

## The use of research in institutional change: A case study of undergraduate research (0202)

Engaging undergraduates in research and inquiry engages students meaningfully in higher education and prepares them for a twenty-first century world of work in which knowing how to inquire and critically evaluate knowledge is of increasing importance (Author, 2006). Many undergraduate research programs are in place across universities in the USA and are fast growing in the UK and other countries (Author, 2006; Healey & Jenkins, 2009). Such practices are believed to develop important graduate attributes and are known to have high impact in engaging students. There are now many resources in books and websites, devoted to developing understanding and practice in relation to undergraduate research and inquiry both within the curriculum and in extra-curricular research experience programs. Steinberg & Kincheloe (1998) argue that to engage in student research is to rethink many assumptions teachers make about pedagogy. Drawing on the work of Dewey and Friere, they argue that a good education should enable students to critically evaluate both the world in which they live as well as received knowledge. Through research, students 'learn to live with the ambiguity that comes with the critical domain' (p.6).

However, the key question that has been a concern and which is the subject of this paper is how to develop undergraduate research in an institutional context. An important issue that emerges when carrying out institutional change is convincing people in the institution of the value of what is proposed and developing structures and systems to implement it. Healey and Jenkins (2009) outline four key Institutional strategies to mainstream undergraduate research and inquiry:

1. Develop supportive institutional strategies and policies
2. Encourage and support student awareness and experience of undergraduate research and inquiry
3. Ensure institutional practices support undergraduate research and inquiry policies
4. Encourage academic staff awareness and support and reward engagement with undergraduate research and inquiry" (Healey & Jenkins, 2009, p. 80-81).

These strategies are useful. However, in this paper, I argue that carrying out research into current practice, is a key pre-requisite for making such strategies effective. Research into existing practice provides benchmarks against which to measure future progress. It is a counter to arguments that "we are doing this already" and it helps to raise the profile of the strategic initiative and develop understanding about what it means. Carrying out investigations of existing practice also constitutes an academic development strategy as raising questions in departments provides opportunities for reflection on existing practice which can lead to change.

Therefore, in developing institutional capacity for undergraduate research at a large research-intensive university, research is being used as an important strategy. The University's academic plan includes the desire to increase the extent to which undergraduate students engage in research experiences both within and outside the curriculum. The university aims to equip students with research skills and critical thinking, through exposure to research problems and realistic environments and Increase opportunities for students to engage in research within and across the curriculum. In planning an institutional strategy to address these issues an integrated program of research investigaing staff and student experiences, campus visibility and course materials was devised. In this paper, I will discuss the five resulting research projects and their impact on institutional change.

### ***Project 1: The extent to which students are aware of research.***

The aim of the project is to investigate the perceptions of research of the University's undergraduate students. It explores their ideas about what research is and the extent to which they are aware of research in the university. Further it examines their experiences of research and their attitudes to the benefits of university research. It also explores their views on the relevance of research to their future working lives. Stage 1 consists of a questionnaire to undergraduate students about their views of research and inquiry. In Stage 2: a purposive sample of students will be interviewed.

### **Project 2: Visibility of research across campus.**

This project is designed to answer the question of how visible research is to students across the campus. This research is being carried out by taking photographs of "research" as it is visible on campus. This includes posters and messages on noticeboards in corridors, signs, and other indications e.g. people in white coats that are visible on campus. A semiotic analysis is then being carried out to determine what messages about research are given to students.

### **Project 3. Examine barriers and challenges in relation to undergraduate research.**

In order to remove barriers to the implementation of undergraduate research it is important to investigate what they are. Interviews will be carried out with heads of department and focus groups of academics.

### **Project 4. The extent to which research is currently embedded in curricula**

Reviews are based on a content analysis of unit of study (course) outlines. This project will provide a benchmark for measuring developments. The Research Skills Development Framework (see <http://www.adelaide.edu.au/clpd/rsd/>) will be used to map the extent to which research skills are progressively being developed in a coordinated manner across the curriculum.

### **Project 5. Investigate outcomes of undergraduate research experience programs**

This project investigates the views of coordinators of undergraduate research experience programs concerning the value and outcomes of such programs; and begin to investigate how undergraduate students respond to such programs, what they believe they gain and how they intend to use what they have gained. In 2009 a survey of publicly available documents regarding undergraduate research experience programs in Australian universities (Author, 2011) identified programs in 23 Australian universities involving approximately 1500-2000 students. In documenting this, we were able to make the case to senior personnel at the University for the need for a university-wide program. A pilot program has now been agreed and a program is due to start later in 2011. In carrying out this work, critical questions about how to support students and the costs and benefits to academics in undertaking the supervision of undergraduate researchers came to light. The new project is now exploring these.

## **References**

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