



The Teaching-Research Nexus

A guide for academics and policy-makers
in higher education

www.trnexus.edu.au

Examples from Australian universities

Nexus: Journal of undergraduate science engineering and technology

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University of Tasmania

Broad discipline area:

Natural and Physical Sciences & Engineering and Related Technologies

- Science and Engineering and Technology

Year level:

- Mostly final year undergraduate, possibly second year science students as well

TRN strategy:

- Teaching research methods, techniques and skills explicitly within subjects
- Infusing teaching with the values of researchers

Teaching and learning context:

- Research presentations
- Practical experiments
- Group work

Brief description of the initiative:

"Nexus: Journal of undergraduate science, engineering and technology" is a journal (in online and paper formats) of undergraduate research at the University of Tasmania. It was set up in 2004 and aims to provide a model and a means of integrating and promoting the teaching/research nexus within the undergraduate curriculum at the University of Tasmania.

'Nexus' is amongst the first undergraduate journals of science, engineering, and technology in Australia, and it seeks to highlight linkages between high-level learning and research, and between research and publication. It also provides a showcase for the research undertaken by University of Tasmania undergraduate students from the disciplines of science, engineering, and technology. It is published annually and contains solely the work of undergraduates.

A corollary of the project has been the development of guidelines and templates for integrating the production of research papers into undergraduate teaching units.

The journal works as follows:

Each year the Nexus coordinator circulates a message to all Schools in the Faculty of Science, Engineering and Technology asking staff to nominate undergraduate research reports for publication. The staff member then becomes the mentor for the student and only when the report is at an acceptable level of quality and in the correct format is it then submitted to the Nexus coordinator. The project team then review the submission before the report is accepted, put into a common format and eventually published. Typically about 15 papers are published in each yearly issue.

Evidence of effectiveness

Student learning and learning experience

After the launch of the first issue the contributing students were surveyed for feedback on the experience. The feedback from students was uniformly positive:

“Extremely excited”

“I felt very proud to be recognised for my efforts”

“Over the moon excited”

“Proud that my assignment was considered of high enough calibre”

“I developed some valuable research skills”

“It will impress future employers — they will know I can write and present reports well”

“It’s a great thing to have on my CV”

“If I do a PhD it will go towards the marks I earn”

“May be of benefit in any postgraduate studies I complete in the future”

The academic teaching

The project has developed a set of guidelines for the systematic production of undergraduate research reports. This has been of great benefit to the variety of Research Project units that are now offered in undergraduate degrees by every discipline in the Faculty of Science, Engineering and Technology.

Research

For many academic staff, the need to achieve a minimum standard with the student report has provided a foundation for then turning it into a submission to a fully refereed external journal.

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Handout/Teaching materials:

<http://www.utas.edu.au/scieng/nexus>