

QAMT (Saturday 23rd) Early Years: 'Drawing Conclusions' Moorooka State School



8.45-8:55am		Registration	
8.45 -10am	Official Opening & Keynote: Jennifer Way (Associate Professor: Mathematic Education, University of Sydney): Insights from children's drawings		
10 - 10:30am		Morning Tea and networking opportunities	
Session 1 10:30-11:20am	How can I use play to plan engaging lessons that teach early maths concepts? (Leah O'Neill – Numeracy Coach, Kennedy Press)	Catching kids learning – communicating in maths (Melissa Fanshawe – Maths Education Lecturer, USQ)	Mathematics story time (Mellony Graven – Researcher, Rhodes University)
Session 2 11:30-12:20am	Engaging mathematics learning through key literature pieces (Monique Russell – Education Officer, QED)	Why do they keep counting their fingers? (Tierney Kennedy – Mathematics Consultant, Kennedy Press)	Build a Butterfly (Alwyn Powell – STEM Education Lecturer, USQ)
12:20 - 1pm		Lunch and networking opportunities	
Session 3 1 - 1.50pm	Drawing, gesturing and talking mathematics (Jennifer Way – Associate Professor: Mathematic Education, University of Sydney)	Curiouser and curiouser (Rebecca Brownhall – Education Officer, CEO Toowoomba)	On holding mathematical conversations (Jana Visnovska – Maths Education Researcher, UQ)
Session 4 2 - 2.50pm	Supporting students to draw conclusions through inquiry- reSolve by AAMT (Libby Foley – Teacher, Chevallum State School)	Making group-work, actually work (Tierney Kennedy - Mathematics Consultant, Kennedy Press)	Cracking the code of word problems with young mathematicians (Sascha Aiono and Brenda Kettle – Teacher, Tingalpa State School; Education Officer, QCAA)
3 - 4.45pm	Sharing Practice Session with the above presenters followed by Drinks & Cheese		

Abstracts for Saturday 23rd Feb:

How can I use play to plan engaging lessons that teach early maths concepts? (Leah O'Neill – Numeracy Coach, Kennedy Press)

All students love to play but what are they really learning? We will look at a simple way of planning a sequence of maths lessons that begin with free play and end with students solving challenging problems and then transferring and adapting what they have learnt.

Catching kids learning – communicating in maths (Melissa Fanshawe – Maths Education Lecturer, USQ)

Communicating mathematical thinking is essential to understand what students know about mathematical concepts. This session looks at practical ways to provide opportunities for sharing mathematical reasoning in the classroom through discussion and writing in mathematics.

Mathematics story time (Mellony Graven – Researcher, Rhodes University)

In this workshop we will engage with three early number stories. We will engage with a range of activities and games that follow on from the various stories. Experiences of working with these stories in South Africa and Australia will be shared.

Engaging mathematics learning through key literature pieces (Monique Russell – Education Officer, QED)

Key mathematics concepts can be learned through the lens of great fiction texts. Be exposed to key pieces of literature both 'off-the-shelf' and commercial texts and how they can add to your mathematical repertoire.

Why do they keep counting their fingers? (Tierney Kennedy - Mathematics Consultant, Kennedy Press)

Have you ever had students count their own fingers? This session demonstrates simple tasks that all teachers can use to check that their students understand "how many" and gives practical examples of what to do about it.

Build a butterfly (Alwyn Powell, STEM Education Lecturer, USQ)

Building children's interest by making things that work requires actively engage children in the learning process. This hands-on workshop will build upon the interest in The Very Hungry Caterpillar story by E. Carle to make a moving butterfly suitable for prep year to year two children. They will discuss symmetry and measurements related to the model.

Drawing, Gesturing and Talking Mathematics (Jennifer Way – Associate Professor: Mathematic Education, University of Sydney)

This workshop explores some strategies for supporting young children in expressing and communicating their mathematical thinking effectively.

Curiouser and curiouser (Rebecca Brownhall – Education Officer, CEO Toowoomba)

Igniting the curiosity in Mathematics using the solo taxonomy and connecting curriculum concepts. Utilising design thinking tools and focusing on Jo Boaler's research on Mindsets and Visualisation, participants will use practical strategies to bring creativity and real-world connections into the learning of mathematics.

On holding mathematical conversations (Jana Visnovska – Maths Researcher, UQ)

We retrace learning steps of a Prep teacher who worked to help her students become proficient in participating in whole-class mathematical conversations. Focus on types of activities to use and strategies to notice small sparks of progress.

Supporting students to draw conclusions through inquiry- resolve (Libby Foley – Teacher, Chevallum State School)

Mathematics is creative, flexible and purposeful. Engaging students in inquiry, decision-making and classroom discourse can help guide them to draw conclusions. reSolve is a national initiative that promotes engaging mathematical teaching and learning from AAMT.

Making group-work, actually work (Tierney Kennedy - Mathematics Consultant, Kennedy Press)

What we want: groups where kids are learning mathematics, engaged in hands-on tasks, not fighting, and not interrupting us while we try to work with others. This session shares highly practical strategies such as: how to arrange the desks, who to get to work together, using adult helpers or running it on your own and also explains some simple and adaptable games that require no special equipment.

Cracking the code of word problems with young mathematicians (Sascha Aiono and Brenda Kettle – Teacher, Tingalpa State School and Education Officer, QCAA)

This hands-on workshop shares evidence of classroom success in building the reasoning of young mathematicians. We will explore strategies to strengthen number sense and reasoning and build understanding of multiple ways to decode word problems.

QAMT (Sunday 24th) Middle Schooling: 'Drawing Conclusions' Moorooka State School



8.15-8:45am	Registration				
8.45 – 9am	Official Opening & Housekeeping				
Session 1 9 - 9:50am	Advertising Triangles (Jim Lowe – Research Associate, Yumi Deadly Maths, QUT)	Computational Fluency Intervention (Cath McKenna – Numeracy Coach, Burnside State School)	Mathematical Drawing - The case of the number line (Jennifer Way – Associate Professor: Mathematic Education, University of Sydney)	Creating a culture around the use of Mathematics in the real world – Minecraft (Josh Newby – Teacher, Yeronga State School)	What can we learn from formative, summative, and high-stakes testing? (Liam McNamara, Math Space) <i>Commercial needing no resources</i>
10 - 10:30am	Morning Tea and networking opportunities				
Session 2 10:30-11:20am	FunCube Satellite (Stephen Broderick – HOD, St Ursula’s College, Toowoomba)	Building persistence and resilience (Leah O’Neill – Numeracy Coach, Kennedy Press)	Developing decimal understanding (Tracey Blackman – Education Officer, QCAA)	Engaging mathematics learning through key literature pieces (Monique Russell – Education Officer, QED)	
Session 3 11.30 - 12.20pm	How can you hate probability? (Melissa Fanshawe – Maths Education Lecturer, USQ)	Reasoning: more than explaining (Tierney Kennedy - Mathematics Consultant, Kennedy Press)	Mathematical pedagogy shift in teachers: for improved disposition and achievement (Mark Hansen and Bruce Jackson – Deputy and Teacher, Sandy Strait State School)	Fractions: Stories of learning to measure (Jana Visnovska Maths Researcher, UQ and Mellony Graven, Researcher, Rhodes University)	
12:30 - 1pm	Lunch and networking opportunities				
Session 4 1 - 1.50pm	Angles Hands-on math lesson demonstration - Year 7 (Rachael Huguenin – Teacher, Yeronga State High School)	Designing great inquiry tasks in 10 minutes (Tierney Kennedy - Mathematics Consultant, Kennedy Press)	Leading a Mathematical Quest (Rebecca Brownhall – Education Officer, CEO Toowoomba)	Engaging students with gamified maths apps (Yuji Takahashi, Math Mate) <i>Commercial needing no resources</i>	Live Coding Examples in Maths Class (Yoni Nazarathy – One on Epsilon Director)
2-3pm	Closing Keynote Speaker: Melissa Fanshawe – Focus on MATHS				
3 - 4.45pm	Sharing Practice Session with the above presenters & prize draw				

Abstracts for Sunday 24th Feb:

Advertising Triangles (Jim Lowe – Research Associate, Yumi Deadly Maths, QUT)

Participants will work through an activity highlighting the mathematics involved in painting the on-ground advertising signs and club logos in football stadiums so that they appear correct for the television audience. Application of similarity.

Computational Fluency Intervention (Cath McKenna – Deputy, Burnside State School)

Are your students forgetting or not apply the computational strategies that you've taught them? Need a time efficient, practical hands on approach to improving their computational fluency? Engage and empower your students using these fun, simple strategies.

Mathematical Drawing - The case of the number line (Jennifer Way – Associate Professor: Mathematics Education, University of Sydney)

This workshop explores the challenges of drawing and using one the most important representations in mathematics – the number line.

Creating a culture around the use of Mathematics in the real world – Minecraft (Josh Newby – Teacher, Yeronga State School)

Students have undertaken a guided inquiry utilising the application Minecraft to redevelop a nature play area. This unit includes both mathematical and digital inquiry.

What can we learn from formative, summative, and high-stakes testing? (Liam McNamara, Math Space) Commercial needing no resources

Making the step towards data-driven instruction may seem daunting. This workshop we will explore simple strategies for the classroom to leverage data for a more personalised student learning approach for internal/external assessment, such as Naplan.

FunCube Satellite (Stephen Broderick – HOD, St Ursula's College, Toowoomba)

The Funcube satellite is an excellent way of introducing students to the Australian Space Agency established in July 2018. All that is required is a Funcube dongle and an aerial which allows students to collect telemetry data from the satellite as it passes overhead. The Funcube satellites (there are 5 in total) are a STEM activity for educating students about radio, space, physics and electronics.

Building persistence and resilience (Leah O'Neill – Numeracy Coach, Kennedy Press)

We all want our students to engage in problem solving experiences but what do we do when they actively avoid them, just won't get started or give up too easily. In this workshop, we will explore the need to challenge students and practical ways in which persistence and resilience can be encouraged.

Developing decimal understanding (Tracey Blackman – Education Officer, QCAA)

In this workshop participants will investigate the use of bead strings and number mats to develop students' understanding of decimal number.

Engaging mathematics learning through key literature pieces (Monique Russell – Education Officer, QED)

Key mathematics concepts can be learned through the lens of great fiction texts. Be exposed to key pieces of literature both 'off-the-shelf' and commercial texts and how they can add to your mathematical repertoire.

How can you hate probability? (Melissa Fanshawe – Lecturer, USQ)

It always surprises me when I hear teachers say they don't like teaching probability. In this session, we look at the key teaching methods for teaching the Australian Curriculum: Mathematics. We will use hands on manipulatives and mathematical investigations to explore probability. If you leave this

session without liking probability – I'll let you eat the M&Ms. (Well, actually I'll let you eat them anyway).

Reasoning: more than explaining (Tierney Kennedy – Mathematics Consultant, Kennedy Press)

Reasoning involves searching for patterns, making conjectures, testing them out and generalising principles. If you keep hearing, "But I just knew it", then this workshop is one you don't want to miss.

Mathematical pedagogy shift in teachers: for improved disposition and achievement (Mark Hansen and Bruce Jackson – Deputy and Teacher, Sandy Strait State School)

We will showcase the Numeracy journey our school has been on since 2014. The workshop will showcase hands-on, easy-to-implement advice for what has and hasn't worked for us as we pursue high-yield practices such as open-ended, number talks etc.

Fractions: Stories of learning to measure (Jana Visnovska, Maths Researcher, UQ and Mellony Researcher, Rhodes University)

We explore initial teaching of fractions through length measurement, with focus on students' conversations - mathematical reasoning. We discuss the role of stories in creating purpose for class activities, and how these stories are 'mathematical'.

Angles Hands-on math lesson demonstration - Year 7 (Rachael Huguenin – Teacher, Yeronga State High School)

Experience a 'hands-on' demonstration lesson for teaching angles using movement, concrete materials and ICTs. Participants will take home practical ideas that have been tried and tested in year 7 and 8 classrooms. Bring your camera!

Designing great inquiry tasks in 10 minutes (Tierney Kennedy – Mathematics Consultant, Kennedy Press)

Do you want to write your own tasks but find you have no time to do it? Come along and learn a simple four-step process for designing units, inquiry tasks and investigations. You will take away a task you have designed as well as a template to use with your staff.

Leading a Mathematical Quest (Rebecca Brownhall – Education Officer, CEO Toowoomba)

Forming a strategic vision for mathematics improvement which supports co creation, collaboration and collective efficacy. The Quest is lead through utilising Design Thinking strategies to engage all voices and implement authentically the 'big rocks' for your context. Participants will explore the current reality for their context and consider ideas for forming a strategic vision in their school or classroom for mathematical improvement.

Engaging students with gamified maths apps (Yuji Takahashi, Math Mate) Commercial needing no resources

With so many gamified math apps out there, how do you judge the good apps from the bad? After this session, you will be able to:

- assess the value of gamified apps
- solve math problems with a new tool
- leave with a smile after a friendly competition

Live Coding Examples in Maths Class (Yoni Nazarathy – Director, One on Epsilon)

In this talk we make a case for using live coding examples in maths class. We demonstrate live using the Julia language. Motivation for number sequences, geometry and statistics is presented using videos and blog posts from Epsilon Stream.