

RESEARCH-LED TEACHING: MOVING FROM A FRACTURED ENGAGEMENT TO A MARRIAGE OF CONVENIENCE

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Abstract

The starting point of this paper is that there are many reasons to develop closer links between research and teaching. To do this, it is argued, we need to move beyond debates that fracture the engagement of teaching with research (or research with teaching) and instead focus on the development of an understanding of what is necessary to bring research and teaching closer together. Opening with a review of the current literature on research-led teaching (RLT), the paper also draws on the views of research-led teaching provided by senior academic managers at a Melbourne university when interviewed in 2006-2007. The paper then looks at the variety of ways in which research-led teaching has been implemented across the university's ten faculties.

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INTRODUCTION

Implicit within the concept of research-led teaching (RLT) in higher education is the understanding there is a mutual engagement between the activities of teaching and research. Further, there is an assumption that the engagement is of mutual benefit to both activities. Belief in this assumed positive relationship between teaching and research is exemplified in the statement on our university's website;

“We take full advantage of the latest direction in teaching and learning and employ **staff members with excellent research-led teaching** [the university's emphasis] who share a wealth of professional knowledge with students” (<http://www.monash.edu.au/study/ranking/staff.html>).

And yet, despite this admirable sentiment, any claims to, or about, any relationship between teaching and research have been experienced as “perhaps the most-intractable problem in American higher education” (Astin & Chang, 1995: 45). Similar to the United States experience, research-led teaching is a fraught and contested concept in the United Kingdom and Australasia.

Beginning with the most fundamental question of whether there is a meaningful relationship between research and teaching has led to an extended and heated academic debate (see Barnett 1992, 2005; Brew 1999, 2003; Brew & Boud 1995; Clark, 1997; Elton 1986, 2001; Hattie & Marsh, 1996; Healey 2005; Ramsden & Moses, 1992). This debate is further exacerbated when the relationship is examined for evidence of mutual benefits (Elton, 2001; Hughes, 2005; Taylor, 2007). In his explanation for the intensity and intractability of the debate on this issue, Healey (2005) argues that the contestation over the relationship reflects the degree to which academic identity is fundamentally tied to the two core tasks of teaching and research. Mention will be made later of how attempts to separate these activities and encourage the development of specialisation in either teaching or research has been experienced as an assault on the fundamental and professional identity of academics (Harley, 2002, Naidoo, 1995, Nixon, 1995).

Reflecting the extent of the contestation, the many empirical studies designed to investigate the relationship between research and teaching have been consistently criticised. The criticisms range between findings that too specific or too broad to claim generalisability; for their use of particular methodologies, both quantitative and qualitative and for their inability to establish the existence of a beneficial relationship between teaching and research outcomes (see Hattie & Marsh, 1996, 2004; Hughes, 2005; Jenkins, 2004). Irrespective of the validity of any individual empirical study, the seminal meta-analysis of 58 studies by Hattie and Marsh (1996) nonetheless concluded that a zero relationship exists between teaching effectiveness and research outcomes. They argued however this does not mean that a relationship should or cannot exist; it just depends on what aspect of the relationship is under examination (see Prosser, Martin, Trigwell, Ramsden & Middleton, 2008).

Despite the passage of over a decade since Hattie and Marsh's study and the authors' need to defend the subsequent use and interpretations of their findings (see Hattie & Marsh, 2004), this conclusion continues to be the accepted wisdom amongst researchers in the field.

Nonetheless, there also continues to be the view that this lack of an empirically proven link should not deter, as Hattie and Marsh indicate, higher education educators and policy makers from striving to build a strong and positive relationship between teaching and research (Brew, 2006; Griggs, 2005; Hattie & Marsh, 1996, 2004; Healey 2005; Jenkins, 2004; Robertson & Bond, 2001; Robertson & Blackler, 2006). And indeed, despite the many existential uncertainties that surround the teaching/research praxis, there is a continued desire, particularly from an institutional perspective (Taylor, 2007) to claim the existence and benefits of such a relationship.

For those scholars who attempt to move the debate forward, there is clearly a need to offer a more nuanced analysis of the issues (Barnett, 2005). While accepting there is not agreement on whether a relationship exists, they nonetheless explore the benefits of finding and/or fostering such a relationship (Brew, 2002; Elton, 2005; Hattie & Marsh, 1996). In support of those institutions, such as our own, that use the strategy of research-led teaching to develop a positive relationship between research and teaching, this paper is underpinned by two key points. The first is that research-led teaching is a highly contested and politicised concept. Any discussion must therefore be framed by an awareness of the current political environment within higher education; an example of this is to acknowledge the prevailing dominance of research in higher education. The second point is the acknowledgement there is something suitably (politically and pedagogically?) attractive about the promise of research-led teaching that leads to the expression of institutional commitment to and support for its implementation.

METHODOLOGY

This paper has emerged from a project conducted during 2006-2007 at Monash University to develop policy and procedures required to implement research-led teaching across the university. A decision was made early in the project that in addition to a review of current research, there was a requirement to scope current practise and views on research-led teaching of the different faculties across the university. Of relevance to the project is the current organisational structure that ensures each faculty has at least two senior academics (either Deputy Dean or Associate Dean) reporting to the Dean of Faculty; one with responsibility for Education or Teaching and the other for Research. We identified the Associate Deans as key contributors to our research because of their proximity to the political and strategic pressures from senior administrators as well as their daily awareness of the operational demands of teaching and research within their faculties. Although the institutional structures have formalised the separation between teaching and research, in the spirit of research-led teaching that seeks to integrate the two activities, efforts were made to interview both Associate Deans Education and Research from all the university's faculties, preferably at the same time. In addition, it was also decided to interview as many of the university's senior management group as possible in recognition of their political strength and broad institutional perspective (see Neumann, 1992, 1993 for similar participants in her research).

During the course of the project, a total of sixteen Associate Deans covering each of the university's ten faculties, three senior academics with formal responsibility university-wide for education and research and seven senior academics who hold management responsibilities on the university's overseas campuses, were interviewed. With Associate Deans from five faculties interviewed together, a total of twenty-one interviews were conducted between November, 2006 and September, 2007; one interview was by telephone, one by email and the rest were held face-to-face.

A preliminary analysis of interview transcripts was undertaken to identify key themes that emerged from the interviews. We followed the qualitative data analysis strategy proposed by Miles and Huberman (1994): collection; reduction; displays and conclusions. The data collection was the process of conducting interviews and transcribing them in preparation for the data reduction process. For the data reduction process, we utilised a coding procedure to establish major themes across the interviews. In order to reduce the data further, an assessment of theme headings was undertaken to determine the most frequently occurring themes. This involved constructing a master list of all themes identified in the data and a process of enumeration and highlighting to create a preliminary list of frequently occurring themes. We then undertook a process of agreeing on theme categorisations (see Lee, Mitchell & Sablynski, 1999) by tabulating, comparing and checking the categorisations to develop a preliminary account of key themes that captured senior university and faculty leaders' conceptions of research-led teaching and the underlying assumptions that shape these conceptions. It is those themes that are discussed in this paper. Further analysis will be required to tease out subcategories and develop a more complete analysis of the data (see Strauss & Corben, 1998).

Having acknowledged contestation over what research-led teaching means as well as the ideological baggage that concept carries, the paper, drawing on preliminary analysis of the interview data will now detail some of the elements that comprise current thinking by senior faculty academic managers on the issue. Specifically, the paper will unpick many of the assumptions that underpin the desired beneficial link between teaching and research followed by examples of what senior academics and administrators at the university understand to represent an integration of research and teaching. While it would be desirable to conclude the paper with some policy suggestions to move research-led teaching forward at Monash University, space limitations prevent this. A larger version of the paper developed for publication will fully address these issues.

MYTHS AND ASSUMPTIONS OF RESEARCH-LED TEACHING

Our purpose in this paper is to highlight the unstated (and often untested) views assumed in the call for research-led teaching. In support of research-led teaching, we do note researchers (e.g. Centra, 1983) who identify academics' belief that teaching and research performance are positively correlated. This belief, because it has yet to be an "evidence-informed" position, has however been labeled by some commentators as myth. For instance, the previously mentioned meta-analysis of the relationship between research and teaching by Hattie and Marsh (1996: 529) concludes "the common belief that research and teaching are inextricably entwined is an enduring myth". Other commentators such as Elton (2001) and Hughes (2005) also refer to the myths of research-led teaching.

Amongst what has been referred to as myths in the research literature is the belief there is a mutually beneficial relationship between research and teaching; that the relationship between research and teaching is static and generalisable across all cultures and disciplines; that scholarship is separate to teaching and research; that research-active academics are superior to research inactive staff and that research into teaching and research is apolitical and without ideological pressure (Hughes, 1995). These myths show considerable resonance with the views and assumptions that emerged from our interviews with the university's senior academics. This finding from the interviews is significant for two reasons (see Barnett, 2005). First, noting their distorting effect on the field, Barnett identified the discursive strength of the myths both in terms of the accepted ideology and the subsequent "dispositions to act" (1995: 11). It is therefore important to surface the assumptions that have shaped, and will continue to shape our institution's commitment to research-led teaching.

Second, implicit in the call by the university's most senior academics for research-led teaching, lies the most obvious assumption that staff are not using research to lead their teaching and more importantly, they should be. In this context, the demand for research-led teaching carries a clear normative and prescriptive imperative to fill a gap in academic management. This was exemplified by the view of some of the university's Associate Deans who referred to research-led teaching as yet another directive and compliance task from "the centre". For these senior academic managers, the demand to implement research-led teaching could not be distinguished from the previous pressures of the Research Quality Framework (RQF), the Learning and Teaching Performance Fund (LTPF), budget-cuts, internationalisation, review of coursework etcetera, etcetera. Research-led teaching with its assumption of academic inadequacy was universally experienced by the Associate Deans as a further burden imposed on over-stretched senior academics and administrators.

More generally, any sense of pressure on university staff is exacerbated paradoxically by the debate around research-led teaching, with the general assumption that a good academic is both a good researcher and a good teacher and that one activity necessarily informs the other. At Monash University, this expectation is made quite explicit in the recent criteria for internal promotions with demands for demonstrable strength in both research and teaching performance. When we unpack the often hazy views held by the Associate Deans we can identify their assumption that research-active academics will be engaged in teaching the material relevant to, or

even about their own research (Griggs, 2005; Marsh & Hattie, 2002; Neumann, 1992). Robertson and Bond (2001: 5) refer to this as a “close and symbiotic relationship between research and teaching”. At Monash, like other universities, the mere pragmatics of the constraints on academics’ time elevates this assumption to the presumption of an asserted (or desired) norm (noted by Clark, 1997). However, the often considerable disconnect between academics’ research interests and the curriculum they are required to teach, often renders this an unfounded assumption.

At our university, the complexities of meeting the curriculum demands created by a multi-campus structure that includes two off-shore campuses; the multiple-delivery modes of instruction; large postgraduate as well as undergraduate enrolments; a diverse student population that includes close to 40% international students; together with the particularities of each of the ten faculties within the university, at the same time as pursuing “cutting edge” research were apparent in the interviews with the university’s senior staff. Expressing frustration at balancing what was sometimes experienced as competing demands, the senior academics offered a range of suggestions. These included limiting any attempts at research-led teaching to either later years in undergraduate courses or to postgraduate level only; by creating teaching only positions to free up research-active staff and/ or limiting the teaching loads of their “gun” (i.e. productive, successful, high-profile) researchers to that of guest lecturers only. While many have merit it should also be noted that the suggestions clearly formalises the separation of research and teaching and all that that implies for academic staff (see Illing, 2007). Such an approach would make explicit the politicised nature of this issue.

The next set of assumptions offer explanations of why, notwithstanding all of the debate, research-led teaching is considered the preferred approach to teaching at universities. These assumptions are predicated on the existence of a strong correlation between research productivity and teaching effectiveness (see Centra, 1983; Jenkins, 2004; Marsh & Hattie, 2002). Amongst these studies are those that suggest that those scholars who are actively involved in research transmit their excitement in the classroom and will therefore be more interesting teachers (see Centra, 1983; Linsky & Strauss, 1975); by implication the reverse holds true for non research-active academics. From this perspective, it would be anticipated that the student experience will be enhanced by research-led teaching. This is in contrast to findings by Hattie and Marsh (1996) who found that time spent on research was at the expense of teaching and that research had a negative impact on teaching. Our research indicates however the assumption of a positive relationship prevails.

The views expressed by many of the senior academic managers are consistent with the assumption of a positive relationship between research productivity and effective teaching, with many of the participants expressing their belief that research-active academics contribute to improved student learning outcomes. A further benefit attributed to research-led teaching was that students taught by research-intensive teachers would be inspired by research. In this circumstance, it was anticipated across all the faculties that research-led teaching would see a subsequent growth in student enrolments in higher degrees. There was also the belief that even for those students who choose not to pursue an academic career, research-led teaching would enhance their employability in an increasingly competitive employment market, by learning research skills to cope with complex and diverse modes of knowledge generation. In this context, the view was expressed by the most senior academic managers that research-led teaching offers the institution a significant competitive advantage because more highly skilled students will be attracted to the university to work and/or learn with internationally recognised researchers.

Finally and most significantly in discussions around the relationship between research and teaching is the assumption the two are separate and bounded activities. Contemporary university systems increasingly show evidence of having entrenched the separation of research and teaching in their committee structures, development of research centres, their selection and promotion criteria, funding and workload models (Griggs, 2005; Scott, 2005). This disruption of any possible relationship between research and teaching now serves to challenge the traditional model of universities in which academic staff were both teachers and researchers. While acknowledging the

pressures in higher education that fragment the integration of teaching and research in the pursuit of Taylorist efficiencies and specialisation, there are some (e.g. Frazer, 2006; Henkel, 2000, 2003 cited in Jenkins, 2004: 12; Naidoo, 2005; Schapper & Mayson, 2005) who argue for the retention of academics' distinctiveness as both researchers and teachers. Referring to the Humboldtian ideal of "the integration of teaching and research", Naidoo (2005) reminds us that for many academics it is their performance as both teachers and researchers that have shaped their intellectual and professional identities.

Notwithstanding their lack of foundation, the continued strength of many of the assumptions that surround the relationship between research and teaching identified from our findings, contribute to institutional commitment to a strategy of research-led teaching. Despite, or because of the continued debate both within our university and outside, about the relationship between research and teaching, this relationship has been referred to in many different ways.

NAMING THE RELATIONSHIP

While referred to initially as the "teaching-research nexus" (Brew & Weir, 2004; Neumann, 1992, 1994), other commentators on the relationship refer to the integration of teaching and research (e.g. Griggs, 2005; Naidoo, 2005), research-based teaching (Clark, 1997) and teaching-research relations (Brew, 2007; Elton, 2001; Healey, 2005; Jenkins, 2004; Jenkins & Healey, 2005; Jenkins & Zetter, 2003; Schapper & Mayson, 2007). Our findings add to this list, and our interviews with the senior academic managers produced two main descriptions of the relationship; research-informed teaching and the research-teaching nexus. Such naming conventions are more than semantic games as they represent different conceptions of the relationship and reflect quite significant philosophical differences identified by commentators on this issue.

The different terminology used by the university's academic and administrative leadership to describe the relationship between teaching and research, reflects much of the debate acknowledged in the literature. For instance, one of the criticisms of the concept of research-led teaching is the apparent privileging of research over teaching. It has been noted (see Elton, 2001), that there is never a suggestion that research is best conducted in a teaching environment. In this spirit, at least one of the senior staff at our university balked at the suggestion of any relationship that privileges research over teaching. From this perspective it was argued for the concept of teaching-research nexus as an approach that neutralises the power dynamic and establishes both aspects of academic work as holding equal importance and value.

Taking quite a different position and one that now more closely reflects the prevailing political view, yet another of the university's senior staff argued that it is because it is the imperative of research to drive the university's performance, that research-led teaching is the preferred construction of the relationship. From this perspective, there is no suggestion that teaching might be valued independently from or even alongside research; research assumes dominance within any relationship that may be formed with teaching.

What constitutes research-led teaching?

While each of these previously-mentioned approaches to the understanding of research-led teaching was cumulatively referred to by the senior academic managers, not all however were considered to have virtue or merit. Depending on the discipline, perspective or experience, research-led teaching at our university can be understood thus (not in any particular order of engagement in research-led teaching):

1. Academics bringing their own research into their teaching to bring currency to what may be perceived as prepackaged and/ or "dead" knowledge;

2. Academics keeping up to date and conducting secondary research to remain abreast of current disciplinary knowledge;
3. Academics' particular research interests informing the development of teaching materials;
4. A community of scholars including students within a discipline or students to be invited to join on-line discussion groups within the discipline community;
5. Visiting scholars within the community of practice called on as guest lecturers;
6. The scholarship of teaching integrated into research supervision;
7. Research about learning and teaching that informs and evaluates curriculum development;
8. Making explicit the nature of research, modeling research approaches, exploring ethics of research, questioning knowledge development and so on in teaching. This learning about research was considered possible to implement in later years in undergraduate courses, as well as in postgraduate teaching;
9. Encouraging students to do research, including research methods units as well as small primary research projects;
10. Acknowledging that research has underpinned the development of the text-books used in teaching, particularly at undergraduate level;
11. Teaching-research nexus involving students/ learners in the production of knowledge;
12. Ideas emerging during the course of teaching that prompt subsequent discipline-based and/ or teaching and learning research.

While the list is not exhaustive, what was significant in its development was the different constructions of research and teaching that informed its compilation. That is, individual, faculty and discipline-based differences emerged in the way that research and teaching were framed by the senior academics (see also Healey, 2005; Zamorski, 2002). One very simple instance was apparent in response to the question of whether supervision of higher degree students was considered to be a teaching or research activity. Almost to a person, the senior staff responded to the question without hesitation and notable vehemence. While some argued that supervision was clearly research, others, although less in number, believed that supervision was teaching.

CONCLUSION

From the brief study above, it is clear there is no easy or quick fix in the development of a research-led teaching approach. What is clear though is that despite poor empirical support for a mutually beneficial relationship between research and teaching, and the presence of questionable assumptions (or myths), there is nonetheless a strong desire, certainly at the senior levels of the university to nurture a strong and complementary relationship between research and teaching. Responses from the Associate Deans and other senior university managers indicate greater caution about how easily this can be achieved within the faculties. The reasons in the current higher education environment to strengthen the link are many; whether for retention of a valued professional identity, for enhanced learning experience for students or whether it is a pragmatic response to government funding models that demand high performing teaching and research academics.

What has emerged from our study of the literature and analysis of the responses from the university's senior academic managers is the need to reconceptualise the institution's understanding of research-led teaching and separate the myths from evidence from the literature. Among the many available definitions, we have selected the one that we feel offers one way forward for our university. This definition was recently articulated by two of the leading writers and researchers in this field Angela Brew and Michael Prosser who wrote;

Research-led teaching in a research-intensive environment is teaching carried out in the atmosphere of imaginative enquiry that arises from leading-edge scholarship; teaching that stimulates reflective learning and critical, creative thinking and at all levels (2003: 3).

Significantly because of the impact on teaching practise within the university setting, they add, “As such it needs to be student-focussed rather than teacher-focussed” (Brew & Prosser, 2003: 3). It is clear that should any institution adopt such an approach to research-led teaching that its members will need to reconsider its understanding of research and teaching as noted earlier. For teaching that is conducted in an atmosphere of imaginative enquiry is quite different to the construction of teaching as an activity that involves the imparting of knowledge in the traditional lecture/tutorial form.

Contemporary researchers in the field (Boyer, 1990; Brew, 1999, 2007; Healey 2005; Jenkins, 2004) argue for the need to re-consider scholarship, to focus on learning, to establish a culture of inquiry and to re-shape teaching and research from a product-based to a process-based approach. For each of these researchers, developing a stronger and beneficial relationship between research and teaching also requires discipline-specific strategies. Blanket strategies, they argue, do not address the fundamental epistemological and ontological conceptions that underpin research and teaching within each discipline.

What is also apparent from our findings is that research-led teaching cannot be just imposed on, or overlaid on current research/teaching practise. All those resources that are in such short supply – time, money, energy, intellectual engagement, motivation, commitment to change – are unfortunately again, required to implement what can be a worthwhile and valuable strategy. Discipline leaders may be required to re-evaluate their curriculum using the concept of learning as the link between research and teaching – moving beyond asking what the students should know, to asking the additional questions of how might the students best learn this material, how might the students best engage with this process of their learning and how might students develop and communicate new knowledge? What impact do such changes to the curriculum have on the time and effort spent on teaching? How much will this be valued in the university? Of course, in the implementation of the research-led strategy many more questions may be formulated, considered and possibly rejected. That is of little consequence. What will be important is that in addressing attention from how to transmit knowledge to questions of learning, enquiry, knowledge production and acquisition, the processes of research and teaching will be strengthened to their mutual benefit, and to the benefit of the university, the academic staff and of course, students.

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REFERENCES

- Barnett, R. (1992). Linking teaching and research: a critical inquiry. *The Journal of Higher Education*, 63(6), 619-636.
- Barnett, R. (2005). Introduction. In R. Barnett (Ed.), *Reshaping the university* (pp. 1-8). Maidenhead, UK: SHRE & Open University Press.
- Brew, A. (1999). Research and teaching: Changing relationships in a changing context. *Studies in Higher Education*, 24(3), 291-301.
- Brew, A. (2001). *The nature of research: Inquiry in academic contexts*. London: Routledge/Falmer.
- Brew, A. (2003). Teaching and research: New relationships and their implications for inquiry-based teaching and learning in higher education. *Higher Education Research and Development Journal*, 22(1), 3-18.
- Brew, A. (2007). Research and teaching from the students' perspective. Paper presented at the Colloquium theme: International policies and practices for academic enquiry from.
- Brew, A. & Boud, D. (1995). Teaching and research: Establishing the vital link with learning. *Higher Education*, 29(3), 261-275.
- Brew, A. & Prosser, M. (2003). Integrating quality practices in research-led teaching and institutional priorities. *Proceedings of the Australian Universities Quality Forum*.
- Brew, A. & Weir, J. (2004). Teaching-research nexus benchmarking project: The University of Sydney and Monash University. September.
- Centra, J. (1983). Researching productivity and teaching effectiveness. *Research in Higher Education*, 18(2), 379-389.
- Clark, B. (1997). The modern integration of research activities with teaching and learning. *Journal of Higher Education*, 68(3), 241-255.
- Elton, L. (1986). Research and teaching: symbiosis or conflict. *Higher Education*, 15(304), 299-304.
- Elton, L. (2001). Research and teaching: conditions for a positive link. *Teaching in Higher Education*, 6(1), 43-56.
- Frazer, I. (2006). How can a "teaching and research" academic scientist survive in the current economic climate *HERDSA News*, 28(2), 1-5.
- Harley, S. (2002). The impact of research selectivity on academic work and identity in UK universities. *Studies in Higher Education*, 27(2), 187-205.
- Griggs, L. (2005). Comment: The integration of teaching and research in higher education. *HERDSA News*, 25(3), 1-3.
- Hattie, J. & Marsh, H. (1996). The relationship between research and teaching: A meta-analysis. *Review of Educational Research*, 66(4), 507-542.
- Hattie, J., & Marsh, H. (2004). *One journey to unravel the relationship between research and teaching*. Paper presented at the Research and Teaching: Closing the Divide? An International Colloquium.
- Healey, M. (2005). Linking research and teaching: Exploring disciplinary spaces and the role of inquiry-based learning. In R. Barnett (Ed.), *Reshaping the university* (pp. 67-78), Maidenhead, UK: SHRE & Open University Press.
- Healey, M. & Jenkins, A. (2005). Supporting research informed teaching. *HERDSA News*, 25(3), 6-9.
- Hughes, M. 2005. The mythology of research and teaching relationships in universities. In R.

- Barnett (Ed.), *Reshaping the University* (pp. 14-26), Maidenhead, UK: SHRE & Open University Press.
- Jenkins, A. (2004). *A guide to the research evidence on teaching-research relations*. Heslington, York, United Kingdom: The Higher Education Academy.
- Jenkins, A. & Healey, M. (2005). *Institutional strategies to link teaching and research*. Heslington, York, United Kingdom: Higher Education Academy.
- Jenkins, A. & Zetter, R. (2003). *Linking research and teaching in departments*. York, United Kingdom: The Learning and Teaching Support Network.
- Lee, T.W., Mitchell, T.R. & Sablynski, C.J. (1999). Qualitative research in organizational and vocational psychology. *Journal of Vocational Behavior*, 55(2), 161–87.
- Linsky A. & Strauss, M. (1975). Student evaluations, research productivity and eminence of college faculty. *Journal of Higher Education*, 46(1), 89-102.
- Marsh, H. & Hattie, J. (2002). The relation between research productivity and teaching effectiveness. *Journal of Higher Education*, 73(5), 603-641.
- Miles, M. B. & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. (2nd ed.) Thousands Oaks, CA: Sage.
- Naidoo, R. (1995). Universities for sale: Transforming relations between teaching and research. In R. Barnett, (Ed). *Reshaping Universities: New relationships between research, scholarship and teaching* (pp. 27-36), MacGraw-Hill/Open University Press.
- Neumann, R. (1992). Perceptions of the teaching-research nexus: A framework for analysis. *Higher Education*, 23(2), 159-171.
- Neumann, R. (1993). Research and scholarship: perceptions of senior academic administrators. *Higher Education*, 25(1), 97-110.
- Nixon, J. (1996). Professional identity and the restructuring of higher education. *Studies in Higher Education*, 21(1), 5-16.
- Prosser, M., Martin, E., Trigwell, K., Ramsden, P. & Middleton, H. (2008). University academics' experience of research and its relationship to their experience of teaching. *Instructional Science*, 36(1), 3-16.
- Ramsden, P. & Moses, I. (1992). Associations between research and teaching in Australian higher education. *Higher Education*, 23(3), 273-295.
- Robertson, J. & Blackler, G. (2006). Students' experiences of learning in a research environment. *Higher Education Research and Development Journal*, 25(3), 215-229.
- Robertson, J. & Bond, C. (2001). Experience of the relation between teaching and research: what do academics value *Higher Education Research and Development Journal*, 20(1), 5-19.
- Schapper, J. & Mayson, S. (2005). Managerialism, internationalisation, Taylorisation and the deskilling of academic work: Evidence from an Australian university. In P. Ninnes & M. Hellsten (Eds.), *Internationalizing Higher Education: Critical Explorations of Pedagogy and Policy* (pp. 181-198). Dordrecht: Springer.
- Strauss, A. & Corbin, J. (1998). *Basics of qualitative research*. Thousands Oaks, CA: Sage.
- Taylor, J. (2007). The teaching-research nexus: A model for institutional management. *Higher Education*, 54(6), 867-884.
- Trigwell, K., Martin, E., Benjamin, J. & Prosser, M. (2000). Scholarship of teaching: A model. *Higher Education Research and Development Journal*, 19(2), 155-168.
- Zamorski, B. (2002). Research-led teaching and learning in higher education. *Teaching in Higher Education*, 7(4), 411-427.