# Sustainability in Education

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| Project Title | Sustainability in Education: Building Long Term Solutions for Seven Western Australian Schools |
| Project Team | Associate Professor Sue Trinidad, Dr Sandra Frid, Associate Professor Len Sparrow, Professor David Treagust (SiMERR WA) |
| Period | 2006-2007 |
| Funding Agency | Australian Schools Innovation in Science, Technology and Mathematics (ASISTM – Round 2) |
| Organisational Base | SiMERR WA |

## Description

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This project aimed to enhance the teaching and learning of science, technology and mathematics through a focus on environmental awareness and sustainability. Through adopting an 'advocacy in action' approach in which students participated in environmental advocacy events linked to science, technology and mathematics, school-designed curricula were developed through integration across learning areas and through connections to local environmental sustainability issues.

Each school developed and participated in an 'advocacy in action' project and produced case study resources and online materials. The school projects included: examining a daily 'environmental footprint' to promote sustainable practices in water, energy, pollution and recycling; examining the effects of air pollution and the use of alternative energy sources; developing a portable water quality testing 'suitcase' of scientific materials; developing healthier living through mind, body and spiritual aspects of environmental awareness; reducing school waste; inventing products and processes to solve particular environmental problems; and developing online materials and resources for sustainability themes.

Teacher Associates, including an Engineer, an Architect and an Environmental Scientist, provided support to the schools. Professional development was also provided for teachers within cluster schools, rural schools and other schools.

## Participants

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Teachers from a cluster of seven schools worked with Curtin University students and lecturers to develop curricula that embed skills, knowledge and values related to 'sustainability'. One project coordinator; one critical friend, seven School Leaders; 10 teachers; 175 students; 11 Teacher Associates; four consultants ; four partner organizations.

## Findings

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## Outcomes

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The schools presented their projects in Perth in July 2007 at the World Conference on Science and Technology Education: Sustainable, Responsible, Global.

As the title of the project suggests the aim was to build long term solutions for the seven schools. All seven schools have been able to build and refine ideas from each other's 'advocacy in action' projects and have developed their own sets of resources and materials as a result of this ASISTM project. Each school has expressed an ongoing commitment to the "sustainability in education" theme and that they will continue to use the materials and project ideas in the coming years as a part of the WA Education for Sustainability (EfS) project. Two of the schools will be part of a Round 4 ASISTM project bringing their new ideas into the next ASISTM project.

### Conference paper and presentation (in progress)

- Trinidad, S., Broadley, T., & Smith, M. (2009, February). Building on sustainable education in science, mathematics and ICT in Western Australia. Paper submitted to the National Centre for Science, Information and Communication Technology, and Mathematics Education for Rural and Regional Australia's national symposium on innovation for equity in rural education, University of New England, NSW.

## Impact

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This project has enabled a set of teaching resources in the form of seven case studies to be developed for schools and for students to have the opportunity to work with an Engineer, an Architect and an Environmental Scientist, thus increasing their interest in science and technology related careers. The Environmental Science, Engineer and Architect Teacher Associates were able to talk about sustainability from a career perspective, further inspiring students in science and mathematics and how important these are and to think about further study options. This was particularly important for the Aboriginal students who had not considered Environmental Science as a career. It was observed that many students had not even heard of an Environmental Scientist before and due to this project they were talking about becoming Environmental Scientists. The practical nature of the activities served as models for school curriculum development that is relevant to a school's unique social and geographical context.

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