


# MAVCON SUNRAYSIA

Tuesday 10 March, 2020, The Lake Primary School

Session	Title	
Registration: 8.30am-9am		
Keynote 9am-10am	<b>F - 10 Reasoning: the glue that holds the curriculum together</b>	Paul Swan
Session 1 10.05am-11am  Showcase school: Red Cliffs Secondary College	<b>1 - 4 Fluency: the facts</b>	Paul Swan
	<b>F - 6 How long is a piece of string?</b>	Jennifer Bowden
	<b>F - 6 Sunraysia Showcase: The catalyst for change</b> Session sponsor: 	John Warburton, Tracy Craig and Brooke Allen
	<b>F - 10 Setting 2020 up for success: a session for maths leaders</b>	Ellen Corovic
	<b>7 - 10 Maths for families at the home</b>	Helen Haralambous
	<b>7 - 10 For the love of maths</b>	Tom Moore
Morning tea and networking: 11am-11.30am		
Session 2 11.30am-12.25pm  Showcase school: Merbein P-10 College	<b>F - 2 Number talks</b>	Ellen Corovic
	<b>1 - 6 Fluency: the facts</b>	Paul Swan
	<b>F - 6 Step 1, step 2 .... what next?</b>	Judy Greg
	<b>F - 6 Sunraysia Showcase: Changing the culture</b>	Sue Gardiner
	<b>5 - 8 Differentiation in maths</b>	Tom Moore
	<b>7 - 10 Understanding order of operations</b>	Helen Haralambous
Session 3 12.30pm-1.25pm	<b>F - 2 Step 1, step 2 .... what next?</b>	Judy Greg
	<b>F - 6 Number talks</b>	Ellen Corovic
	<b>F - 6 What are the big ideas in geometry?</b>	Jennifer Bowden
	<b>3 - 7 The literacies of mathematics: the missing link</b>	Paul Swan
	<b>7 - 10 Differentiation in maths</b>	Tom Moore
	<b>7 - 10 Engaging students in learning - alternatives to textbook</b>	Helen Haralambous
Lunch and networking: 1.30pm-2.15pm		
Session 4 2.15pm-3.10pm	<b>F - 2 The importance of play in creative and critical thinking</b>	Jennifer Bowden
	<b>F - 6 Divide and conquer</b>	Judy Greg
	<b>F - 4 Picture this: using picture books to inspire mathematical thinking</b>	Ellen Corovic
	<b>3 - 7 The literacies of mathematics: the missing link</b>	Paul Swan
	<b>7 - 10 Incorporating technology into your mathematics class</b>	Helen Haralambous and Tom Moore
Closing: 3.15pm-3.30pm		

# MAVCon Sunraysia 2020

## Session summaries

### Keynote: Reasoning the glue that holds the curriculum together

**Dr Paul Swan (F – 10)**

Kilpatrick et al (2001: 129) speak of reasoning as the glue that holds the curriculum together. Paul will use examples from the different content areas and different year levels to illustrate the key features of reasoning proficiency that glue the curriculum together. He will address the arguments that we don't have enough time to teach reasoning and that reasoning is only for the 'smart' students

### Fluency: facts the facts

**Dr Paul Swan (1 – 4)**

Fluency is one of the four proficiency strands. Paul will examine one part of fluency – basic number facts. There are around 400 basic number facts that students need to learn. Paul will provide a succinct plan for teaching these facts. The link between the understanding proficiency strand will be made clear as well as the role of a basic set of mental strategies. It should be noted that in Years 3 and 4 students should be developing recall of basic number facts and a few simple games will be shared to help develop recall.

### How long is a piece of string?

**Jennifer Bowden (F – 6)**

In this workshop we will investigate the sequences of measurement concepts and skills in the primary school curriculum and beyond. From comparison and informal units to making connections of metric units with complex number activities, we will explore the curriculum and a range of open-ended tasks.

### Sunraysia Showcase: Red Cliffs Primary School

**Data: The catalyst for change**

**John Warburton, Tracy Craig and Brooke Allen (P – 6)**

In this workshop the teachers will share their professional learning journey in which they have used data to inform their planning and teaching. They will share useful resources and tips to support other teachers.

### Setting 2020 up for success: A session for maths leaders

**Ellen Corovic (F – 10)**

Ensuring that there is consistency of high quality teaching across a school is one of the greatest challenges as a leader. With so many school improvement agendas at hand it can be hard to find the clarity of purpose among so many competing demands. We'll explore how to overcome this hurdle to focus on what matters most. Tools will be shared to assist leaders (and teachers) to clearly define and plan for whole school professional learning and action.

### Maths for families and the home

**Helen Haralambous (7 – 10)**

The debate on homework often causes conflict at home. Why do we assign homework? For what purpose? For whom are we meeting a need – the student, the parent, the school community or the school administration? Or are we better at trying to enhance the home/school partnership through activities that not only engage students, but also parents and the family unit.

We'll explore activities that can be worked on at home by the family unit and support the three way partnership between student, school and home.

### For the love of maths

**Tom Moore (7 – 10)**

Why do we do maths? Is it to solve questions from a text book? Is it to be numerate? Or is it to make sense of the world around us? In this session we will explore some of the world's beauties which are explained by mathematics. The activities we complete are a sure way to get your students thinking deeply about maths in order to make sense of the world they live in. With this approach to teaching mathematics, the question 'When are we ever going to need this?' will become a thing of the past.

### Number talks

**Ellen Corovic (F – 2)**

Number talks is a powerful teaching strategy to build students' reasoning through explaining, justifying and comparing. Conducting a number talk requires teachers to face a myriad of decisions; knowing when and how to intervene and progress the conversation. This session will focus on the structure of a number talk, tips to make them effective and teachers will engage in sample number talks. Teachers will be required to draw upon their mental computation to share ways that they solve mathematical problems and will come away with useful tips and sample tasks.

### Step 1, step 2...what next?

**Judy Gregg (P – 6)**

Planning a sequence of lessons requires careful planning in order to enhance students' learning. Capitalising on what they already know, and then using this to guide students to make meaningful connections is what deep understanding is all about. This workshop will explore sequences of learning, and a series of lessons that will enrich students' learning in mathematics. This will help support them to become competent, confident maths learners.

### Sunraysia Showcase: Merbein Primary School

**Changing the culture**

**Sue Gardiner (P – 6)**

In this workshop we will share the practical means and processes used to change the school and classroom culture for effective mathematics teaching and our journey to achieve a successful change in the way we approached and taught mathematics.

### Differentiation in maths

**Tom Moore (5 – 8)**

By the time children reach secondary school there is a 7-8 year spread of student abilities in mathematics (Siemon, Bleckly & Neal, 2012). This poses a serious challenge for teachers all across the country. In this workshop, Tom will explore two approaches towards differentiating learning - Targeted Teaching and Rich Learning. A combination of each has the potential to really enhance student abilities in mathematics.

### Understanding order of operations

**Helen Haralambous (7 – 10)**

BODMAS, BOMDAS, BODMSA, BOMDSA – do we confuse kids by having them memorise BODMAS? We do recognise that order of operations is an important skill that students require and often a source for student error. It also appears every so often on the internet/social media and creates huge debate as was the case in late 2019 where the solution of the problem  $8 \div 2(2 + 2)$  caused much debate, with over 20 000 people commenting. We'll look at useful tips and sample tasks that explore order of operations.

### What are the big ideas in geometry?

**Jen Bowden (F – 6)**

It's more than space and shape! In this workshop we will look at the big ideas behind geometry and the importance of teaching concepts through connections, including algorithmic thinking. We will explore the big ideas in geometry, make links to the proficiencies and links with creative and critical thinking.

### The literacies of mathematics: The missing link

**Dr Paul Swan (3 - 7)**

Paul will share how three different literacies; vocabulary, graphics and symbols combine to assist students to think mathematically. Practical suggestions for improving student use of mathematical language will be provided. Ideas for incorporating a whole school approach to the developing of mathematical literacies will be shared.

### Engaging students in learning - alternatives to textbook

**Helen Haralambous (7 – 10)**

Engaging students in mathematics is the key to both enjoyment and success. Teachers can be time poor in searching for alternative tasks and often revert to the textbook. In this session, participants will investigate the merits of using meaningful and authentic tasks by exploring a handful of tasks from a collection of recommended sources. Helen will demonstrate the importance of building connections between mathematical ideas whilst enhancing student mathematical thinking and engagement.

### The importance of play in creative and critical thinking

**Jen Bowden (F – 2)**

There has been considerable quality research, development of resources and examples of practice into the use of tasks and inquiry-based learning in primary schools. In this workshop we will investigate the research behind implementing the pedagogy in such tasks into the early years settings. We will discuss the learning opportunities of creative and critical thinking that arise and how we can utilise these experiences to enhance classroom through play-based explorations.

### Divide and conquer

**Judy Gregg (F – 6)**

Learning multiplication facts has always been a skill that gets a lot of attention, but what about division facts? Why do students seem to have much more difficulty learning these facts? This workshop will not only explore the strategies for making connections between multiplication and division facts, but will also focus on how we can help students develop a deeper understanding of division through exploring the big ideas, the different types of division and, of course, the issue of what to do with remainders.

### Picture this: using picture books to inspire mathematical thinking

**Ellen Corovic (F – 4)**

The use of picture story books is a great way to engage young readers, in fact any reader! This workshop will explore how teachers can use books to capture students' imagination and prior knowledge. A selection of picture books will be shared along with tasks that engage students to expand and extend their mathematical thinking. This is a hands-on creative session where teachers will be actively involved in discussions and activities.

### Incorporating technology in to your mathematics class

**Helen Haralambous and Tom Moore (7 – 10)**

Students have access to a wide variety of powerful technological tools, many of these freely available and often underutilised (an example is MS Excel). In this hands-on workshop participants will explore a few classroom activities that utilise functionalities of technology to better engage students, provide students with a larger data set and allows more time to explore a wider range of examples.