

CROME Informed Teaching - What's going on?

An exploratory report into depictions of research informed and research led teaching on university websites

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Report Summary

- Report prepared in order to inform the development of research informed/led webpages for the CROME website.
- My reporting is far from neutral (see Hughes 2005), although equally interest in and promotion of research led teaching is far from neutral.
- Searching for “research informed teaching” received 24,900 hits and “research led teaching” received 46,600 hits, however searching is complicated by semantics.
- Motivations for promoting the research – teaching nexus on university webpages require acknowledgement as there appeared to be signs of instrumentality in what was being disseminated.
- Web pages often made reference to Higher Education Academy Reports in framing their entries.
- Healey’s (2005) differentiation between research-tutored, research-based, research-led and research-oriented curriculum was popular.
- In terms of persuasive forms of dissemination; student vox pops, academic testimonials and images and graphics particularly appealed.
- In joining this important debate there is a need for caution as research – teaching relationships are not as uniform or straightforward as may be first imagined.

Introduction

There is increasing interest in research led/informed teaching within this university and beyond this university. This short report documents my own investigation into what’s going on, firstly driven by my own intellectual curiosity and secondly in order to inform the development of webpages for the CROME website which will focus upon how the research/teaching nexus relates to members of CROME. As part of this investigation it is hoped to gauge and clarify how this long-running debate is evolving.

University and school level websites now provide an accessible window on what is happening in other institutions. In the past the relationship between research and teaching was far more implicit conveyed by word of mouth or through confidential validation and monitoring documents. Today websites potentially highlight best practices enabling benchmarking with what other institutions are doing. In my own institution a discourse of research informed teaching has become very prevalent, however the dilemma is that it is difficult to know what is fleeting, what is idiosyncratic and what is more permanent and systemic (Eccles and Nohria, 1992). By looking beyond my own institution the intention is to gain a broader understanding of what is going on, which may then inform what we do locally.

On the 3rd September 2015 separate Google searches for “Research informed teaching” and “Research led teaching” were undertaken. The scope of the search was UK HE institutions and their

representative bodies. The objective was not to review every entry, but to gain a focussed impression of how the research/teaching nexus was being depicted and how the debate was evolving. Relevant entries on the first twelve pages of hits for each search were copied and pasted into a word file. This word file ran to just under 94 pages and became the main source of information informing this report.

In the next section (*Background*), I introduce myself as I had previously studied this debate, which as well as fuelling my enthusiasm, potentially colours my perceptions. This is followed by my first impressions (*First Impressions*) of what's currently going on in particular highlighting how diverse this debate is. Engaging with the many website entries which were being prepared and promoted raises a question of motivation which is discussed (*Motivations*). This report is not a literature review, however in reviewing website entries, a number of key references were frequently cited and these references have been followed-up and commented upon, as they play a role both in informing what is reported and legitimating what is reported. In more deeply engaging with the webpages of other institutions the semantics of the debate become apparent, with different institutions and specialisms favouring different terminology for what appears to be similar activities. The differentiations are more than semantic, they appear to signal very different ways of thinking about these relationships with implications for reporting (*Understanding research/teaching nexus differences*). The practical intent of this report is to review what has been reported in order to establish best practices in developing CROME Informed Teaching webpages and these practicalities are gathered together (*What Works in Terms of Dissemination?*). Given the investigative nature of this report, the report concludes with final thoughts rather than the normal conclusions (*Final Thoughts*).

Background

In the late eighties, I first visited this debate resulting in an unpublished paper *Research as a vehicle for learning*. The paper reported upon small scale research undertaken for the Polytechnic Certificate in Teaching and Learning. At the time I was a Research Assistant doing teaching part-time. First year undergraduates were encouraged to undertake research projects and their active involvement in research appeared to be beneficial to their studies. In the nineties, I secured Education Faculty funds to review the literature on research and teaching relationships. I approached this literature believing in research informed/led teaching, but the more I reviewed this literature the less convinced I became about the existence of convincing evidence in support research informed/led teaching. I believe in the value of research informed/led teaching, but I was not convinced by the literature I reviewed.

I presented *Research as a vehicle for learning* at the 1991 Society for Research into Higher Education (SRHE) conference and the literature review at the 2003 SRHE Annual Conference which was themed around *Research, scholarship and teaching: Changing relationships*. In reviewing the literature and during conference presentations I encountered Professor Lewis Elton. Professor Elton (Elton, 1992) passionately advocated scholarship (the critical interpretation of existing knowledge) as the often neglected mediator between research and teaching (please also see Boyer, 1990). This exposure changed my academic life, but most individuals and institutions prefer to believe in the research/teaching nexus, rather than a more ambiguous research - scholarship – teaching interrelationship, so the focus here will be upon the research/teaching nexus.

My paper *The mythology of research and teaching relationships in universities* (Hughes, 2005) was selected from the SRHE conference proceedings to become the lead chapter of a book *Reshaping the University* which was edited by Professor Ron Barnett and focused upon research and teaching relationships. Since then I have concentrated upon my own field of study - organizational change, in particular writing textbooks (Hughes, 2006; Hughes 2010) in the belief that through the scholarship of textbook authoring I offer our students and EASE clients a bridge between the research undertaken within universities and their teaching/facilitation of learning. I remain curious to know how these ongoing debates are evolving. However, I acknowledge that my reporting is far from neutral, although it may be argued that interest in and promotion of research led teaching is far from neutral.

First Impressions

There was certainly a lot of activity going on with a search for “research informed teaching” receiving 24,900 hits and a search for “research led teaching” receiving 46,600 hits. In beginning to review these entries on some websites both terms were used, but overall “research led teaching” was far more frequently used. There were instances of institutional level pages highlighting the interrelationship between research and teaching across whole universities, in these instances discussions were often related to strategy documents such as research strategies and/or teaching learning strategies. There were also instances of school/department level showcasing of interrelationships across a range of academic disciplines, although this showcasing appeared to be reported from the teaching, rather than research perspective of departments. In these instances the emphasis was invariably upon how research informed undergraduate teaching, rather than postgraduate teaching. An emphasis upon undergraduates is understandable given that they far out-number postgraduates, although the relationship is likely to be stronger with regards to postgraduates.

As well as universities, interest groups representing collections of universities such as the Russell Group (representing 24 leading UK universities) and CREST (a consortium enhancing the research cultures of 20+ member institutions) were reporting on research informed/led teaching. It wasn’t tested but there were signs that within these groupings universities were beginning to deliver a consistent message, with signs of conferences and workshops informing this homogeneity. Significant resources had been invested in presenting information about research informed/led teaching on university websites (see *Motivations* below) which raised the question why? The semantics of these debates quickly became apparent (see discussions of semantics and differentiations below). In reviewing webpages many permutations which potentially skew the debate were apparent (see Figure 1).

RESEARCH	INFORMED	TEACHING
Inquiry	LED	Curriculum
Scholarship	Enriched	Studies
Investigation	Enhanced	Learning
	Orientated	Inquiry

Figure 1 – Research informed teaching semantic permutations

The three columns show potential permutations in use. Whilst, the Google searches were based upon ‘research’, other words in column 1 also were used to convey something similar. Column 2 was far more variable, as well as, ‘informed’ and ‘led’ which are the main focus of this report, there were instances of ‘enriched’, and ‘enhanced’ and ‘orientated’ in use. In column 3, ‘teaching’ was most

commonly referred to, but there were instances of ‘teaching’ being replaced by other terms such as ‘studies’, ‘learning’, ‘inquiry’ and ‘curriculum’. One university might refer to *Research Enhanced Learning*, whereas another might refer to *Research Enriched Inquiry*. It is also worth remembering that favoured language will vary between different academic disciplines. What emerged from reviewing website entries was an evolving debate in terms of the development of differentiations and classifications (see discussion of semantics and differentiations below). The key word search even revealed an informative website which amongst other things highlighted terms being used interchangeably (Figure 2).

Research-based teaching/learning
Research-led teaching/learning
Research-infused teaching/learning
Inquiry-based teaching/learning
Research-informed teaching
Research-linked teaching
Research-enhanced teaching
Teaching-research linkages

Figure 2 - Terms used (often interchangeably) within the Teaching-Research Nexus

Source: <http://trnexus.edu.au/index.php?page=definitions-of-the-trn>

The final impression relates to the acritical way research and teaching interrelationships were being celebrated (see earlier *Background* discussion). Across the twelve pages of entries relating to ‘research informed teaching’ and the twelve pages of entries relating to ‘research led teaching’ only one entry critically questioned the potential relationship. Christian Bueger and Huw Williams at Cardiff University had an entry with the poetic title: ‘Humboldt is dead. Research-led teaching in the contemporary university.’

‘...research-led teaching has become more a myth than a practice. Our intent is to open a reflexive discussion of what research-led teaching can mean today, considering that the notion is crucial in today’s academic vocabulary but has hardly been put to scrutiny in a sufficient manner.’

Source: <http://learning.cf.ac.uk/developing-educators/pcutl/project-reports/humboldt-is-dead-research-led-teaching-in-the-contemporary-university> Accessed 03/09/15

What is intriguing about this isolated critical aside is that the rhetoric of research informed/led teaching appeared to place considerable emphasis upon critical enquiry (see examples in Figure 3)

...whilst developing important independent learning skills and capacities for critical enquiry .
Source: http://www.liv.ac.uk/eddev/iteach/research-led-teaching Accessed 03/09/15
Our academics relish the prospect of teaching Hertford students, teaching them to think critically , independently and imaginatively about their subjects.
Source: http://www.hertford.ox.ac.uk/research-teaching/we-believe-in-research-led-teaching Accessed 03/09/15
A research-led approach can be used to build a curriculum which is specifically designed to enhance the students’ ability to develop critical and evaluative thinking skills and thereby support and

promote independent learning.
Source: http://www.southampton.ac.uk/assets/imported/transforms/content-block/UsefulDownloads_Download/8AAA347D2C1E44B6889868B3198AD851/Student-Centred,%20Research-Led%20Learning.pdf Accessed 03/09/15
And through research-led teaching and assessment, we encourage and enable our students to develop valuable skills of critical and independent enquiry .
Source: http://as.exeter.ac.uk/support/staffdevelopment/learningandteachingprogrammesandworksheets/researchlededucation Accessed 03/09/15

Figure 3 – Research-led teaching as critical enquiry (writing in bold for emphasis)

The acritical treatment of research led/informed teaching whilst simultaneously emphasising critical enquiry is one of the paradoxes which makes higher education so interesting, but in terms of this report raises issues around what is motivating the extensive positive dissemination of the benefits of research informed/led teaching?

Motivations

It is very difficult to attribute motive when passively analysing documents. Yet, in terms of this review the why of dissemination is intertwined with what is being disseminated, so at the very least it merits acknowledgement. Away from the PR of websites there are ongoing debates about research and teaching relationships, informed by empirical work and scholarship, they have been going on for decades, they take place across the world and they will continue for the foreseeable future. Some of the websites reviewed referred to this body of literature and those references are reviewed in a later section (*Understanding research/teaching nexus differences*). It might be the case that the websites speak to and present practicalities, whereas theory and empirical justification resides within books and academic journals.

In reading the webpage entries, I had a strong sense that I wasn't the target audience and I probably wasn't. I felt as though the entries existed to persuade students or parents paying the £9,000 a year tuition fees. The discussions appeared to 'add value' to what was being offered, whilst this view is speculative, three of the sources reviewed appeared to support this position. Phil Cook, Department of Politics & Denise Sweeney, Academic Practice Unit at the University of Leicester shared via the internet the following Workshop Programme:

- 1) What is Research Led Teaching? – Research to Teaching v. Teaching to Research direction of fit – Activity – Consider definitions of research led teaching
- 2) Research to Teaching – Promoting students as active researchers – Activities – the nature and extent of student engagement in research activity
- 3) Teaching to Research – Enhancing research development of academics through teaching – Activity – feasible policies to promote evaluate research through teaching
- 4) Research Led Teaching and Branding – How an effective Research Led Teaching policy can support growth – Activity – how could research led teaching be used in branding your department?**

Source: http://www2.le.ac.uk/offices/academic-practice/resources/learning-teaching-conference/copy_of_workshop-abstracts/2.-research-led-teaching Accessed 03/09/15

In this presentation we see an academic/educational rationale being presented in parallel with the commercial/business rationale (4 highlighted in bold).

The second source was a Russell Group report *Research-led learning: the heart of a Russell Group university experience*, supported with full references which commenced with the following summary statement.

The culture of enquiry-based, independent learning in a world-class research environment is at the heart of the student experience in Russell Group universities. Russell Group universities are committed to delivering the added value of a research-informed learning experience, with all the resulting opportunities and benefits for students. We recognise the need to demonstrate how the benefits which flow from learning in a research-intensive environment are excellent value for money for students.

On page 18 the following statement is made:

47. Understanding and promoting the relationship between teaching and research helps to encourage parity of esteem between these related fields.

<http://www.russellgroup.ac.uk/uploads/Learning-in-a-research-intensive-environment.pdf> Accessed 03/09/15 (please note that this resource no longer appears to be available)

As a lobbying group 'promoting the relationship between teaching and research' is a legitimate role, and within the report the important issue of promoting the value of universities to government is raised. However, is it legitimate for universities to promote the relationship or is it more legitimate for universities to research and inform others about these relationships? Academics and society tends to be suspicious of those researchers who simultaneously research and promote (such as those who work for the pharmaceutical companies and then make research claims).

As someone who has always studied and worked in polytechnics/ex-polytechnics I must declare an interest. In reviewing the websites ex polytechnics appeared to be equally keen to promote research/teaching interrelationships as Russell Group universities (see for example the activities of CREST). However, there was one university who took a different path. The *University of Bolton* (an ex-polytechnic) branded itself as a Teaching Intensive Research Informed (TIRI) University

Source: <http://www.bolton.ac.uk/Events/TIRI/Oral-Presentation-Programme-1b.pdf> Accessed 03/09/15

There is a clever pragmatism in such branding suggesting we do not have the financial resources of an elite Russell Group university and given our origins we are primarily involved in teaching, but that teaching will still be research informed.

A third source was Aberystwyth University with its website headline proclaiming 'Research-led teaching delivers NSS improvement'.

Source: <http://www.aber.ac.uk/en/news/archive/2015/08/title-171159-en.html>

In this celebratory piece Professor John Grattan, Pro Vice-Chancellor for Student Experience and International related positive results in the Research Excellence Framework to positive results in the National Student Survey.

Motivations for promoting research informed/led teaching will vary, just as what we refer to as a university vary and even within a single university the homogeneity that senior managers promote does not exist, with some departments being far more research intensive than others. There is an

enduring belief in research informed/led teaching which goes back decades. The increasing marketization of HE appears to have motivated a greater articulation of this belief in research informed/led teaching.

More positively in reviewing the webpages, motivations were not purely instrumental. There was a real sense of institutions and individuals conveying their passion for higher education and its transformational capabilities through discussion of the research/teaching nexus. For example, in the following quotation from the University of Nottingham, they convey what their academics bring to the student experience.

It's not about the answers, it is about how to ask questions. We explore with our students that academia is not about condensing things into textbook-style information: most interesting is what happens between the lines of a textbook, and how the people who wrote it gained the information that appears in a textbook.

Source: <https://www.nottingham.ac.uk/teaching/curriculum/research/index.aspx>

In the following quotation, the motivation for research-informed teaching is conveyed through an analogy with evidence based medicine.

People who argue that teaching should be research-informed, tend to use the analogy of the medical profession: medicine is research-informed and this has contributed to its success, so teaching should be similarly research-informed (e.g. Hargreaves 1997; Goldacre 2013).

Source: <https://www.edgehill.ac.uk/scate/2015/04/20/research-informed-teaching-a-new-analogy/>

More radically in the following quotation the University of Lincoln's motivation appears to be to locate students within the production of knowledge and meaning, rather than just being the recipients of academic research findings.

Student as Producer is a development of the University of Lincoln's policy of research-informed teaching to research-engaged teaching. Research-engaged teaching involves more research and research-like activities at the core of the undergraduate curriculum. A significant amount of teaching at the University of Lincoln is already research-engaged. Student as Producer will make research– engaged teaching an institutional priority, across all faculties and subject areas. In this way students become part of the academic project of the University and collaborators with academics in the production of knowledge and meaning. Research-engaged teaching is grounded in the intellectual history and tradition of the modern university.

Source: <http://studentasproducer.lincoln.ac.uk/>

The University of Lincoln's espoused institutional policies were certainly not the norm, but it does raise issues about teaching informing research and research informing teaching and whether we are interested exclusively in academic research or also in the research students undertake. In the next section, the focus shifts to understanding these differentiations and how they have been articulated.

Understanding research/teaching nexus differences

In reviewing university webpages academic references were often cited in support of different viewpoints on the research/teaching nexus (please see the *Appendix* for a listing). Whilst, the intention here is not to review the literature, four references were frequently cited meriting further investigation in terms of their influence upon the debates. Firstly, three Higher Education Academy

Reports (available from www.heacademy.ac.uk) are highlighted (Jenkins, 2004; Jenkins and Healey, 2005 and Jenkins, Healey and Zetter, 2007), followed by a book chapter by Healey (2005)

Jenkins (2004) as an education developer/researcher produced a report for the Higher Education Academy in order to provide a guide/summary of the research literature on teaching-research relations. The intention was to enable informed discussion within universities and beyond about effective teaching being dependent upon staff, department and institution involvement in discipline-based research. Jenkins (2004) draws conclusions at the individual, departmental, disciplinary, institutional and national level. Relationships are like to vary at all these levels, as he warns:

The issues are layered and complex. Relatedly, there is not a single teaching-research relationship, there are many relationships. Indeed, perhaps we overstate or distort these relationships by referring to 'a' or 'the' teaching-research nexus. (Jenkins, 2004: 30)

In another Higher Education Academy report *Institutional strategies to link teaching and research*, Jenkins and Healey (2005) are far more prescriptive in seeking to support policy makers in institutions enabling linking teaching and discipline-based research more effectively. The report benefitted from international comparisons, learning from experiences in other countries. In Figure 4 recommended strategies are summarised.

Developing institutional awareness and institutional mission

Strategy 1: State that linking teaching and research is central to the institutional mission and formulate strategies and plans to support the nexus

Strategy 2: Make it the mission and deliver it

Strategy 3: Organise events, research studies and publications to raise institutional awareness

Strategy 4: Develop institutional conceptions and strategies to effect teaching-research links

Strategy 5: Explain and involve students and parents in your institutional conception of teaching-research relations

Developing pedagogy and curricula to support the nexus

Strategy 6: Develop and audit teaching policies and practices and implement strategies to strengthen the teaching-research nexus

Strategy 7: Use strategic and operational planning and institutional audit to strengthen the nexus

Strategy 8: Develop curriculum requirements

Strategy 9: Review the timetable

Strategy 10: Develop special programmes and structures

Developing research policies and strategies to support the nexus

Strategy 11: Develop and audit research policies and implement strategies to strengthen the teaching-research nexus

Strategy 12: Ensure links between research centres and the curriculum and between student learning and staff scholarship

Developing staff and university structures to support the nexus

Strategy 13: Ensure the nexus is central to policies on inducting and developing new staff and to strategies to support the professional development of established staff

Strategy 14: Ensure teaching-research links are central to policies on promotion and reward

Strategy 15: Ensure effective synergies between units, committees and structures for teaching and research

Strategy 16: Link with related university strategies

Strategy 17: Participate in national programmes

Strategy 18: Support implementation at department level

Other strategies you consider appropriate

Based on Jenkins et al. (2003, pp.82-83); see also: www.brookes.ac.uk/schools/planning/LTRC/change/institutions/example.htm

Figure 4 – Institutional strategies to link teaching and research: A framework (Jenkins and Healey, 2005: 24)

In the third Higher Education Academy report *Linking teaching and research in disciplines and departments* (Jenkins et al, 2007), there is an informative emphasis upon sharing best discipline-based practice case studies and departmental policies. The central arguments of the report include the ‘teaching-research nexus’ being central to higher education and that student intellectual development and staff identity can and should be developed by departments focusing on the ‘nexus’.

In his chapter, *Linking research and teaching: Exploring disciplinary spaces and the role of inquiry-based learning*, Healey (2005) offers a typology which appears to have been influential for individuals and institutions in addressing the semantic confusion which has tended to characterise debates about the research-teaching nexus. In the chapter, Griffith’s (2004) differentiation between research-led, research-oriented and research-based approaches is acknowledged. In Figure 5, Healey’s (2005) linking of curriculum design and the research-teaching nexus is reproduced.

Student - Focused Students as Participants			
Emphasis on Research Content	Research-tutored Curriculum emphasises learning focussed on students writing and discussing papers or essays.	Research-based Curriculum emphasises students undertaking inquiry based learning.	Emphasis on Research Processes and Problems
	Research-led Curriculum is structured around teaching subject content.	Research-oriented Curriculum emphasises teaching processes of knowledge construction in the subject.	
Teacher - Focused Students as Audience			

Figure 5 – Curriculum design and the research-teaching nexus (based upon Healey, 2005)

The strengths of Figure 5 are the vertical and horizontal axis, with the vertical differentiating student-focused approaches from teacher-focused approaches and the horizontal differentiating an emphasis on research content to an emphasis on research processes and problems. Academics, disciplines and departments may be located/explained with regards to different quadrants. Rather than the global statements senior managers like to make about the importance of the research and teaching nexus in their institution, Figure 5 suggests all four types of curriculum are likely to exist in a single institution contingent upon, level of study, mode of study, discipline etc.

What works - in terms of dissemination?

In reviewing many webpage representations of the research and teaching nexus, despite personal concerns about the instrumentality of some of these (see *Motivations* section), overall they communicate academic’s enthusiasm for what they do, why they do it and how they do it.

Over the decades the research – teaching nexus has empirically proved to be illusive and claims made for the nexus can be contentious. The learning appears to have been that rather than a single overarching/convincing account of the research-teaching nexus, localised accounts and best practice cases are the best way of disseminating what enthuses us and hopefully our students.

The implication of this is that a centralized template within CROME, Brighton Business School or within the College would be inappropriate in capturing the diversity of what's going on. That said previous dissemination and discussion has been hampered by inconsistent research and teaching language in use. CROME Informed Teaching is favoured as an umbrella term for these teaching related activities with the differentiations of research-tutored, research-based, research-led and research-informed favoured beneath the umbrella (see Figure 5). What works in terms of webpages is quite personal, but these are my own favourites.

Student Vox Pops The danger with the research-teaching nexus is that institutions and academics talk it up, but students are left out despite being the intended recipients. University of Bradford used a collage of short pithy quotations from students which conveyed what the nexus meant to them.

Source: [http://www.bradford.ac.uk/educational-development/media/centreeducationaldevelopment/documents/Ita2011/LS_Vox_Pop_MC-\(2\).pdf](http://www.bradford.ac.uk/educational-development/media/centreeducationaldevelopment/documents/Ita2011/LS_Vox_Pop_MC-(2).pdf)

Academic Testimonials I like the idea of academics saying what CROME Informed Teaching means to them. Ideally being candid, rather than self-congratulatory. There is a good example of the Pro Vice Chancellor at Bournemouth reflecting upon research informed teaching at his institution.

Source: <http://blogs.bournemouth.ac.uk/research/2011/05/22/research-informed-teaching/>

Images and Graphics Underpinning notions of research informed teaching are important considerations about philosophies, paradigms and perspectives. However, in communicating interest in research informed teaching these are less useful than graphics such as Figure 5 which give people visiting a webpage a quick overview mapping out the debate in an accessible manner.

Final Thoughts

The style of this report has been intentionally exploratory rather than conclusive in order to gauge as openly as possible what is going on. I have engaged with these debates which are integral to higher education in previous decades and reengaging with these debates revealed that these debates have maintained their vibrancy. In the past these debates were between academics and between institutions and policy makers (there has always been a funding sub-text to the debate) and what appears to have changed in the current era is that these debates have become far more public (reflecting a new student marketing sub-text). This has partially been enabled by the internet, we did not have the university websites we have today in the eighties. However, more proactively institutions appear to be explicitly promoting the research/teaching nexus as part of their offer to potential students. This is understandable, if you believe in higher education you probably believe in the research/teaching nexus, I certainly do. The dilemma is going public polarises positions, as mentioned previously the treatment across the websites was almost exclusively acritical (see *Motivations* section), ironic given that advocates of the research/teaching nexus believe in and seek to encourage critical inquiry.

The debates featured here may be likened to paddling at the seaside, it is initially easy and pleasurable and then suddenly the beach plateaus and you are deep into colder and darker waters. The danger is that the PR speak around the research/teaching nexus overlooks the colder/darker waters of serious academic engagement. In looking to the webpages it was encouraging to see many academic references being invoked in support of the different positions being taken (see Appendix). However, even within this small sampling of what has been written the breadth of philosophies, paradigms and perspectives being invoked is apparent (colder/darker waters). The dilemma is that an institutional, department or research leader may not have the luxury to fully engage with this breadth of literature, requiring them to encourage a research informed approach, whilst potentially being uninformed fully about the research/teaching nexus literature. I am sharing my own concerns as much as anything here, in this small scale investigation I have been struck by the fragmented and contradictory nature of literature that I encountered. The webpages explicitly acknowledged websites which have informed my studies I recommend to colleagues wishing to delve deeper, once you have had a 'paddle'.

The first website is the personal website (<http://www.mickhealey.co.uk>) of Professor Mick Healey. His academic background was in geography, but today he describes himself as a higher education consultant and researcher. He has consistently engaged with and informed the debates featured here and his bibliography offers a good starting point for anyone wishing to engage with the literature.

The second recommended website is the Higher Education Academy, there are many reviews and resources related to the research and teaching nexus, Alan Jenkins 2004 review is a good starting point: (http://www.heacademy.ac.uk/sites/default/files/id383_guide_to_research_evidence_on_teaching_research_relations.pdf).

The third website (<http://trnexus.edu.au/>) was strictly outside the scope of my review, given that it is based within Australian universities. However, it highlights that UK debates featured here are mirrored within other countries. The full title is *The Teaching – Research Nexus: A Guide for Academics and Policy Makers in Higher Education*. It is the antithesis of some the PR based accounts reviewed, but its critical inquiry tone is refreshingly different and as they favourably cite my work they are to be commended.

In summary the researching/teaching nexus is integral to higher education. There is an extensive literature informing these debates, but please do not assume that a consensus empirically informed understanding of the nexus exists. The nexus is likely to vary in different types of university and even within a single university in its different constituent departments. It can reasonably be anticipated that within CROME considerable differences will exist. The label nexus acts as an umbrella for a series of different yet related debates, characterised by differentiations such as; research-tutored, research-oriented, research-based and research-led. Each of these differentiations has implications for teaching and learning and most importantly the student experience of research. A member of CROME may be undertaking any of the four categorisations, they are not hierarchical instead they signal the need to do what is most appropriate.

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Appendix - Research and Teaching Nexus (supporting references)

In reviewing the webpages supporting academic references were often included and examples of those references being cited are alphabetically listed here. The most frequently cited references are indicated with a (*) and these were discussed in the *Understanding research/teaching nexus differences* section.

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