



Primary Teachers of Mathematics Conference

Saturday 19th September 2020

PARKSIDE PRIMARY SCHOOL

Robsart Street, Parkside



KEYNOTE – PLENARY 1

Andrew Lorimer-Derham / Think Square

Making maths 'Remotely' interesting!

Abstract:

Ever wanted to create your own maths games, puzzles, rich tasks and open-ended activities? This session is hosted by someone who has made over 100! During this workshop we'll explore interesting tasks and some of the key elements required to make them. Participants will produce their very own mathematical puzzle and be provided with additional resources to make maths 'remotely' interesting!

Whether you're teaching remotely or face-to-face, this session will enable you to save time planning, empower you to deliver activities to a wider range of learners and help you to see connections between concepts. All this is possible through the skill of 'noticing'.

Bio:

Andrew is a passionate educator and inventor who relentlessly creates unique ways to spread a love of mathematics.

Andrew started his working life teaching in a variety of government and independent schools from Primary through to Tertiary. With ideas regularly keeping him awake until 5am he eventually stepped out of full time teaching to tackle the steep learning curve of becoming an entrepreneur.

Andrew's desire to build skills and confidence in his students has seen him develop Think Square (a suite of hands-on maths games), Mirrogram (the world's first reflective clothing line) and Skillhouettes (an app to track and record motor skill development).

His creative ideas have been featured on LightFM and The Age; he is a puzzle writer for COSMOS magazine and has been contracted to develop innovative solutions for Cricket Australia's junior programs.

Andrew currently spends most of his time running student workshops and staff PD around the idea of 'Intentional Fun' where he takes great pleasure in demonstrating what a joyful, imaginative and playful pursuit maths can (and should) be. He is not afraid to think differently, make mistakes and try new things. Whether that's playing tug-of-war to teach algebra or taking Year 12's to every train station in Melbourne in 24 hours as a Networks problem.

Andrew will inspire you to see possibilities, be creative, and think outside the box as you shape the next generation of mathematicians.



PLENARY 2 –
Dr Brendan Bentley / The University of Adelaide
Lecturer – School of Education

Abstract:

The instructional 'Sweet Spot' in the Primary Maths Classroom

The PISA results released in December 2019 provide a story of the continued decline in Australia's global educational rankings with Australian students recording record low scores in Mathematics, Science and Reading. While the constant pitch of negativity surrounds our purported continuous decline in academic standing some fantastic advances have occurred in understanding how we as humans learn. A growing body of knowledge has emerged that dispels some of the 'myths' that have surrounded instructional theory and suggests a way forward that could make an immediate impact upon primary classroom practice and ultimately improve Australia's educational standing.

This presentation examines current instructional theory, exploring the novel notion of the existence of an instructional 'sweet spot', a location where instruction is fun, efficient and rigorous. Cognitive load theory is used to examine and explore the salient variables within current instructional models such as direct instruction and constructivist learning theory which are both particularly relevant to mathematics education. The presentation suggests that models of instruction that offer clear, short, and unelaborated instruction that don't overload the mind when combined with Constructivist pedagogical approaches may be a way of finding the instructional 'sweet spot'.

Bio:

Brendan Bentley is a lecturer in Education. He is the Director of Partnerships and Engagement, and the Program Director of the Master of Teaching program at the University of Adelaide.

He is an experienced School Principal, curriculum leader and teacher of STEM education. Brendan has designed and written post graduate educational leadership courses at both national and international levels and is a consultant in professional formation and development for teachers and school leaders. His research interests are in educational leadership, cognitive load theory, STEM, science and mathematics education and in particular proportional reasoning.





The Mathematical Association of South Australia Inc

PROGRAM 2020

Saturday 19th September

8.15 am – 9.00 am	Registration / Gym / tea & coffee available Visit Trade Displays
9.00 am – 9.15 am	Welcome and Housekeeping / Gym Rebecca Garrett , MASA President
9.15 am – 10.15 am	Keynote Presentation – Plenary 1 / Gym Andrew Lorimer-Derham / Think Square Making maths 'Remotely' interesting!
10.15am – 10.45 am	Sponsorship Speaker - Credit Union SA Morning Tea / Gym / Visit Trade Displays
10.45 am – 11.45 am	Workshop 1 / Monro & Bradman Building
11.45 am – 12.45 pm	Workshop 2 / Monro & Bradman Building
12.45 pm – 1.30 pm	Lunch / Gym / Visit Trade Displays
1.30 pm – 2.30 pm	Workshop 3 / Monro & Bradman Building
2.30 pm – 3.30 pm	Plenary 2 / Gym Dr Brendan Bentley / The University of Adelaide
3.30 pm – 4.30 pm	"Happy Hour" – nibbles & refreshments provided - Raffle / Prize draws

8.15 am – 9.00 am / Registration

9.00 am - 9.15 am / Welcome and Notices / Rebecca Garrett, President, MASA

9.15 am -10.15am / Keynote – Plenary 1

Andrew Lorimer-Derham / Think Square

Making maths 'Remotely' interesting!

10.15 am -10.45 am Morning Tea

10.45 am – 11.45 pm

WORKSHOP 1

1.1
OneNote Classroom – Managing student work

Years 3+
Jo Kellaway
ASMS / MASA

1.2
All the numbers to ten

Years R - 2
Helen Booth
MASA

1.3
What's new in the New Maths 300

Years 3 - 9
Dr John West
/MAWA

1.4
Diving into the 2020 Numeracy Progression, Version 3

Years All
Ann Ruckert
Department for Education / SA

1.5
Differentiating Differentiation

Years 5 – 7
Sam Capurso
Blackfriars Priory School / MASA

1.6
Fractions 4 – 7

Years 4 - 7
Maryanne Rischmueller
Department for Education / SA

11.45 am – 12.45 pm

WORKSHOP 2

2.1
Making maths 'Remotely' interesting! (follow up session to keynote)

Andrew Lorimer-Derham
Think Square

2.2
The Value of Place

Years 1 - 4
Helen Booth
MASA

2.3
Introduction to Dyscalculia and mathematics

Years R - 7
Sandy Russo
SPELD SA Inc

2.4
How can Digital Technologies help your students learn complex mathematical concepts and enjoy it?

Years F - 6
Desiree Gilbert & Monica Williams
AISSA

2.5
Why kids don't get division and how to fix it

Years 3 - 7
Tierney Kennedy
Kennedy Press

2.6
Flexibility and Creativity in problem solving – with a difference

Years Primary - 10
Tom Frossinakis & Neil Davis
Pembroke School & MASA

12.45 pm – 1.30 pm Lunch

1.30 pm – 2.30 pm

WORKSHOP 3

3.1
Fractionally too late by Year 5

Years 1 - 4
Helen Booth
MASA

3.2
Multiplication Masterclass (Grades 3-6 workshop)

Years 3 - 6
Andrew Lorimer-Derham
Think Square

3.3
But I just know it!" Helping high achieving students to improve their reasoning.

Years R - 8
Tierney Kennedy
Kennedy Press

3.4
Inspiring Year 6 students with Maths

Years 5 - 7
Rebecca Garrett
Trinity College & MASA President

2.30 pm – 3.30 pm – Plenary 2

Dr Brendan Bentley / The University of Adelaide

3.30 pm – 4.30 pm "Happy Hour" – nibbles & refreshments provided - Raffle / Prize draws

NAME & ABSTRACT	SESSION	YEARS
<p>BOOTH, Helen / MASA All the numbers to ten Trusting the count is identified as the first big idea in number. Without a strong understanding of all the numbers to 10 and their relationship to each other, students begin to fall behind. This workshop focuses on hands-on activities to develop in-depth understanding of these foundation skills, including part-part-whole subitising, magnitude, mental numberline and ordering.</p>	1.2	R-2
<p>BOOTH, Helen / MASA The Value of Place Place value is identified as the second big idea in number. Moving from dealing only with ones to comprehending 10 of those is one of these, is a huge step in understanding how our entire number system works. This workshop will explore ways of teaching the value of truly understanding place as increasing and/or decreasing by factors often, with hands-on practical activities.</p>	2.2	1-4
<p>BOOTH, Helen / MASA Fractionally too late by Year 5 Research shows that fractions and division knowledge at Year 5/6 level is a predictor of the both algebraic and general mathematical ability in Year 10/11. The basics of fractional understanding must be effectively taught from its introduction in the Australian Curriculum (Year1) for students to have the knowledge and confidence to tackle the more abstract concepts which begin to be taught in Year 5. This workshop provides hands-on activities to teach those vital early concepts introduced between Year 1 and Year 4.</p>	3.1	1-4
<p>CAPURSO, Sam / Blackfriars Priory School & MASA Differentiating Differentiation This workshop explores differentiation in Mathematics across the range of abilities, with different structures and resources discussed and sample assessment tasks explored. Building resilience in students will also be considered. Upper Primary will be the focus, given the presenter's teaching experience.</p>	1.5	5-7
<p>FROSSINAKIS, Tom & DAVIS, Dr Neil / Pembroke School & MASA Flexibility and Creativity in problem solving – with a difference A range of strategies and ideas for solving problems – conventional and otherwise. A hands-on participatory session working on various problems / scenarios with more than one way of arriving at solutions.</p>	2.6	Primary - 10
<p>GARRETT, Rebecca / Trinity College & MASA President Inspiring Year 6 Students with Maths This workshop will cover the benefits of project-based learning and reflection inside the classroom. Workshop participants will put themselves in the position of the students and brainstorm possible investigations. Focus will be on connecting mathematics to real life.</p>	3.4	5-7
<p>GILBERT, Desiree & WILLIAMS, Monica / Associations of Independent Schools, SA How can Digital Technologies help your students learn complex mathematical concepts and enjoy it? This workshop will engage participants in exploring the conceptual connections between the Mathematics and Digital Technologies Curriculums and how complex mathematical concepts come to life for students through the physical interaction and agency that is embedded in Digital Technologies. Examples will be shared that illustrate how engaging students in transdisciplinary learning enhances mathematical conceptual understanding, knowledge and the development of interrelated mathematics and digital technologies skills. Reflections from teachers in years F-6 who have engaged in Mathematics and Digital Technology transdisciplinary planning and teaching will be used to illustrate the positive impact of this approach on student learning.</p>	2.4	F-6
<p>KELLAWAY, Jo / ASMS & MASA OneNote Classroom – Managing student work OneNote Classroom allows you to distribute material to a class and monitor their progress. It gives you and your students the flexibility of a word processor and a white board in one. This workshop will demonstrate how to set up a class and some of the features that are available.</p>	1.1	3 +
<p>KENNEDY, Tierney / Kennedy Press – delivering online in real time Why kids don't get division and how to fix it Division is more than simply the inverse of multiplication. It connects fractions, decimals, percentage and measurement and forms a key element for connecting number laws with algebraic reasoning. This workshop will provide a developmental sequence of stages for structural thinking and division, as well as providing practical teaching ideas to address gaps at each stage.</p>	2.5	3-7

<p>KENNEDY, Tierney / Kennedy Press - delivering online in real time But I just know it!" Helping high achieving students to improve their reasoning. Have you ever asked a student how they got their answer and heard back, "I just know it"? This workshop will give you multiple ideas on how to get students to figure out what they did, show it in a way that is clear and prove their ideas. It includes looking at high-end reasoning strategies such as deductive reasoning, making conjectures, testing them out and proving and disproving hypotheses.</p>	3.3	R-8
<p>LORIMER-DERHAM, Andrew/Think Square – delivering online in real time Making maths 'Remotely" interesting! (follow up session to keynote) Our keynote only covered a few of the key elements for creating engaging mathematical activities. This session will playfully explore some other key ingredients required including creativity, imagination and fun. If you want to improve your learners disposition toward maths, this session is for you. A range of online video tutorials and activities will be made available to participants.</p>	2.1	
<p>LORIMER-DERHAM, Andrew / Think Square – delivering online in real time Multiplication Masterclass (Grades 3-6 workshop) Stop losing learner engagement due to poor number skills. Students who have not mastered multiplication will struggle with fractions, algebra, area, percentages, changing a recipe, financial problems... and on and on. It's no wonder these learners' disposition toward maths is negative. This hands-on workshop will provide strategies and engaging activities to rapidly build number skills and confidence in your learners.</p>	3.2	3-6
<p>RISCHMUELLER, Maryanne / Department for Education SA Fractions 4 – 7 Teaching fraction concepts by solving problems beginning with hands-on activities with Cuisenaire Rods, moving to visual representations using Singapore Bar Model then moving into more abstract methods with numbers.</p>	1.6	4-7
<p>RUCKERT, Ann / Department for Education SA Diving into the 2020 Numeracy Progression, Version 3 Version 3 of the National Literacy & Numeracy Progressions was released on Monday 11 May, 2020. These will be used for the alpha phase of the online formative assessment initiative in 2020. They have also been made publically available so that interested schools and jurisdictions can access and transition into implementing them. Fewer changes have been made to the Literacy Progression than to the Numeracy Progression. This workshop is designed to take Primary teachers through the Numeracy Progression, identifying the improvements made and leading participants through a discussion of how they use the Progressions as part of the Learning Design, Assessment and Moderations processes.</p>	1.4	All
<p>RUSSO, Sandy / SPELD SA Inc Introduction to Dyscalculia and mathematics In this session Sandy will explore what dyscalculia is, why students with dyslexia and dyscalculia are unable to acquire mathematical skills and the implications. We will look at checklists and assessment materials that can be used by the classroom teacher to help inform programming and interventions. During the session you will have the opportunity to view resources that have practical strategies, ideas and games that can help students develop awareness, numbersense and a positive attitude towards maths.</p>	2.3	R-7
<p>WEST, Dr John / MAWA – Mathematical Association of WA - delivering online in real time What's new in the New Maths 300 Over the last year John has been employed by the Australian Association of Mathematics Teachers to manage the migration of the Maths 300 content to the new website. This involved updating the content, look and feel of all 194 Maths 300 teachers. In this workshop he will explain how to get the most out of your Maths 300 subscription (or convince you why you really need one).</p>	1.3	3-9

Map / Rooms for Workshops – (street parking available – no time restrictions for Saturday)

