



The Teaching-Research Nexus

A guide for academics and policy-makers
in higher education

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Examples from Australian universities

Immunological Techniques: Developing research skills in third year undergraduate students

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Broad discipline area:

Natural and Physical Sciences

- Microbiology and Immunology

Year level:

- Third year undergraduate

TRN strategy:

- Teach research methods, techniques and skills explicitly within subjects
- Build small scale research activities into undergraduate assignments

Teaching and learning context:

- Research laboratory work
- Student-lecturer research collaborations
- Practical experiments
- Assessment (Assignment)
- Inquiry-based learning methodology

Brief description of the initiative:

This Senior Lecturer coordinates the *Immunological Techniques* course, which is taken in the third year of the Bachelor of Science (Microbiology and Immunology) and Bachelor of Biomedical Science, is a prerequisite for completion of an Immunology Major, with typical enrolment numbers of 60-80 students. The course is laboratory based; students are expected to carry out practical experiments under the guidance of an academic. Students get hands on experience in conducting small experiments. One of the advantages of this type of class is that the experiments can be carried out in such a way that the students may not get the expected results, thus giving them first hand experience that laboratory research does not always produce the intended result. Students are also required to write up reports of these experiments in the standard scientific research format. *Immunological Techniques* is a semester one lead-in class to another third year course offered by this Senior Lecturer's department, *Projects: Immunology* in which small groups of students work on a mini

research project with postgraduate research students and staff supervisors on an area of current departmental research. These subjects integrate to develop students research skills.

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