Culturally responsive mathematics pedagogy

Make it count has developed a draft discussion paper to stimulate discussion and debate about the development of culturally responsive pedagogy in mathematics and numeracy. We are asking ourselves: What is a culturally competent teacher? How do culturally competent teachers teach mathematics and numeracy to Indigenous learners and what do they do that is different from others teaching mathematics?

Community partnerships in Orange

Early in March the NSW Orange Cluster, consisting of Orange Public, Orange Junior Primary, Calare Public and Orange East Public Schools (Glenroi Heights Public is a mentor school), held a very successful lunch with community leaders, parents and Elders in attendance. Each of the principals openly expressed a firm commitment to their goals for the Make it count project and improving learning outcomes of their Indigenous students. The lunch was part of a very productive day where collaborative links were made between the schools. The Cluster discussed using the 8 Aboriginal Ways of Learning model (http://8ways.wikispaces.com) as a tool for developing cultural competency in school leadership, in teachers, and in the teaching and learning of mathematics and numeracy. The model was developed from a project by NSW Department of Education & Training staff, James Cook University’s School of Indigenous Studies and the Western New South Wales Regional Aboriginal Education Team.

The 8 Aboriginal Ways of Learning model provides a pedagogical framework for teachers to incorporate Aboriginal perspectives by using Aboriginal learning techniques. These eight ways are about Aboriginal processes in learning: story sharing; learning maps, non-verbal; symbols and images; land links; non-linear; deconstruct/reconstruct and community links.

Numeracy, mathematics and Indigenous learners

This is our third newsletter for Make it count outlining a busy end to the project for 2009 followed by an exciting start in 2010: the project was launched at the 5th National Indigenous Conference in Hobart; formation of the final Clusters took place and the national online learning network took off. This year has seen a hive of activity on all fronts and in all manner of ways: Clusters have been busy fine-tuning their focus to support culturally responsive teaching and learning in their schools; the Expert Advisory Group met in late February to drive the project further ahead and; plans are under way for the project’s critical friends and evaluators to meet in July in Perth.

IN BRIEF

PROJECT PATRON
Dr Chris Matthews from Griffith University is our Make it count patron. Chris will play a vital role in supporting our work.

ONLINE NETWORK
Make it count has established an online professional learning community for educators working with Indigenous students in mathematics and numeracy. To join this group go to http://aamt-makeitcountnetwork.ning.com

FROM THE CLUSTERS
Culunga: family maths days for Cluster schools
Noarlunga: teachers video recording themselves trialing scaffolded, sequenced lessons (see over for more)
Alberton: Cluster day with Steve Thornton on numeracy across the curriculum, authentic contexts & evidence base
Healesville: development of workshop series in cultural competency with Monash Uni
Hebersham: focus on early numeracy learning & transition to school
Orange: intersecting maths and numeracy with 8 Aboriginal Ways of Learning (see over) through action research
Nerang: First Steps in Mathematics (FSIM) facilitator training & employment of Indigenous cultural officer
Gladstone: Yumi Maths, maths300 & FSIM plus PD day for all staff across Cluster schools.

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...finding the intersections between Indigenous community and culture (includes languages, contexts, numeracies, ways of knowing), the school and the mathematics classroom. This is a focus for Make it count.

The Orange Cluster will engage in a process of action research to investigate the development of culturally responsive pedagogy that intersects their numeracy and mathematics programs with the 8 Ways model.
**Video as an evidence base at Noarlunga**

Teachers in the Noarlunga Cluster in South Australia have begun the process of using video of themselves teaching for analysis and the development of pedagogical principles in explicit, scaffolded teaching of mathematics. They are researching the adaptation of the pedagogical success and underpinning processes of the Accelerated Literacy model (www.nalp.edu.au) and using these to develop a parallel model in mathematics and numeracy.

The teachers see the practice of video recording to be a powerful tool for improving their teaching and the learning outcomes of their Indigenous students. They are using the SA-developed Big Ideas In Number mathematics program as a basis for their work.

**Indigenous support assistants take First Steps**

Two Indigenous teacher assistants are in the middle of training in First Steps in Mathematics (FSIM): Number. Gloria Wilson and Cheryl Quelhurst are part of a strong Indigenous education team from St Peter Claver College near Ipswich in Queensland. The College is in the Nerang Cluster of schools in the Make it count project. Gloria and Cheryl are in the middle of using diagnostic tasks to identify where their students are up to and any misconceptions they may have that might be preventing them from moving on in their mathematical understandings. The Nerang Cluster has also trained an FSIM facilitator from each of their schools to form a network of support for their teachers in improving maths outcomes of their Indigenous students.

**Expert Advisory Group meets**

The project’s Expert Advisory Group (EAG) met recently for the second time and welcomed the project’s patron Dr Chris Matthews to the meeting and to the project. The EAG is really looking forward to having Chris’s involvement in helping steer the project and in working with various project participants when possible. The group stressed that the work of the Clusters is to find something that is innovative and specifically targets Aboriginal students — not something that could apply to anybody — and which has a sharp focus.

There was a lengthy discussion about what is “cultural competency” and the need for further debate so that what it means in relation to the teaching and learning of numeracy and mathematics is clear.