Science Challenge

Project Title	Creativity and Innovation in Science Challenge
Project Team	Dr. Coral Campbell, Dr. Damian Blake (SiMERR Victoria)
Period	June 07 – June 08
Funding Agency	SiMERR
Organisational Base	SiMERR Victoria

Description

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This project sought to establish an ongoing Science Challenge for secondary science students in rural and regional areas serviced by Deakin University but supported by local industry networks. It had a number of purposes that are inter-linked:

- It was anticipated to rejuvenate interest in science at secondary level through the completion of real science projects;
- It was expected that strong links will be forged between school communities and industry partners that will provide ongoing support for the pursuit of science in the area; and
- It will provide a forum for young scientists through which to develop skills of scientific investigation and to share scientific discoveries.

These aims were pursued through the development of a science challenge congress which provided opportunities for students to link with a local scientific enterprise, undertake creative research and present results to others in a conference-like congress. The congress provided support and public recognition to schools and students who undertook innovative and creative learning.

Participants

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- 6 Secondary teachers
- 2 schools – Colac Secondary College, Lara Secondary College
- 50 students
- Biotech Geelong
- 2 university staff
- Community participants from: Barwon Water/Water Watch; Parks Victoria; Weed Spotters; Weed Warriors & Weed Busters

Findings

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The project has found that partnership arrangements between school and industry partners are appealing to both school and industry. However, neither group is skilled in setting up the arrangements, and special support, for instance by a university or community based body, is valuable as a catalyst for such activities. Through the continuation of this research project and the development of case studies we hope to highlight particular features of partnership arrangements to improve the sustainability of the relationships.

Outcomes

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- A detailed audit of existing international research and literature informing the conduct of educational challenges and community-based initiatives.
- Regional forum involving potential industry and community partners. The forum disseminated the research findings to the regional community and scoped the development of a science challenge for the regional and rural community served by Deakin University.
- The generation of Science Challenge Website http://deakinchallenge.ning.com/profiles?xgk=7ca203cdff that will serve as a key communication strategy for the project.

Publication

- Campbell, C., & Blake, D. Developing a rural and regional science challenge to utilise community and industry-based partnerships. Paper submitted to Eurasia Journal of Mathematics, Science and Technology education. (in review)

Conference presentation

- Campbell, C., & Blake, D. (2008, June). Developing a rural and regional science challenge to utilise community and industry-based partnerships. Paper presented at the conference of the Royal Melbourne Institute of Technology's seminar on future directions for mathematics, science, and technology education, Melbourne, Vic.

An extension of the project, funded by Deakin University, was carried out in 2008. This involved:

- The establishment and documentation of the science challenge project as a regional Action Research project that seeks to influence positively the work of science teachers in rural and regional areas.
- The conduct of a survey that examines existing students, teachers and industry partners attitudes to learning science.
- The development of the project as a case study which documents the development of the science challenge as a strategy for re-engaging students in learning science.
- Consultation forums will be conducted seeking the views and support from key partners including: schools, industry (Alcoa, Ford, BHP, Shell, CSIRO), the Smart Geelong Region Local Learning and Employment Network (SGRLLEN), the Deakin University Faculty of Science and Technology, and the Deakin University Marketing Division. These meetings will allow the development and refinement of an operational model for the challenge and the opportunity to conduct market research to best locate the challenge within the region. This process will also explore possible sources of ongoing financial support for the challenge and the eventual establishment of a key reference group to guide the project.
- The consultations and market research will be used to develop a business plan that will ensure the sustainability and growth of the challenge within the region through ongoing support from the key partners. The organisational and administrative structures for the challenge will be outlined in this business plan.

Impact

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The project has established a working committee of university and scientific organizations in the Geelong region, committed to supporting student engagement with science and particularly to the promotion of science activities that represent the way science works in industry and in communities in the region. The collaboration between these players will hopefully support a more integrated and widening approach to regionally based science experiences in schools, many of which are in rural settings.

A key dimension of the ongoing research project will be to examine potential science career pathways in the region and to survey the students' awareness of these pathways. The project will seek to improve students' and teachers' awareness of these pathways through the use of science projects in the challenge.

It will involve the development and refinement of an operational model for the challenge and for partnership arrangements.

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