

The Highest Common Factor



March 2023

From the CEO's desk



Welcome to the first edition of Highest Common Factor for 2023. I hope that you managed to get some time to relax over the summer break after what was undoubtedly a busy 2022 full of unexpected challenges and opportunities. At AAMT, we are looking forward to 2023 with excitement and anticipation. There is much to look forward to in the life and work of the organisation this year. We have a new member of the team this year—Denise Halliday who is joining us as an Education Specialist. Denise will introduce herself to you later in this newsletter. She is also delivering some professional learning on Maths300 towards the end of this term. Make sure you sign up for that.

If you are a member of AAMT through affiliate membership, you should have received earlier this week information on the nomination of President-elect. If you didn't receive this information, please reach out to your affiliate association to ensure that the correct details are held.

I hope you find this newsletter useful and informative.

Allan Dougan
CEO

Introducing Denise Halliday, AAMT's new Education Specialist

The AAMT team has a new staff member, **Denise Halliday**, who brings with her eight years of experience teaching secondary maths in Sydney.

To introduce her and in the interests of research, we asked ChatGPT "What are fun questions to ask a maths teacher?". Here they are with Denise's answers.

What's your favourite mathematical formula or equation?

I have to say the quadratic formula. It's not elegant to look at or learn, but when I retrained as a maths teacher, I still remembered it 20 years later and it illustrates so beautifully the connections in mathematics between algebra, graphs, numbers



If you could only teach one mathematical concept for the rest of your life, what would it be and why?

Multiplicative thinking. I'm so in awe of primary school teachers who manage to get students to make this massive leap in thinking that opens up a whole new world of mathematical possibilities.

If you had any mathematical superpower what would it be?

To be able to integrate any function. And never forget the +c.

If you were a maths puzzle, what kind of puzzle would you be?

A *menseki meiro* (Japanese area maze) puzzle because they look simple (did I just say I look simple?) but there's so much more going on underneath.

If you haven't seen them, check them out [here](#).

What's the most creative way you've ever explained a mathematical concept to a student?

I sourced lots of clips from the movie Up! to explain adding and subtracting integers as adding weights or balloons to a house. The students loved the movie clips and never forgot the idea. See [here](#).

What's your favourite maths-related game or activity to do with your students?

I really enjoy start of year activities to get to see how the students relate to each other and to see how they think. Good ones are the yearly number challenge (Read more [here](#)) and this number plane treasure hunt activity (more [here](#)). I like to have fun with maths, especially at the end of the year, so that's a good time for maths relays and maths mysteries, although it's hard to get past the Dave Gale's Christmas Elf Game (more [here](#)) for a fabulously evil and ever-so-slightly-mathsy activity.



**Our New Offering - Maths300 PL Workshops!
28-29 March 2023**

At AAMT we love learning and we are excited to announce that we have revised and relaunched our teacher professional learning (PL) on Maths300, our highly regarded suite of tools and resources to help teachers create engaging and investigative mathematics lessons.

We are running two professional learning sessions this term, delving into a range of Maths300 activities and exploring how to get the most out of this enriching pedagogical tool.

At just \$49 and one hour long, each PL session is perfect for teachers who are short on time, but want to gain new insights and techniques to engage students in meaningful, accessible and challenging mathematics.

Conducted via the Google Meets platform, you can join the PL course anywhere with a stable internet connection and attempt the activities yourself, interacting with the instructor and asking questions in real-time.

We are offering separate courses targeted towards primary and secondary teachers, so that you can choose the course that focuses on content and activities that are most relevant to your teaching context and of course your students.

To register for the Primary PL workshop (28th March 2023, 4:30pm-5:30pm AEDT), click [here](#).

Click [here](#) to register for the Secondary PL workshop, (29th March 2023, 4:30pm-5:30pm AEDT)

If you don't yet have a Maths300 subscription, you can still take part in the PL. Write to us at maths300@aamt.edu.au and we'll organise temporary access for you.

If you are interested in arranging a Maths300 PL for your school or faculty, please write to us at maths300@amt.edu.au.

A podcast on ACER Teacher: Improving students' financial education

Dr Carly Sawatzki is a teacher, educator and educational researcher in Deakin University's School of Education and a lead researcher on Deakin University's Economics + Maths = Financial Capability project.

In this interview, Dr Carly Sawatzki shares insights into what the key aims of the project are, some of the key findings to be published in their research report (released late last year and accessible [here](#)) and discusses the state of financial education in schools across Australia.

Perhaps most importantly for teachers and school leaders though, Carly also shares how opportunities for teaching and learning about finance are framed within the current and new versions of the Australian Curriculum, and provides examples of other educators teaching financial education exceptionally well.

Click [here](#) to access the podcast.

Day of AI Australia

The Day of AI is a free event, now in its second year and is a not-for-profit initiative that seeks to improve the equity of technology education in Australia.

With the recent release of ChatGPT and the passionate discussions around its role in education, this is a program that teachers and students alike won't want to miss



It is a full day of highly interactive teaching materials for students Year 5 to Year 10 about artificial intelligence.

The aim of this program is to provide world class technology content in a fun and interesting way that engages students and prepares them for the rapidly changing world of technology.

Click [here](#) to read more.

2023 Emerging Priorities Program

Commonwealth Government Department of Education

"Preparing for Industry 5.0 and beyond: facilitating the cradle-to-career life cycle"

This 2023 national initiative focuses on developing the Statistics, Systems thinking, Sustainability & STEM (SSSS) skills. These skills are core to the National Curriculum, Industry 5.0 and beyond.

It is available to all primary and secondary educators and involves free online educator professional development workshops, student workshops and two national student competitions.

It addresses and supports Australian Professional Standards for teachers, key learning areas, general capabilities and cross-curriculum priorities and is delivered online across Australia in 2023 by Emeritus Professor Tim Roberts AM and Professor Peter Howley.

Click here to know more

Improving mathematics outcomes in schools: Teaching by Mastery

Teaching by Mastery is a general term used to describe the pedagogical approach to teaching maths that is commonly used in Singapore and Shanghai. In this approach, the teaching of mathematical concepts is broken down into steps.

The teacher focuses on each step in turn and ensures, often through explicit teaching, that all students gain a thorough understanding, or mastery of it, before moving to the next step in the sequence.



Relationships between concepts and their application in problem-solving are introduced to the students as part of the acquisition of mastery skills.

Click [here](#) to read about mastery.

In recent years, mastery techniques have been adopted by maths educators in the UK. The transition to mastery in the UK is of particular interest to Australian teachers. The two countries share a similar cultural and educational context and prior to its recent changes in teaching practice, the UK, like Australia, emphasised inquiry-based learning.

In late 2020, AAMT organised two webinars about Teaching for Mastery, conducted by maths educators in the UK and Singapore.

1. Teaching maths for mastery – the impact on teaching
2. Teaching maths for mastery – the impact on maths education

The webinars have been immensely successful and are still garnering views over two years after they were first made available.

Write to us at office@aamt.edu.au for access to this exclusive content, for a nominal fee.

Previous editions of AAMT journals now available for sale!



A limited collection of previous editions of both AAMT journals APMC and AMEJ is now up for grabs.

The **Australian Primary Mathematics Classroom (APMC)** publishes papers considering the teaching and learning of mathematics applicable to early years (pre-F) and primary school students (Years F–6/7), while **the Australian Mathematics Education Journal (AMEJ)** has two defined sections one each for an audience of upper-primary and middle-school teachers and for mathematics educators of senior high school and tertiary levels, with a crossover of relevance to readers of both sections.

Priced at just \$20 a copy, here's a chance to populate your professional reading library or school resources with a selection of journals that you don't want to miss.

Place your order for any number of journals specifying the title, year and edition and we will endeavour to locate and fulfil your request as promptly as possible.

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The Australian Association of Mathematics
Teachers
GPO Box 626 Canberra ACT 2601
Tel (02) 6201 5265
office@aamt.edu.au

