



MAKE IT COUNT



We're
mathematicians!

Numeracy, mathematics and Indigenous learners

Make it count supports schools across Australia to improve pedagogical practice in mathematics and numeracy education knowing that 'high expectation relationships' between educators, students and family are critical to improved learning outcomes. This belief is reflected in the development of the same sort of partnerships between *Make it count* and other sectors, organisations and associations to engender a culture of collaboration and sharing of expertise with high expectation outcomes (see p. 3). To further encourage this, the Australian Association of Mathematics Teachers Inc is planning a Special Interest national conference for October 2012 to bring educators from across Australia with a focus on culturally responsive mathematics pedagogy. See p. 4 for more details.

IN BRIEF

FROM THE CLUSTERS

Alberton: Cluster leader and Critical Friend present *Make it count* at the 3rd International Realistic Mathematics Education Conference, Colorado

Swan Valley (previously known as Culunga): outreaching to other schools with professional learning of Aboriginal education assistants and education assistants in mathematics

Dharug: workshopped Early Years 'Monday Maths Mob' at the NATSIE Conference in Darwin, October

Gladstone: Cycles of action research to refine practice; investigative learning in maths300 and Yumi Deadly Maths

Healesville: Cultural competency workshops with Aunty Joy Murphy (Wurrundjeri) & Andrew Peters (Yorta Yorta)

Nerang: 60 ATSI students attend Titans Centre of Excellence to learn how maths can improve performance (story p. 3)

Noarlunga: presents workshop at Accelerated Literacy conference

Orange: outreaching to other schools; community group formed to advise 8-ways model.

'Maths Mob' wins Excellence Award

Doonside Public School, one of the three schools in the *Make it count* Dharug Cluster, has won an Excellence in Education Award 2011 for quality learning in the Western Sydney Region of NSW. 'Maths Mob' is an exciting initiative that started mid-Term 1 2011 at Doonside by enthusiastic staff.

The concept for 'Maths Mob' began in the Cluster's Key School, Hebersham Public, and through the collaboration of the schools within a professional learning community, Doonside and Blakett Public School took on the concept themselves. 'Maths Mob' offers fun, hands-on and



practical learning activities for Aboriginal and Torres Strait Islander students in K-2, enhancing their love of mathematics.

The aim of the program is to improve students' knowledge, skills and outcomes in the various strands of mathematics, as a result of engaged learning. A non-Aboriginal and Torres Strait Islander buddy accompanies them, making the program inclusive of all students'

culture. Students are encouraged to be involved in decision-making about what they would like to learn; the data has shown that they are consistently eager to attend.

Paul Hughes chairs First Peoples' Education Committee

At the recent National Aboriginal and Torres Strait Islander Conference in Darwin, the Federal Minister for Education, the Hon. Peter Garrett AM MP, announced the formation of the First Peoples' Education Advisory Committee. Chairing this Committee will be Emeritus Professor Paul Hughes. Professor Hughes is no newcomer to national education

committees having chaired the National Aboriginal Education Committee; the Commonwealth Aboriginal Education

Policy Taskforce; and the MCEETYA Taskforce on Aboriginal Education. Paul is Chairperson of the *Make it count* Expert Advisory Group and has been instrumental in keeping the project focussed and on-task by bringing his knowledge and experience to the project.



Professor Paul Hughes

Teacher transformation: Teaching mathematics through visual arts

Iain Hand is an experienced primary school teacher in the *Make it count* Alberton Cluster. He describes how he used to feel about maths: “I really hate maths. Maths sucks.” Iain knows that this stems back to the way he was taught mathematics as a student and says:

“The old way of learning through equations didn’t work for me and I just turned off... Incredibly, this became the way I taught maths to my students. I repeated the cycle... and wanted to break this cycle... by trying to come up with new ways to teach maths.”

Iain is a skilled teacher of visual arts and after a challenging discussion with his principal, settled on teaching mathematics through visual arts and using this as a means to encourage students to become numerate. An example of this was through teaching about the golden ratio. Iain ‘was able to overcome many of his misapprehensions and find meaningful situations for the processes of mathematisation and

contextualisation’ (Thornton & Statton, 2011).

Iain’s transformation was also affirmed through the data he collected. Base-line data about students’ thoughts on what mathematics and numeracy included: “Involving numbers,” and “Shapes, plus take and times tables.” Towards the end of the year, typical replies included: “Maths is things like measuring, adding, take away, times, shapes and other stuff.

Learning how do those things,” and:

“Numeracy is using maths, so like using measuring when you do cooking and if you were building, you need to be able to add and measure and we have done lots of art where we have used maths like measuring, times tables, adding, odd and even numbers,

patterns.”

Iain thinks it is significant that, although in his class they had not considered cooking, the students made that connection for themselves.

Transformations like this one in pedagogy (and often attitude) in mathematics provide strategies and evidence schools can use to improve learning outcomes in mathematics for Indigenous students.



Iain (centre) with Alberton Cluster Critical Friend Steve Thornton and students

Statistics improve performance: Titans show Nerang students how

Using statistics to improve your performance was the key message delivered at the Titans’ Centre of Excellence on the Gold Coast recently. About 60 Indigenous students from five of the six *Make it count* schools in the Nerang Cluster attended the day and met with Indigenous Titans players and their coaching staff to look at how the Titans improve their game by using data to inform them about numbers of kicks, sets of six, tackles, scrums, forward passes, sin-bin penalties, and so on.

Assistant coach, Steve Murphy, gave an insightful and engaging lesson which had students thinking about sport, and more specifically about

Rugby League, in a completely different way. Students were able to relate easily to the game itself in a social way but, through the use of statistics set within an authentic and familiar context, were able to engage in the game of rugby at an academic level too. New mathematical content was skillfully taught through a familiar context. Students saw first hand the value of statistics and the use of

evidence to inform practice. This has a direct parallel with the Nerang Cluster’s work where teachers’ are using performance data of students to inform practice.



Students from William Duncan State School met Titans player Ryan James and other Indigenous players

Closing the gap: Next Steps Focus Schools

The Gillard Government will provide \$30 million to improve the attendance and literacy and numeracy results of Aboriginal and Torres Strait Islander students in more than 100 schools across the country.

School Education Minister Peter Garrett said the *Next Steps* program will be managed by the Stronger Smarter Institute at the Queensland University of Technology, and around 7800

Aboriginal and Torres Strait Islander students are expected to benefit.

“The Australian Government is committed to closing the gap in education results for Aboriginal and Torres Strait Islander students,” Mr Garrett said.

“This initiative will deliver additional funding and expert guidance from the renowned Stronger Smarter Institute to participating schools.

“Stronger Smarter will provide advice to schools on methods that

have proven effective in improving results for Aboriginal students.

“This could include tailoring learning plans to meet the individual needs and aspirations of students, forming partnerships between schools and communities on issues of attendance or cultural awareness, or developing whole-school literacy and numeracy strategies.

“Schools will receive between \$210 000 and \$625 000 over two years, depending on student numbers and school remoteness.”

Connecting and collaborating with high expectations

Make it count continues to work with other Indigenous education initiatives around Australia to improve the learning outcomes of Indigenous students in mathematics and numeracy. Working together, rather than in isolation, and lending expertise across initiatives to form networks of educators, is key to success.

For example, a number of *Make it count* schools are also [Stronger Smarter](#) schools or affiliated with their hub schools and are providing leadership in mathematics and numeracy education within their region.

[Dare to Lead](#) is a project led by Principals Australia (owned by the various national peak principals' associations). Through its network of

5600+ schools nationally, it works to engage school leaders to ensure that schools achieve the best-possible outcomes for Aboriginal and Torres Strait Islander students. Dare to Lead has provided “snapshots” of Indigenous education for a number of *Make it count* schools.

[What Works](#) has been busy writing case studies on the impact Indigenous



Education Assistants are having on student learning outcomes through professional learning in mathematics content knowledge and strategies for working with students.

Make it count continues to make inroads into mathematics education. Clusters of schools have refined and adapted mathematics and numeracy programs like maths300, Yumi Deadly Maths and

First Steps in Mathematics to better cater for the learning needs of Indigenous students. These may differ between Clusters due to a diversity of contexts and communities but any new ways of teaching and learning are always underpinned by a strong evidence base, are whole-school and sustainable.

Evans & Peck announces recipient of Indigenous Australian Undergraduate Scholars

A great example of Indigenous students excelling academically, particularly in the areas of mathematics and science, is Daniel Allan. Congratulations to Daniel who is the first recipient of the Evans and Peck Indigenous Australian Undergraduate Scholarship Program. Daniel is 20 years old and is studying a Bachelor of Civil and Environmental Engineering and a

Bachelor of Arts in International Studies at the University of Technology (UTS) Sydney.

Daniel was born in Tamworth and his father's family are Kamilaroi/Gamilaraay from the North-Western region of NSW. Daniel attended Narrabri High School and his Higher School Certificate results enabled him to be eligible for the UTS Vice-Chancellor's Indigenous

Scholarship and the Aboriginal and Torres Strait Islander Engineering Scholarship, both of which Daniel currently holds.

More information about Daniel is available from the Evans & Peck medial release:

www.evanspeck.com/documents/MediaRelease_EPScholarship.pdf.



AAMT-MERGA conference 2011

Make it count featured strongly at the joint conference of the Australian Association of Mathematics Teachers Inc and the Mathematics Educators Research Group of Australasia in Alice Springs during July. Our Project Patron, Dr Chris Matthews, delivered the Hanna Neumann Memorial Lecture ‘Finding Terra Nullius: A Personal Journey in Mathematics Education’ (to view go to: <http://vimeo.com/25960537>); and the Culunga, Orange and Noarlunga Clusters presented at the ‘Improving Mathematics and Numeracy

Outcomes for Indigenous Students’ session (to view go to: www.netvibes.com/aamtinc#general.) Chris Hurst, Tracey Armstrong and Maranne Young from the Culunga Cluster also gave the researcher-practitioner paper ‘Making a difference for Indigenous Children’ (<http://delivr.com/1br3k>).

Other papers from the conference relating to Indigenous education can be viewed on the *Make it count* website: <http://makeitcount.aamt.edu.au/Resources>.

AAMT special interest conference 2012

AAMT is planning a ‘special interest’ national conference on Culturally Responsive Mathematics Pedagogy at the University of South Australia, Adelaide from 14–16th October 2012.

One of the keynote speakers is Professor of Maori Education, Russell Bishop, from the University of Waikato, New Zealand. Sub-themes for the conference include:

- engaging Indigenous students in mathematics; accessing community ‘funds of knowledge’ and applying these to the teaching of Western mathematics and numeracy;
- engaging parents and families in the teaching and learning of mathematics; whole school, evidence-based, sustainable practices;
- practitioner–researcher partnerships; and,
- Indigenous Education Assistant–teacher

partnerships.

The aims of conference include building a national picture of what is happening for Indigenous learners in mathematics and numeracy education (what has worked, what has not worked, what is missing, what has been learned) with a showcase of the work of practitioners, Indigenous Education Assistants (IEAs), researchers, and school leaders.

The conference will bring together Indigenous education assistants, education assistants, teachers, academics/researchers, school leaders, project managers, curriculum developers and policy makers to share perspectives on issues and develop common understandings and views.

An outcome of the conference will be a research-informed, practice-driven

framework of advice and directions for schools, researchers and educational authorities.



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NATIONAL CONFERENCE
Adelaide, 14-16 October 2012

RESOURCES & READINGS

See paper and slides presented by *Make it count* Project Patron Chris Matthews and National Manager Indigenous Programs Caty Morris at the recent ACER Research Conference Indigenous Education: Pathways to success. *Numeracy Mathematics and Indigenous learners: Not the same old thing* <http://delivr.com/1br3u>

What Works Core issues 10: Using personalised learning plans <http://delivr.com/1br3v>

What Works Case Study Make it count–The Swan Valley cluster: Professional learning for Education Assistants and Aboriginal and Islander Education Officers <http://delivr.com/1btiv>

For previous newsletters: <http://makeitcount.aamt.edu.au/Documents> or email Melinda at: admin@aamt.edu.au

NETWORKED LEARNING COMMUNITY

Join our online network: <http://aamt-makeitcountnetwork.ning.com>

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