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Research and teaching in a new generation university: Emerging dimensions and academics' attitudes

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Abstract: The paper provides a theoretical discussion of the relationship between research and teaching in universities. It then proceeds to report on a study conducted in the Business Faculty of an Australian New Generation University (NGU) to establish the attitudes that academic staff have to research in relationship with teaching and other issues relevant to a NGU. It was found that academics' opinions on some issues trended in opposite directions depending on perceived teaching and research effectiveness. Increasing teaching effectiveness correlated negatively with research-oriented propositions while increasing research effectiveness correlated positively. Moderating effects on opinions, such as years of teaching, were established. Tentative conclusions were formed on the current diversity among academics and its causes as well as challenges for the institution.

Keywords: Australian HE sector, new generation university, research-teaching nexus

Introduction

The Higher Education (HE) sector in Australia is currently undergoing significant scrutiny. An important part of the debate concerns the role of universities, viz. their role in research and teaching. At present, all Australian universities claim to be research and teaching active. However, universities seem to be positioned along an axis on which the Group of Eight (Go8) universities regard themselves research intensive while the perception exists that some universities are not sufficiently research intensive (opinions expressed for e.g. by Campus Review, 2005; Yaman, 2005). This theme has been taken up by the Australian Federal Education Minister Brendan Nelson who holds the view that the current model of research and teaching universities ('one-size-fits-all') may no longer be desirable in a fast changing world and hence greater diversity is needed in the Australian HE sector.

Much has been written about the role of research and teaching in universities. Arguments are provided that both are essential to being recognised as a university (Department of Education, Science and Training), and that there has to be a close relationship between the two in that one enriches the other (Edith Cowan University). Empirical research, however, has shown the relationship between the two to be not as strong as theory may suggest as will be seen in the next section of the paper. The objective of this paper is to identify the issues that link the two as well as the attitudes of academic staff to these issues in one of Australia's New Generation University (NGU). The findings would enable us to provide insights in this respect, not only to the institution but also to the broader sector, in a rapidly changing climate.

The research - teaching nexus

Based on recent debate it can once again be concluded that "no issue is more basic in modern higher education than the relationship between research and teaching." (Menon, 2003, citing Clark, 1997, p. 241) At its most fundamental, the relationship between research and teaching can be viewed in a number of ways. First there is the rationale that research should contribute

to teaching. Marsh and Hattie (2002) provide a number of reasons for this as follows. Research is the basis of teaching; it enables the academic to be at the cutting edge of discipline. Research should be the first point of contact for students because textbooks are not always up-to-date. Research provides a sense of excitement when discussing one's own research and provides authenticity to students. Marsh and Hattie (2002) also make the case that teaching contributes to research. Teaching clarifies the picture in which research fits. The preparation for teaching identifies research gaps and, subsequently, student interaction can provide new research directions. An appreciative audience provides reinforcement of research done or to be done.

Research and teaching can however be antagonistic. Marsh and Hattie (2002) highlight unsatisfactory classroom performance because research may lead to neglect because of the time and energy required. Research can be made a higher priority because academic staff are motivated by a reward structure associated with research performance. Universities may be tempted to divide staff into teaching (under-graduate) and research (post-graduate) categories to maximise efficiency because researchers are seen as possessing specialised knowledge needed at the post-graduate level while teachers are seen to possess broad backgrounds deemed necessary for under-graduate programmes.

The most popular view, at least in theory, is that research and teaching should be complementary and that a positive (symbiotic) relationship exists between them. It is argued that they both involve common values (e.g. rationality) and are mutually reinforcing. Thus, "Reflecting this ideal or, perhaps, these pragmatics, many academics, and university administrators want to believe that the relation is positive." (Marsh & Hattie, 2002, p. 605) Furthermore, they may want to believe that the research – teaching nexus can be applied across all levels of academic endeavour. This can lead to the idealistic perception that "The 'quintessential academic is a Nobel Prize winner who can enthral an under-graduate class'" (Baker, 1986, cited in Marsh & Hattie, 2002, p. 631).

The issue of whether or not there exists a nexus between research and teaching has been examined in numerous studies. The findings from these studies were then periodically analysed in order to arrive at an overall conclusion. One of the most frequently quoted study was that of Hattie and Marsh (1996) who, after completing a meta analysis of 58 research projects, came to the conclusion that there was no overall correlation between research and teaching. Allen (1995), referenced in Baker III et al (1998), reviewed 40 quantitative studies addressing teaching-research issues and found a relatively small positive correlation between them. Ramsden and Moses (1992), referenced in Lindsay (2002), produced a review of material in this area and found, as did Lindsay (2002), that "lecturers who were highly active researchers, weren't thought by their students to teach any better than lecturers who did less research, or even none at all." (Lindsay, 2002, p. 7) Tanner et al (1999) concluded that "The literature abounds with scholarly work done by both proponents and opponents of the good-researchers-make-good-teachers controversy." (p. 8)

Thomas and Harris (2000) identified five principal difficulties in studying the relationship between research and teaching. First, there is the difficulty of measuring research activity (e.g. publications output emphasis product rather than process of engaging) and the quality of teaching (e.g. student evaluations provide an incomplete and misconceived picture). Second, there are complex dimensions along which to measure teaching and research which will vary also by participants. Third, the relationship is multifaceted (e.g. doing research is not likely to enhance pedagogical skills, but it is likely to enhance the teacher's knowledge, interests in

and enthusiasm for the subject). Furthermore, if correlations between research and teaching are established, they do not imply causality, and lastly teaching is affected by learning (e.g. learning styles of students and resources available) and not research alone.

The above problems can have their roots in attitudes that academic staff may carry with them (Thomas & Harris, 2000). They may exhibit positive attitudes because they see that engaging in research is seen by their institution as the 'correct' attitude. Or they see benefits in intrinsic rewards research provides viz. intellectual stimulation, job satisfaction, current knowledge, credibility in front of students, and commercial potential. On the other hand, they may feel that there is a cost associated with research, such as the demand on their time which may result neglecting the needs of their students.

Dimensions for a new generation university

For the NGU, the issues concerning research include those conceptualised in previous research and outlined above, primarily with regard to teaching since this was the traditional role of the NGU's predecessor. Not surprisingly, however, new issues have emerged in the relative new environment of a NGU. The range of dimensions and issues included in this study are summarised in Figure 1.

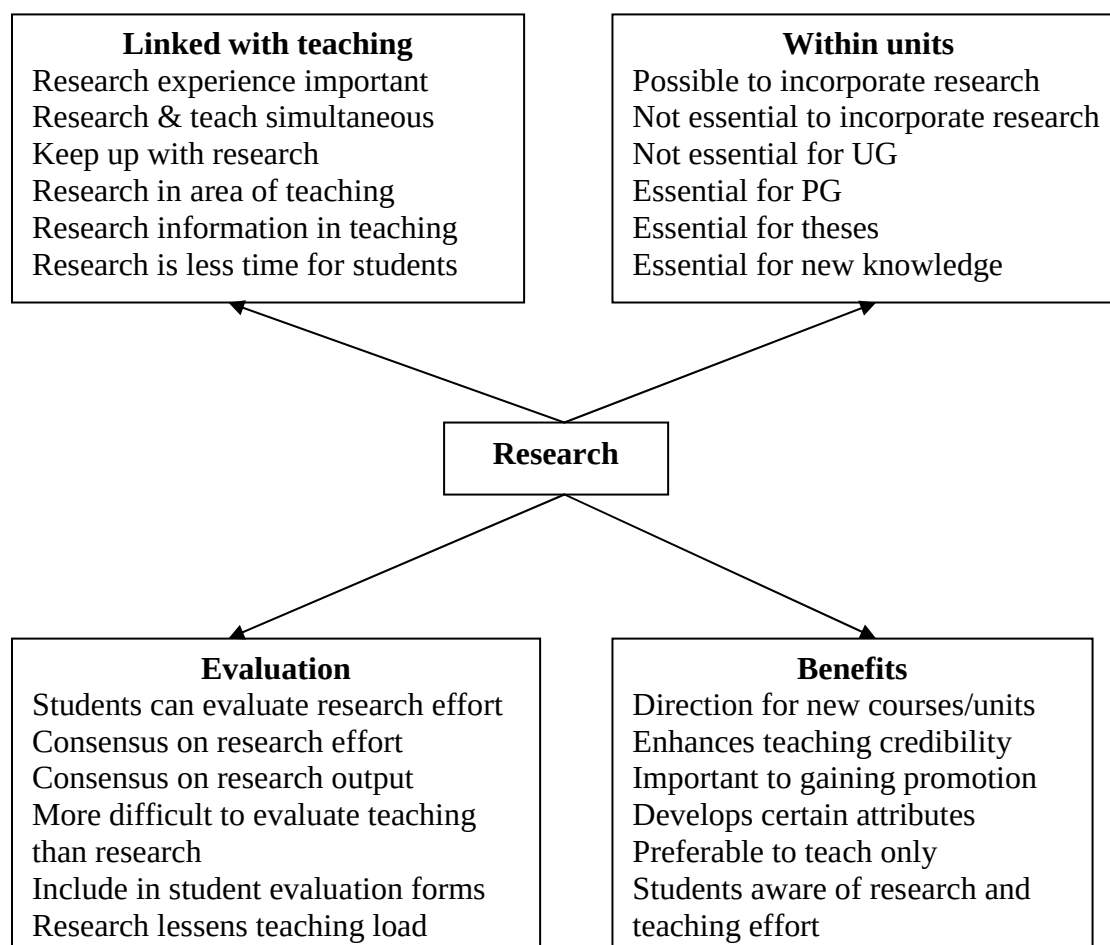


Figure 1: Dimensions and Issues associated with research

Two dimensions, namely “Benefits of research” and “Research evaluation”, are dimensions where the NGU has the least experience and tradition. An example of an issue within the former that is emerging is the development of teaching attributes, such as motivation and analytical skills, acquired by being research active. Another one is the importance of research, ahead of teaching, in gaining promotion. It would also be recognised that consensus on research effort and output is difficult to achieve. Within the dimension “Research linked with teaching” a new issue that has emerged for the NGU is the potential reduction in time given to students because of research commitments. With the previous emphasis on teaching, those staff who have been teaching for many years may be very wary of this. Under “Research within units”, an obvious dilemma that has arisen is deciding if research can be incorporated into units and whether or not this is essential.

The survey

As outlined in the preceding section, the aim of the study was to examine a range of issues associated with research in the business faculty of the chosen NGU. The study was quantitative, in the form of a survey of academic staff by questionnaire. In it, the aims, nature and procedures of the survey were provided in the introduction section, followed by a definition of terminology. Research was defined as “lecturers gaining knowledge by carrying out interviews, case studies, review of literature and reports, etc.” and teaching as “lecturers interacting with students when conducting lectures, tutorials, seminars, etc.” Following Marsh and Hattie (2002) these activities were defined as objectives and as such can be viewed as separate processes. This supported the research aim of establishing what brings about a relationship between them.

The term lecturer was defined to include all academic levels, i.e. from Lecturer A to Professor. Background data was sought from participants as to their current academic levels, number of years taught in the Faculty of Business and membership of the academic school within the faculty. Academics’ opinions as to their effectiveness over the last two years in respect of their teaching, research and thesis supervision was captured by referring to common measures in use within the faculty. For teaching, participants were asked to consider their student unit evaluations, for research the measure was RAI, a composite measure for research grants and publications, and for supervision it was student theses progress and completions.

A request to have academic staff participate in the study was directed to each of the five schools within the faculty. Total academics in the faculty were around 100 at the time of the study with a greater number belonging to the schools of Management Information Systems (MIS) and Management. Participation in the study was voluntary and anonymous and completed questionnaire were collected by each of the schools.

Findings

Forty-seven academics responded by completing the questionnaire. Most of the participants were at the Lecturer B level (55.3%) and had taught more than 5 years (53.2%). Each of the 5 schools was reasonably represented with MIS having the greatest number of participants (36.2%). There was a good presence of teaching experiences (years) at both under- and post-graduate levels and participants rated their effectiveness in teaching highly (4.13 out of 5) and higher than their effectiveness as researchers (2.91) or as theses supervisors (2.48).

Correlation of perceptions

Correlation coefficients were calculated to establish the relationships between participants' perceptions of their research effectiveness and the responses they provided and similarly for perceived teaching effectiveness. The most significant finding of the study was the diverting opinions between those with increasing teaching effectiveness and those with increasing research effectiveness in respect of six propositions. The correlations, in Table 1, indicate that the greater the teaching effectiveness and the greater the research effectiveness among academic staff the greater their opinions diverted on a number of research related issues.

Table 1: Correlations between effectiveness and responses

	Teaching		Research	
	Corr. Coeff	Sig.	Corr. Coeff	Sig.
Research experience by lecturers is important to effective teaching	-.368	.012 **	.411	.005 ***
Teaching and research should be carried out simultaneously	-.308	.038 **	.321	.030 **
Students value lecturers' research because it enhances their teaching credibility	-.261	.079 *	.405	.005 ***
Research develops certain attributes also useful for teaching such as motivation and analytical skills	-.358	.014 **	.374	.010 **
Students knowledge of lecturers' research makes them aware of the effort that goes into teaching	-.314	.033 **	.368	.012 **
It is preferable to be only teaching rather than to be both teaching and researching	.388	.008 ***	-.382	.009 ***

*** p < .01 ** p < .05 * p < .10

Increasing teaching effectiveness varied inversely with the propositions that research experience was important for teaching or even that both research and teaching should be carried out; rather it was preferable to be teaching only. There was less value of research in the class room because it did not develop useful attributes such as motivation and analytical skill, did not enhance teaching credibility in front of students and student would not be aware of the effort they would put into research. However, there was one positive correlation, namely that "research is essential where units explore new knowledge". As seen from Table 1, increasing research effectiveness correlated positively for the issues shown, except for the last item.

Moderating effects

An Analysis of Variance (ANOVA) indicated that relationships between research and various issues were moderated by a number of factors. Years of teaching had the greatest impact on responses and it was most noticeable in the group with less than 2 years of teaching experience. They had a stronger opinion that lecturers should be expected to keep up with current research in their areas of teaching (average rating 5 out of 5) and that research enhances teaching credibility (average 4.25) and would be more important in gaining promotion (4.13). They furthermore believed to a greater extent than the other groupings that it is possible to arrive at a consensus on the effort that should be spend on research and on research output.

There were variations among participants from different business disciplines. Here, the schools of Management and Justice and Business Law provided different responses to their colleagues from other schools. They showed greater agreement with the need to use research-related sentences and information in teaching and that research provides direction for the

development of new courses and units. These two schools also agreed to a lesser extent that research is not essential for teaching under-graduate units.

The moderating effect of academic level was only significant for one variable, namely “It is possible but not essential to incorporate research into all units I teach.” However, the finding seems an aberration since the ratings varied inconsistently across academic levels. Least agreement was found for Level E (Professor) but it should be remembered that only one participated. By contrast Level Ds (Associate Professor) of whom there were two had the highest agreement. The lowest agreement was among Lecturer Bs who made up the majority of participants.

Discussion and Implications

The study’s major finding of an inverse relationship between *teaching effectiveness* and various research related issues may be explained in a number of ways. As Menon (2003) pointed out, it can be expected that academics’ attitude to research-teaching is determined by perceptions, i.e. their views of the aims and mission of higher education. Some proponents in the Australian HE sector advocate the desirability of having separate research and teaching intensive universities. At first glance the study’s finding, therefore, could be interpreted as providing support for the latter viewpoint among participating academics. i.e. that the current dual research-teaching model is not necessarily the best in a fast changing world.

Reasons for the finding, however, may be more deep rooted. The current attitudes may reflect a ‘self serving view’ (Robertson & Bond, 2001). It has been found that a threat to the status quo challenges current comfort levels (Al-Jumaily & Stonyer, 2000). Considering the teaching intensive nature of the institution’s predecessor, the current high level perception of teaching effectiveness and relative low level perception of research effectiveness could indicate that academics may have reached the conclusion that the current expectation for excellence in both research and teaching may not be able to be achieved and/or sustained.

The findings on the other hand may be explained by the discipline itself (Smeby, 1998 referenced in Robertson & Bond, 2001). The business discipline is regarded as a service profession and it has been shown that for such courses, the research-teaching relationship is “difficult to sustain or nurture.” (Robertson & Bond, 2001, p. 15). This can be explained further as follows. For a disciplines supported by a cumulative knowledge base, such as biology, research may be more valued than in a discipline based on application of softer and more transient knowledge, such as business administration (Lindsay, 2002). Furthermore, the research-teaching relationship was found to be moderate in low-consensus disciplines such as social sciences (Feldman, 1987) to which business belongs.

The study did find positive relationships between perceptions on *research effectiveness* and research issues albeit with an existing relatively low level of perceived research effectiveness. Should the business faculty wish to continue with a dual research-teaching strategy, it would be in its interest to strengthen research effectiveness in order to bring about a greater acceptance of positive relationships with research. For example, more time and support could be provided to academics in the pursuit of research.

A foundation for increased research appears to have been laid in the form of a recent group of academics, those who have taught less than 2 years, who indicated the strongest support for the positive relationship with research propositions. This seems to support a current

phenomenon in the business faculty, namely the emergence of a young group of academics who had come through the path of PhD study and been appointed to lecturing positions. It is not surprising that they perceive highly the need to keep research up-to-date since this was a requirement for their study, that research has credibility and that promotions will be dependent on their continuing success in research.

There are a number of limitations that need to be acknowledged. First, the study's findings are based on a limited number of participating academics and hence cannot be generalised. Second, there is no consensus on how to measure research and teaching effectiveness. Multiple indicators could have been used but this list is virtually unlimited. Similarly, the list of issues that could have been included in the study is extensive and those used reflect those relevant to the particular institution.

The findings indicate a significant level of diversity among academic staff on matters relating to research within the academic unit of a faculty. It would be of interest to establish whether or not this phenomenon exists at the macro university level or at other micro levels such as schools and departments. More research in this respect is needed before a more comprehensive picture emerges on how research is perceived within the NGU overall. Furthermore, it is recommended that the quantitative approach be followed by enquiry applying a phenomenographic approach to learn more about meanings that underpin relationships.

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