

Engineers Without Borders becomes another cog in engineering futures, through Concept2Creation.

Five northern Adelaide schools have recently piloted the Engineers Without Borders program that has been traditionally undertaken by engineering undergraduates. This program introduces engineering design challenges within a Third World context.

After some induction by the EWB team from the University of South Australia, teachers introduced students to the EWB website to create the context in which they would need to develop a solution for the lake-dwelling people of Cambodia. This generated a creative rush of possible solutions for water, sanitation, transport, housing, energy and food. It was then a matter of appreciating that if solutions were to be successful, they would need to be developed with rather than for the people and that they would need to utilise resources that are accessible by Cambodians.

The teams presented their solutions at the Concept2Creation Expo in November and these included some innovative ideas for water purification, soil decontamination, housing and cooking. One team utilised the expertise of university researchers to assist their work on decontamination and another adopted a 'junkyard challenge' mentality to develop a functioning dung-powered generator.

In reflecting upon this experience, the NAMIG and UniSA coordinators noted some promising outcomes from the pilot. These included:

- That by this approach, students were redefining Engineering as a career that involves 'big picture' critical thinking and problem solving regarding economic, social, political and environmental considerations; rather than just developing a technical product or process;
- That this redefinition of Engineering, being something more than using and developing 'boys toys', might contribute to attracting more girls to consider the profession. This was reinforced by having EWB ambassadors like Ms. Anh Tran who, as a female engineer, presented very credible models of young graduates with a passion for these applications of engineering;
- That by approaching engineering through Society and Environment Studies, rather than directly through Science, Math or Technology subjects, there was potential to engage a larger number of students through a social perspective;
- That there was potential for strengthening the appreciation for cross-curricular linkages by students and teachers; and
- That this program provided a good starting point for students to gain an appreciation for the critical thinking and project



Bernie Fitzsimons, General Manager NAMIG, observes a dung-powered generator created by high school students at a northern suburbs high school.

management processes that could be developed in the more senior levels of the Concept2Creation programs.

Given that the opportunity was offered midway through 2009, when most teaching programs were already set, the initial uptake of EWB in Schools has been very promising. It is anticipated that this experience, and a focus upon a remote Australian indigenous community for the 2010 project, will see more schools becoming involved in the program during this year.

Northern Advanced Manufacturing Industry Group (NAMIG) welcomes interested companies and practicing or retired professionals to become involved in the C2C program. Please contact us on 08 8260 8903 or visit www.concept2creation.com.au.

Bernie Fitzsimons
General Manager
NAMIG

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