

Maths and Science Spectacular

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Project Title	Maths and Science Spectacular for Rural and Regional Students
Project Team	Professor Neil Anderson, Ms Lyn Courtney (SiMERR Queensland), Mr David Romagnolo, Mr Tony Fuller
Period	July 06 – November 06
Funding Agency	SiMERR
Organisational Base	SiMERR Queensland

Description

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This project was developed from the successful James Cook University Mathematics and Science Excellence Program. The Spectacular is a two-hour hands-on series of investigations that brings together mathematics and science in a motivating and fun way. It targets rural and regional students from Years 5 to 10 and provides professional development for teachers. Activities were designed to be high interest, engaging all students to use mathematics as part of a spectacular investigation of activities. Four 45 minute activities were included: Pewter Casting; Water Rocket Science, Foaming Test Tubes and Dry Ice and Exploding Balloons.

The project provided professional learning for teachers, making it possible to deliver a hands-on program to a maximum of 120 students per day. The program was conducted after-school, once a week and cost students \$89 for eight lessons. It was very cost effective, allowing nearly 2000 students to undertake the program for less than \$24,000, which included the purchase and construction of \$8,000 of reusable equipment.

Participants

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The Maths and Science Spectacular was delivered to nearly 4000 students from 26 regional primary schools and involved 50 middle school teachers. This project was managed and coordinated with James Cook University personnel, Education Queensland and Woree State High School personnel, the latter being where the program was initially developed and coordinated. The program involved schools from the Cairns and Innisfail District: Innisfail SS; Innisfail East SS; Innisfail SHS; Goondi Bend SS; Mourilyn SS; Woree SS; Woree SHS; Cairns West SS; Whiterock SS; Aloomba SS; Caravonica SS; St. Francis Xavier; Our Lady Help of Christians; Mother of Good Counsel; St. Gerard Majella; St. Mary's and Holy Cross.

Findings

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Findings indicated that teachers conducting and participating in these motivating and intellectually challenging activities felt that they promoted motivation and enhanced conceptual development for students. Surveys returned (10) indicated that students from nine of the schools found the program enjoyable and entertaining. Eight of the school principals strongly agreed with the statement that this program had a valuable educational value in mathematics and science with the other two school principals agreeing to the statement. Six of the school principals strongly agreed and three agreed that teacher involvement provided useful professional development. Seven school principals strongly agreed and two agreed that the program was good value for money. Finally, all school principals indicated that they would be interested in future educational services provided by the SiMERR – James Cook University Mathematics and Science Excellence Project.

Outcomes

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The program has been the subject of eight newspaper stories, four television news stories and publication in the Education Review and the International Specialist Schools Journal, Spotlight. The program was a regional winner of the Education Queensland Showcase Award for Community Partnerships. From the success of the after school program, a consortium of schools raised \$12,000 to develop the project to reach more students through the SiMERR JCU Maths and Science Spectacular in 2007.

Education Queensland contributed \$5,000 to subsidise the project for schools in the Cyclone Larry affected Innisfail. Funding from SiMERR was used to purchase the \$8,000 worth of reusable equipment and consumables for the program,

which has been organized into a trailer. 'The SiMERR Maths and Science Trailer' and has become a valuable resource that was used to take the program to other schools in Far North Queensland in 2007. This program is self-sustaining and continues to be run under the new name SiMERR – James Cook University Project 5 for the 2008 school year.

Publication

- Romagnolo, D. (2006), Maths and Science Excellence, Education Review, March

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This project led to enhanced levels of motivation and conceptual development for the students and valuable Professional Development for teachers. The willingness of schools, parents and Education Queensland to contribute financially to this project points to the great value that communities placed on the positive impact of the program. That the project is now sustainable indicates that presenting maths and science in fun and entertaining ways captures the interest of students, which is expected to positively influence their participation in these subjects.

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