for Love Maths and undertaking further work in the tertiary sector as a casual lecturer at Deakin University. Pete is passionate about developing primary and lower secondary teachers' capacity to develop their mathematics teaching, in particular through adopting a problem-solving, investigative approach, utilising challenging and rich mathematical tasks.

### **Leonie Anstey**

Leonie is the Principal Policy Officer, mathematics and numeracy, STEM unit, Curriculum and Assessment, at the Victorian Department of Education and Training. Her previous roles include: Victorian principal, educational consultant in Instructional Leadership and Mathematics and Numeracy Education, and a principal coaching and middle leaders mentor/coach. Leonie holds a Masters of Education, (research) Skills and Knowledge for Mathematics Teacher Coaching. Her teaching background includes secondary (mathematics/physics) and primary classroom teaching. She has supported early childhood settings to implement mathematics and science strategies. Leonie is passionate about all things mathematics and numeracy education, and supporting learners to make progress. She wants teachers to create amazing learning experiences and outcomes for their students.

### **Peter Saffin**

Peter is the CEO of The Mathematical Association of Victoria (MAV). MAV promotes the importance of mathematics in society and supports maths education through various programs and services. Peter commenced his career as a secondary teacher working in Australia and New Zealand. He then moved into educational publishing, where he led businesses and teams producing leading print and digital resources and learning platforms for Australia and internationally. Peter is a Board member of The Australasian Society of Association Executives (AuSAE) and Graduate of the Australian Institute of Company Directors (AICD), and Certified Association Executive (CAE).

### Jennifer Bowden

Jennifer has worked as an Education Consultant at the Mathematical Association of Victoria (MAV) for 15 years. She enjoys inspiring teachers, maths coaches, consultants and leaders to become more critical and creative in their teaching, empowering consultants and teachers to be better educators and provide the best learning experiences for their students. Jen coaches, mentors and guides consultants, teachers, and leaders to build teacher capacity, increase knowledge of curriculum content, and to develop better pedagogies to establish school-wide improvement. Jen's current interest is in helping teachers and leaders to improve education in a way that promotes and challenges students' thinking.

### Dr Sophie Specjal

Sophie is a highly experienced K-12 teacher and leader. She has taught and held leadership positions in both Primary and Secondary settings in multiple sectors for over the past 20 years. Sophie has completed her PhD with Professor John Hattie at the University of Melbourne. She has a passion and determination to translate essential educational research to the educational setting, keynoting at many leading international conferences recently working on many national and International projects including teaching high profile AFL coaches on the development of communicating their language and translation to players and internationally for National Geographic Learning in the USA.

### Nikki Maguire

Nikki is an experienced educator, consultant and presenter in primary, secondary and tertiary education across Independent, government and Catholic sectors. She has a passion for the science of learning and inclusive education practices. Nikki has a Masters in Inclusive Education and is a certified International Feuerstein Instrumental Enrichment trainer and facilitator, as well as an experienced Dynamic Assessment practitioner. She has worked in learning enhancement, academic coaching, wellbeing and school strategic planning and program design and delivery.

### Ben Eretz

Ben is an experienced primary trained teacher who has worked in primary schools in remote Northern Territory and in Melbourne. As a teacher he is guided by trauma informed principles, creating calm and safe spaces for his students. Ben has lived experience of serious illness and encountered the challenges of returning to work from those setbacks. He is passionate about mentoring others going through those difficulties. He is an accomplished classroom teacher, who has held various leadership and management roles. With a passion for working with educators, Ben is excited to help create space for you to work on what is important.

### Benji Gersh

Benji has worked in schools as a teacher and school leader. He has worked in the education sector as a trainer in trauma-informed practise all over Australia. He is a registered Neuro-sequential Model In Education Trainer with Bruce Perry's Child Trauma Academy and is a Critical Incident Stress Management practitioner. As a registered ACA Counsellor, Benji prioritises the necessity of healthy mental wellbeing for successful work. He loves playing and working outdoors and is happy to accommodate your needs into creating the most useful session possible.

### Danijela Draskovic

Danijela is a secondary Mathematics Education Consultant for the Mathematical Association of Victoria. She has taught mathematics in Independent Schools in Victoria as well as in the UK. She believes that most people can engage and have success in mathematics by approaching the subject in a holistic and meaningful way. Danijela is passionate about exploring the affordances of technology in enhancing teaching and learning by modelling concepts in visual and dynamic ways. She is also an accredited trainer for Texas Instruments.