



The Robotics Peer Mentoring program, initiated by teacher Deb Turley, in which students work with university student mentors in developing robots and electronic programs, is now part of the Salisbury High School's Year 10 curriculum. The program has led to some students going on to study engineering and working in the electronics industry.

Switching students on to science and engineering

A Salisbury High School teacher, recognised for her contribution to science teaching, is encouraging students to consider careers in technology, engineering and mathematics.

DEBRA Turley has been switching on Salisbury High School students to science, technology, engineering and mathematics since she arrived there in 1996.

Now Mrs Turley has been named State Australian Academy of Technological Sciences and Engineering (ATSE) 2007 teacher of the year.

Mrs Turley helped develop, document and publish curriculum materials for the Robotics Peer Mentoring (RPM) program, which encourages students to work with university student mentors in developing robots and electronic programs to control them.

Salisbury's group of 43 students was the largest schools group in the initial robotics program.

Mrs Turley says the university and industry partners were aware of the looming skills shortage in technology and science and wanted to encourage school students to think of a future in physics and engineering.

The robotics program is now part of the school's Year 10 curriculum and has led to some students going on to study engineering and working in the electronics industry.

The program won the AusIndustry Innovation Award

at the Australian Engineering Excellence Awards in 2003.

Former Salisbury High School principal Helen Symeonakis says the program is an excellent model. "Imagine if we were able to achieve this outcome on a broader scale with students going to university to study science," Ms Symeonakis says.

"That would certainly strengthen the numbers of students who were inspired to study science and develop a culture of innovation for Australia."

Mrs Turley has also been developing study programs with UniSA and industry partners Codan and Tenix to lead students into engineering.

Many students in the program have never thought of engineering as a possibility for them.

Mrs Turley says students are not necessarily aware of the variety of work possibilities and the types of experience they can have.

Students say the program provides challenging, hands-on work that allows them to meet university students and engineers in companies and encourages them to believe they can achieve in the field of engineering.

Mrs Turley has led the school in the Northern Advanced Manufacturing Industry Group

(NAMIG) Concept 2 Creation project since 2005. This project encourages students to develop their own prototype of a technical solution to a real-life problem.

Students work with volunteer engineers and mentors from some of the largest advanced manufacturing companies in the State.

In another example of work with university mentors and industry, Engineering Pathways Stage 2 students Simon Klaassen-Smith, Natasha Reddy and John Coaby are constructing an airship with a separate envelope and gondola, so that the operator can determine speed, altitude and direction.

"These are challenging options," Mrs Turley says.

"They're outside the students' comfort zones.

"The students have to justify their solutions to the engineers and be accountable to them along the way.

"It's not just about whether they got the answer right, but whether the product they are developing is going to work."

In 2004, Salisbury High School won *The Australian's* Best Schools Award for excellence in science teaching and learning.

Mrs Turley won a Premier's industry scholarship for science and mathematics teachers. This allowed her to work at Integrated Electronic Solutions for 10 days to research the skills required to work in a small to medium sized electronics enterprise.

In 2006, the school and its industry partners Tenix Defence, were among four finalists for the Prime Minister's Awards for Excellence in Business Community Partnerships.

Tenix Defence Electronic Systems Division product and

innovation manager Ian Will says these programs bring students into the real-world, high-tech field of engineering, exposes them to 'market economy' constraints such as deadlines and budgets.

Mr Will says the hands-on experience of engineering skills and processes "will give students an edge at university and as a graduate engineer".

"It also allows students to discover their own potential in a challenging but nurturing environment."

He says the program also exposes teachers to another field of work, which may have an impact on the relevance of their teachings and the examples they use in working with their students.

Mrs Turley says in the future she would like to give her students some similar work experience in health, especially the booming biotechnology and biomedical areas.

- RON HOENIG



Salisbury High School science teacher Debra Turley is encouraging students to take up engineering.

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