

## Mathspower

Project Title	Implementation of Mathspower Trial
Project Team	Dr Kim Beswick (SiMERR Tasmania)
Period	February 06 – September 06
Funding Agency	SiMERR
Organisational Base	SiMERR Tasmania

### Description

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When students get behind in mathematics their lack of understanding escalates over time causing disengagement and behaviour issues. By providing them with a resource they can use at home they can scaffold their understandings to enable full participation and continued achievement.

This project evaluated the effectiveness, in terms of students' mathematical understandings and their attitudes to mathematics, of integrating a computer-based audio-visual mathematics tutoring program into current teaching and learning practice at one rural Tasmanian secondary school.

The school was able to offer an individual mathematics tutoring system to reinforce key mathematical concepts for students at various grade levels and representing the full range of ability levels. It offered an opportunity for students to catch up on missed learning, and for more advanced students to move forward at their own pace.

160 Maths Power CD-ROMs from level 1/2 to 11/12 were purchased and booklets containing worksheets prepared. Grade 8 students were pre-tested and had a one-hour session per week during their class time. Twelve out of 62 students were issued CD-ROMs for additional use at home. Grade 10 students also used the resource and were tested about their attitudes to mathematics, and their Maths Power learning levels. Follow up surveys were conducted to determine levels of use, ease of use and impact on learning.

### Participants

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1 school, 67 students, 4 teachers, Department of Education

### Findings

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Issues included:

- Computer access at home and at school was a limiting factor. Networking at school helped ensure students were not reliant on functioning CD drives.
- Parental support of the project was poor.
- There was difficulty in promoting it to a grade when not teaching it — there is a need for other teachers to become advocates.

From the follow-up surveys it was found that 11 out of 41 Grade 10 students used the software at home and found it easy to use as well as helpful in reinforcing mathematics concepts missed in class. Reasons given for not using it included lack of time, laziness and computer problems. Only two students said they didn't like the resource.

### Outcomes

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- Beswick, K., & Browning, S. (2007, April). The impact of a mathematics tutoring package on rural secondary students' attitudes to mathematics. Paper presented at Narrowing the Gap: Addressing Educational Disadvantage Education for Rural and Regional Australia's conference on student diversity, Armidale, NSW.

### Impact

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A key constraint to the success of the project was lack of whole school and parental support. The project was instigated by a dedicated teacher who put a lot of work into getting the program set-up. However the take-up by other teachers was poor. For students to work voluntarily at home the school and parental culture needed to support and value this. The teacher subsequently left. However, the school now has addressed some of these issues. To make a project like this work it is not enough to solve technical issues – the culture of the school needs to be addressed and things put in place to educate parents and help them become partners with the school in their child’s learning.

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