



The Teaching-Research Nexus

A guide for academics and policy-makers
in higher education

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Examples from Australian universities

Demonstrating the ‘Real World’ Applicability of Research Undertaken on Field-Trips

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Broad discipline area:

Natural and Physical Sciences

- Marine Studies

Year level:

- First, second and third year undergraduate

TRN strategy:

- Designing learning activities around contemporary research issues
- Building a small-scale research activity into undergraduate assignments
- Infusing teaching with the values of researchers

Teaching and learning context:

- Field trip

Brief description of the initiative:

When this academic takes students on field trips as part of the *Coral Reefs* (3rd year), *Marine Mammals* (3rd year), *Aquatic Ecosystems* (2nd year), *Ecology* (1st year) courses of a Bachelor of Marine Science and Management, he uses the practical research-based learning context to reinforce ‘real world’ teaching-research linkages. Student enrolments vary from 48 for *Marine Mammals* and *Coral Reef* final year courses up to 180 for *Ecology*, and all students participate in field learning activities.

This academic considers field trips benefit the students as they give them:

- **Real world experience** - He demonstrates currently accepted practices involved in ‘real’ research and teaches students to carry out the same practical tasks and use the same techniques as consultants and researchers, including how to:
 - construct species area curves in a terrestrial environment
 - quantify the coral community, and changes in coral communities over time
 - conduct water quality profiles

- launch a boat
- set and monitor nets
- quantify and record whale and dolphin behaviours
- **Enhanced employment prospects** – This academic makes a point of ensuring his students are aware of the professional relevance of the field trip activities and explicitly states that on completion of the course, students will be already pre-trained and therefore capable of doing consultancy or research work in their discipline areas. This academic believes his students are more employable than graduates who have undertaken classroom based studies, because field trips provide them with opportunities to gain practical as well as theoretical knowledge. Anecdotal reports suggest that students get jobs using their degree and employers are attracted by their field skills as well as their academic training.
- **Problem-solving skills** - Students develop problem-solving skills because they are constantly challenged by unanticipated circumstances, such as rough weather, a boat breaking down, a net getting broken or time limitations.
- **Teamwork skills** - When faced with unexpected difficulties in the field, this academic encourages students to work as a team to respond to the problem, given the resource constraints, which will still allow the group to address the research questions. He believes these collaborative activities enhance students' communication and teamwork skills.
- **Enhanced confidence and motivation** through seeing the relevance of the field research activities to their future professional lives. By applying practical techniques in the field, students learn to trust their own ability to both understand theoretical concepts and to realise it is within their capabilities to undertake research tasks.
- **Report writing skills** - All field trips have assessable assignments in the form of scientific reports that reinforce the real world relevance of the activity. Students gain experience with report writing which is fundamental to their future employment, and it gives them confidence to know that their fieldwork experience will be required for their future professional careers. In some cases this academic has, with the students' permission, sent the best student reports to local authorities to alert them to the results of studies that are relevant to management.

Benefit to academic:

This lecturer considers that field activities enhance his credibility in the eyes of the students as they come to appreciate he is both knowledgeable about currently accepted practices and well respected in the field.

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