



The National Centre of Science, Information and Communication Technology, and Mathematics Education for Rural and Regional Australia



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Summer Schools for Teachers

Project Title Australian Government Summer School for Teachers Program;

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Funding

Department of Education, Employment and Workplace Relations Agency

Organisational

SiMFRR National Centre Base

Description Top

This Program was established as part of the Australian Government's 2007-2008 Budget Package: Realising our Potential. A central aim of the Program was to recognise some of Australia's high-performing teachers by providing them with quality learning experiences to further enhance their knowledge and skills across five priority areas. These areas were identified as English, Mathematics, Science, Australian History, and Literacy and Numeracy. The SiMERR National Centre successfully tendered to develop the Mathematics and Science Summer School Programs and this was undertaken in collaboration with host institutions the University of New England (Mathematics) and Flinders University (Science). At each venue, 200 teachers took part in a 10-day residential program comprising five modules. The program was structured to ensure that teachers had access to a range of learning opportunities which recent research has indicated are consistent with the professional learning needs of both primary and secondary teachers. In brief the modules were:

 World class - this module provided an interactive opportunity to share and explore exemplary practices in mathematics education and laid the groundwork for teachers to return to their schools and help establish or sustain elements of good practice within their departments:

Cutting edges - this module provided access to applications of cutting-edge mathematics and supported teachers by

- introducing strategies for incorporating the new-found knowledge and skills into their curricula; • Next praxis - this module focused on teaching and learning strategies that integrate information communication
- technologies within mathematics curricula;
- Potential difference this module examined the advantages and challenges associated with student diversity in mathematics classrooms, and explored strategies to cater for this diversity; and
- Frameworks this module explored 'big picture' neurocognitive frameworks and how they help teachers understand, practise and assess learning, teaching and problem solving in mathematics.

The Mathematics and Science Summer Schools were developed to complement each other and drew on the synergies between the two subject areas. Course content showcased current thinking in pedagogical practices, subject knowledge (including pure research and industrial applications), educational leadership, and curriculum issues.

The delivery structure for the Program consisted of a sequence of keynote addresses (to 200 teachers) by internationally known experts in their respective fields, followed by workshops (of 20 teachers) in which the content of the keynote presentation was discussed from the practical point of view (with participants asking the questions), followed, in turn, by small tutorials (of five teachers) in which the participants discussed with each other the ideas from keynotes and workshops from the point of view of their own classroom practice. Workshop sessions were guided by facilitators with extensive professional presentation experience often associated with programs conducted with the Australian Association of Mathematics Teachers. Each module was arranged, around a two-day period, and had a similar structure. Participants were supported with readings and guiding questions. In the Student Diversity, Cutting Edge Mathematics, and Next Praxis modules, participants had the option to attend two Highlighted Presentations that addressed particular areas of interest. Where keynote content of the main program was considered to be outside the immediate needs of primary teachers, a separate keynote program was devised.

Top **Participants**

200 teachers (105 male; 95 female): ACT - 5; NSW - 31; NT - 1; Queensland - 58; SA - 13; Tas - 6; Vic - 58; WA - 28

Findings Top

Feedback from participants was an important source of information for monitoring the efficacy of the Program's aims and structure during the Summer School. The overwhelmingly positive feedback at the end of the Program indicated that the content and structure of the Summer School met these expectations. Furthermore, the structure of the Program allowed

participants to process the new ideas from the practical point of view in a way which should make it easier for them to implement some of these in their own classrooms. A key component of participants' engagement was the commentary about how relevant information might inform improvements in student learning outcomes. The analysis of their comments identified five areas of professional relevance: Improving teaching and learning; Updating the currency of knowledge; Networking; Enhancing student learning and engagement; and Learning about curriculum and assessment. For each of these areas there was an observable shift in how they reflected on the sessions. This shift was from recognising the many ideas and strategies that presenters delivered to thinking deeply about the issues in terms of 'where to next?' – both personally and professionally.

Outcomes 1 Top

Conference Presentation

McPhan, G., Pegg, J., & Horarik, S. (2008). Feedback About Professional Growth for Teachers of Mathematics: A
Developmental Perspective. In M Goos, R Brown, & K Makar (Eds.), Navigating currents and charting directions
(Proceedings of the 31st annual conference of the Mathematics Education Research Group of Australasia, Brisbane,
pp. 345-352). Brisbane: MERGA

Resources

Course materials comprising selected readings, focus questions and additional resources for each module were
provided to all participants. These materials were also made available on the respective Summer School websites
until the end of the project contract period (May 2008) and some of these are now available on DEEWR's website.

Impact

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The Federal Government offered Summer School graduates the opportunity to access, on application, a Post Summer School Small Grant of \$2,000. The purpose of this is to support the delivery of school-based professional learning activities that aim to share the knowledge and skills of Summer School graduates with other teachers. Instances of post Summer School events organised by participants include: Challenging and Engaging Students for Mathematics in the Primary and Secondary, Brisbane Workshop, August 2008 (17 Schools; 120 participants); Riverina Mathematics Association Annual Conference, Wagga Wagga, April 2008 (80 participants). These events have drawn on Summer School course materials and have included Summer School presenters in their programs.

Related documents 1 Top

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