
Pedagogical Research in Higher Education (PRHE) 2010

ABSTRACT

Research informed curriculum initiatives: Findings from an Australian audit investigating the diversity and characteristics of undergraduate research opportunities.

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It has been established that student learning is greatly enhanced as a result of engagement through research and inquiry based learning. There is also a continuing emphasis on increasing the ways in which we link research and teaching within higher education. This project aimed to audit research opportunities available to students within the research- and teaching-active School of Zoology at the University of Tasmania, Australia. The project examined the questions – *To what extent are undergraduate students exposed to research and inquiry experiences within the School of Zoology? And what are the student benefits?* This paper will report on the findings from the first question, investigating the breadth and diversity of research opportunities available. To examine undergraduate research experiences (UREs), this research utilised a mixed methodology approach of qualitative interviews and surveys with research and teaching staff. The interviews identified specific URE activities and the survey tool (adapted from the CURE instrument of Lopatto, 2008) enabled quantitative data to be obtained on the characteristics of the student activities identified.

Within the literature there is a wide diversity of what is or is not defined as undergraduate research. Much of the debate is centred on the nature of the student activity and about the “newness” of the knowledge discovered. For the purposes of this study we defined undergraduate research as:

“An inquiry or investigation conducted by an undergraduate student or group of students that makes an original contribution to the discipline or to the individuals involved.” (Adapted from Beckman & Hensel, 2009)

This definition excluded research interactions where students were inactive or “passive” (Healey & Jenkins, 2009) such as in research seminars or research journal discussions, however it included active participation in research activities where the students were seeking the answers to research questions – whether in the laboratory, the field or the library. Importantly we also defined undergraduate research to include research activities where the students uncovered knowledge that was original (new) to *them* although not necessarily new to the discipline. This is an important distinction. We felt strongly that the student’s engagement was dependant on a combination of features - the scientific authenticity of the task, the student’s sense of ownership of the research project and the student’s independence in performing it. These features did not include the newness of the knowledge discovered.

This project found that there existed within the School of Zoology a positive culture of integrating research into teaching and creating research opportunities for students. Eleven activities were identified and characterisation revealed a wide diversity of designs, with some activities voluntary but most embedded as compulsory assessment tasks within Zoology units.

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An overarching characteristic of the UREs examined was the aim of researchers and teachers to capture an authentic experience for their students. The authenticity was either inherent in the activity or was crafted as part of the learning design to ensure authenticity and thereby increase the effectiveness of the learning environment.

Further study within this School will examine identification by students of their perceived benefits resulting from participation in the specific UREs identified.

References

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