

Re-conceptualising the ‘teaching-research nexus’

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This is a conceptual paper which re-thinks the underlying concepts behind the notion of “the teaching research nexus”. It is based on an extensive review of the literature, on an analysis of a number of case studies available in this area, and on our preparatory work for an empirical study of teaching, research and the links between them in four creative design subjects in the UK. A subsequent paper from that work will set out our empirical findings as viewed through the theoretical lens set out here. This paper has three sections: a summary of the conclusions from our review of the literature; the presentation of a more nuanced understanding of the nexus than is currently available, one rooted in an appreciation of structure as well as agency; finally a discussion of the implications of this revised understanding for theory, policy and practice, particularly in attempts to enhance the “nexus”.

Keywords Teaching-research nexus; ideology; education policy

Introduction

Currently in the UK there is considerable emphasis on enhancing the links between teaching and research and a large amount has been written about the “teaching-research nexus”, partly as a result of the funding that is available to study it. In Scottish universities it is a priority area as part of the quality enhancement framework there. In the 24 UK Subject Centres whose mission is to enhance teaching within the disciplines it is also a priority for 2007. Many universities are including this issue in policies and appointing staff to develop the links between the two functions. This paper itself arises out of a Higher Education Academy-funded project on “the nexus”. This project involves collecting empirical data from the University of the Arts London in four creative design subjects. The first deliverable of the project is a review of the literature around “the nexus”. This is already available on the web (Trowler and Wareham, 2007). The second deliverable, based on that, involves a development of the concepts and theory in this area and a discussion of the implications of that development. This paper represents a summary of that task. A third, subsequent paper will present the findings from the empirical research.

This paper is structured in three parts: a very brief summary of the conclusions from our review of the literature; the presentation of a more nuanced understanding of the nexus than is currently available; and a discussion of the implications of this revised understanding for theory, policy and practice, particularly in attempts to enhance the “nexus”.

The literature on the “teaching-research nexus”

Our review of the extensive literature on the “teaching-research nexus” (Trowler and Wareham, 2007) found it to be characterised by a number of common features.

There is a worrying tendency to view the links between teaching and research in a fairly simple way. Indeed, the term “nexus” itself suggests a concrete and singular set of links between the two phenomena. However, careful analysis of the ways in which the “nexus” as described in the case studies and in the literature shows that in fact that there are multiple sorts of linkages and relationships being referred to and partly for this reason we use scare quotes around the term “teaching-research nexus”.

Much of the literature also takes a normative position on the “nexus” issue. The assumption is that teaching and research can and should be better integrated than is currently the case. Linked to this, writing in this area is largely oriented to establishing ways in which the “nexus” can be enhanced. The possibility that disentangling the research and teaching functions might be beneficial to both is rarely entertained. The possible dysfunctions of integrating the two functions, and the potentially difficulties of this task are given very restricted attention.

A further general characteristic of this literature is that it tends to be atheoretical. An empiricist ethic prevails, and underpinning this is a foundationalist ontological position, which assumes that a reality exists which can be apprehended by research which is sufficiently robust and extensive. An alternative position is a social constructionist one which stresses situational contingency. At a minimum, theoretical perspectives are in need of clarification in much of this literature or at least tacit theory needs to be exposed, including theories of causality. Theories of one sort or another are always present, but if occluded they can do more harm than good. This is particularly the case if theories in use are inappropriate or just poor.

For the reasons above we characterise the bulk of the literature in this area as being rooted in what we describe (rather clunkily) as normative foundationalist-empiricist instrumentalism.

Linked to this is the urgent need for greater conceptual clarification. As noted above, there are multiple possible meanings of “the teaching-research nexus”, but authors, academics and policymakers tend to slip between these different meanings in an unacknowledged and usually unrecognised way. For example it is often unclear whether authors are referring to the influence on teaching and learning of students doing research, staff doing research, staff practices being informed by research, the curriculum being informed by contemporary research, the research culture of a particular context and so on. The nature of the connections remain similarly unspecified in many cases. “Teaching” and “research” as concepts tend to be treated unproblematically too, eliding significant differences in what these terms mean in different disciplines and contexts.

Finally, with Rowland (2000), we noted a tendency for the conclusions of the literature in this area to merely state the obvious: that in some cases there is a positive influence of research on teaching, and in other cases not; that students both appreciated and are sometimes irritated by staff engaging in research; that “some of the most inspiring teachers are able researchers, but not all; that some prominent researchers are good teachers, but not all” (Rowland, 2000, p. 1). For this reason we eschewed the collection of more empirical data of the usual sort. Instead we opted to study the nature of teaching and of research in quite a unique context, in four creative design subjects within a newly merged university which incorporates multiple sub-institutional contexts. Without going into the details of the selection here, we argue that studying the “strange” can be very valuable in shedding light on what is usually considered the norm. Trowler has used this research approach with effect in other contexts (for example

in the study of Deaf academics to shed light on the nature of institutional cultures and socialisation into them: Trowler and Turner , 2002).

Clearly, then, there is a need for more work in this area of a different kind. With some exceptions (notably Angela Brew’s work) there needs to be better theoretical development, a more dispassionate approach, and more conceptual rigour.

Reconceptualising the “teaching-research nexus”

So what are the different ways in which the term “the nexus” is used? There are at least seven different categories of relationship (here called ‘dimensions’) between teaching and research. It is important to define them in order to help prevent the slippage and the inappropriate unitary use the term “Nexus” described above. Table 1 summarises the different uses we found, the benefits mooted in the literature and our reflections on the possible dysfunctions of each dimension (**not** usually found in the literature). The dimensions set out in Table 1 describe a series of possibilities. They can also describe a preferred future state, an aspiration. The ‘gap’ between the current state and the preferred state is the ground policy-makers address.

Table 1: Dimensions of the ‘teaching-research nexus’

Meaning of ‘nexus’	Practices	Suggested benefits	Possible dysfunctions
1. Learners do Research	Research-based learning approach Research community practices replicated – peer review, publication on web or paper	Range of skills developed Range of concepts developed Epistemological awareness developed	Learning too slow to cover curriculum Patchy coverage of curriculum Low-quality research with poor ethical control and saturation of respondents with requests for interviews etc Resistance from learners Modularised curriculum and timetable constraints mean impractical to do this
2. Teachers do Research	Teaching cutting edge material Teaching about their research	Develops passion for the subject, communicated to learners Professionalises academic staff Teaching-informed research agenda saves time and effort Skills developed in	Teachers spend most of their time and energy on research to the exclusion of students Teaching assistants employed to replace teachers engaged on research resulting in student exposure to

		<p>research re-used in teaching</p> <p>Develops thinking abilities of teachers</p> <p>Engagement with pedagogic research and its outputs improves teaching</p> <p>The effect on individual academics' identities of having a significant research role alongside and/or linked with their teaching activities *</p>	<p>lower levels of expertise</p> <p>Students feeling abandoned</p>
3. Teachers and learners research together	<p>Students as research assistants</p> <p>Co-operative planning and implementation of research projects</p>	<p>All of the above benefits, plus more task-oriented and co-operative relationship between teachers and learners</p>	<p>Learning too slow to cover curriculum</p> <p>Patchy coverage of curriculum</p> <p>Students effectively unpaid research assistants</p>
4. Research embedded in the curriculum (Research influences the <i>what</i> and the <i>how</i> of curriculum design)	<p>Research-based learning approach used</p> <p>Cutting edge research and knowledge incorporated in curriculum design</p> <p>Students' research skills foregrounded</p> <p>Students' cognitive skills of enquiry foregrounded</p> <p>Pedagogic theory and inquiry-based practice inform curriculum</p>	<p>Action research feeds into quality review and enhancement</p> <p>Students gain benefits as in 2 and 3 above</p>	<p>Patchy coverage of curriculum</p> <p>Transmission of essential knowledge poorly effected</p>
5. Research culture influences teaching and learning	<p>Teachers and students discuss research together</p> <p>Research culture permeates practices in teaching and learning</p>	<p>Research culture provides motivational context for teaching and learning</p>	<p>Research prioritised over teaching, leaving non-researchers among the staff as well as students feeling abandoned</p>
6. The nexus, the university and its	<p>Both teaching and research are linked</p>	<p>Research-teaching links offer</p>	<p>The needs and priorities of</p>

environment	into the commercial environment and local communities, addressing needs and solving problems. Knowledge transfer takes place	opportunities for knowledge transfer The nexus can indicate improved institutional structures and strategies The nexus can indicate improved national policies on enhancing teaching and research Claims about a teaching/research nexus having instrumental value in terms of marketing of programmes & courses and institutional reputation* .	employers and others take precedence in the academy. Pure research and critical approaches to society and become marginalised
7. Teaching and learning influences research	Research projects refined and developed as a result of discussion with students (particularly in areas of preparation for professional practice) Pedagogical research conducted in the context of teaching students	Mutual benefit to both teaching and research in a feedback loop. Skills developed in teaching re-used in research	Substantive disciplinary research becomes sidelined. Low quality pedagogical research begins to predominate because of lack of training in methods and relevant social scientific disciplines

The asterisked items in the table above indicate indexical rather than substantive links between teaching and research: significant not in themselves but in the secondary effects they have. This throws up the important issue of the rhetorical nature of many claims about the teaching/research nexus: that the significant issue is not the nexus itself but the claims made about the nexus and their effects.

We also note that the nature of the ‘link’ between teaching and research is described differently in the different dimensions and their parts. The following terms are variously used to describe the different character of the linkage, and only a little reflection is necessary to reveal the significance of the differences between them:

- Inform
- Integrate (“Integration of scholarship, research and professional activities with teaching and supporting learning” is one of only 6 areas of activity for academics achieving the professional standards (HEA 2006)

- Support
- Link
- Enhance
- Add value to

But if the nature of the linkages between teaching and research have been poorly conceptualised to date, what about the concepts of “teaching” and “research” themselves?

Much of the work in this area has been based on phenomenography. Brew’s work on research (2001) uses a phenomenographic approach, and it is well-known that phenomenography has become a standard approach in the study of teaching and learning in higher education (Saljo , 1979; Marton , Dall’alba and Beaty, 1993; Prosser and Trigwell 1999; Trigwell and Prosser, 1996). Thus individual conceptions of research, say, are itemised (as a *journey*, as *trading*, etc for Brew). So are conceptions of teaching (as *conceptual change/student-focused* or *information transfer/teacher-focused* for Trigwell and others). And so are approaches to learning (*deep, surface, strategic* for Saljo and others).

Yet a growing body of literature has begun to question the foundations and approach of phenomenography (Ashwin, forthcoming; Meyer and Eley, 2006). Three problems are significant for the current discussion: there is a failure to acknowledge the significance of social structures for individual behaviour; there is an overemphasis on the individual compared to the social group; results tend to be descriptive rather than explanatory. In short the individual academic is conceived as existing in something of a bubble, independent of any social interaction.

Instead of this fundamentally agentic individualist methodological approach, we see both approaches to teaching and approaches to research as rooted in more structural ground. When academic staff develop orientations to their teaching and research they do not do so *ab initio*. Rather they draw on resources which can be described as ideological, that is on an already-present framework of values and beliefs about social arrangements and the distribution and ordering of resources (Hartley , 1983). This framework provides a guide to and justification for practices in work contexts, including practices to do with teaching, with research, and the links between them. Table 2 summarises our thinking on this. It is based on Trowler’s earlier work (1998) summarising the literature on educational ideologies from which he distilled four: traditionalism; progressivism; social reconstructionism; and enterprise.

Table 2: Conceptions of ‘research’ as ideological

Educational Ideology in relation to teaching	Research Process/Approach/Type	Criteria of value in research	Key words
Traditionalism Teaching is about transmitting information, induction into	Rigour, hard thinking, disciplinary focus, empirically-based, peer review, clear boundaries between research and other activities (eg	RAE-able Of ‘tradeable’ value among the community of scholars (Brew, 2001)	Rigour Publications New knowledge

<p>the discipline.</p> <p>Information transfer/teacher-focused approach</p>	<p>scholarship)</p>	<p>Development of propositional knowledge ('knowing that': Ryle , 1949)</p>	
<p>Progressivism</p> <p>Teaching is about developing students' minds so they can better appreciate the world, about making them autonomous.</p> <p>Conceptual change/student-focused approach</p>	<p>Research-based learning, often uses interpretive inquiry, critical thinking, fuzzy boundaries between research and other activities ('we do research every time we cross the road': Prof John Hyatt, MMU)</p>	<p>Development of the mind</p> <p>'Journey' conception of research (Brew, 2001)</p> <p>Development not primarily of 'knowing that' or 'knowing how' (Ryle, 1949) but of 'knowing' itself: new ways of seeing, new concepts and theories, ways of thinking.</p>	<p>Conceptual and personal development</p> <p>Enlightenment</p> <p>Illumination</p>
<p>Social Reconstructionism</p> <p>Teaching is about empowering students to see the inequities and structured nature of advantage and disadvantage in the world, and to change it.</p>	<p>Critique, making questions not taking them, thinking differently, challenging. Clear boundaries between research and other activities</p>	<p>Power for social change</p> <p>Development not primarily of 'knowing that' or 'knowing how' (Ryle, 1949) but of 'knowing' itself <i>for change</i>: new, critical, ways of seeing, challenging concepts and theories, new discourses and tools for deconstruction</p>	<p>Deconstruction</p> <p>Challenge</p> <p>Critique</p>
<p>Enterprise</p> <p>Teaching is about giving students the</p>	<p>Integrative, mode 2 knowledge, action research, research skills important, research and business very close,</p>	<p>Value to enterprise economy</p> <p>Development of 'knowing how'</p>	<p>Value, Global competition, Knowledge economy,</p>

skills to thrive in their careers and to contribute to the economy.	practice-based research. Fuzzy boundaries between research and other activities (eg professional practice)	(Ryle, 1949): performative knowledge	Knowledge transfer
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Conceptualising teaching, research, and the links between them as ideological does not reject the findings of phenomenography, but draws on them and incorporates them. Thus Brew’s conceptions of research as well as Trigwell and Prosser’s conceptions of teaching can be incorporated relatively easily into this table. The difference however is that ideologies provide resources upon which individuals draw on selectively. They are sustained over time by, for example, particular sorts of journals, conferences and social networks. For individual members of staff ideological orientations go beyond simply conceptions of research or conceptions of teaching or learning into more fundamental issues. They raise and help answer questions such as the following: What are the purposes of higher education? What do I think I’m doing when I teach or do research? What preferred futures do I envisage? What are my criteria for success? How should the university interact with the world outside, especially industry? Which is most important, teaching or research? What are the characteristics of “graduateness”? Many of these issues are extremely relevant to the “teaching-research nexus”, though not directly related to that issue.

Implications for theory and for enhancement efforts

What do these comments imply for our understanding of the ‘teaching-research nexus’ and what are their implications should we wish to enhance the relationships between teaching and research?

First, in thinking about “the nexus” we would do well to go beyond the emphasis on the individual enshrined in the phenomenographic approach (and the methodological individualism which has usually underpinned efforts to understand it). Nexus issues would be more illuminated in the light shed by an appreciation of wider social structural forces. So, for example, the research assessment exercise (RAE) in the UK has had a tendency to push academics towards a view of research which is in line with Brew’s ‘trading’ conception (Elton , 2000; McNay , 1997; Jenkins , 1995). The adoption of this conception more widely is not a product of many individual choices made agentically but of a policy and power context which needs to be fully acknowledged. Similarly the push towards vocationalism in higher education (Trow , 1992), what Barnett (1994) calls ‘performativity’, is intimately linked to the enterprise ideological framework. This has repercussions for “the nexus” in a number of dimensions but also goes well beyond nexus issues understood in a restricted way, perhaps most significantly into new discursive modes. At the root of this are issues of power, in particular in terms of thinking about the world and describing it as well as in relation to what becomes difficult to express.

Second, and very much linked to that, we need to see orientations to teaching, learning, and research (and so the linkages between them) as drawing on wider ideological resources which have structural roots. These ideological resources are articulated differently in different disciplines, but have social structural roots in (for example) journals, conferences and social networks of academics with different ideological orientations. Where agency is applied it is activated differentially in a particular social-structural context. Resources, both discursive and

otherwise, are already available for academics to draw upon – they do not invent their conceptions of teachings anew.

Third, a few moments' reflection on Table 2 will reveal that there will be congruence between some understandings of research and some understandings of teaching, while at the same time there will be antipathy between other sets of understandings. These are ideologically-founded sets of compatibilities and incompatibilities. Some combinations are amenable to enhancement in terms of the nexus while others are much less so. So (to revert to phenomenography for a moment), Drew's (2004) teaching orientations category 4 *Teaching as helping students change conceptions (using self-directed research to develop conceptual skills)* might easily be incorporated into some versions of the nexus, particularly in contexts where Brew's (2001) concept of research as a personal journey (also her category 4) is prevalent. It is more difficult to envisage enhancement of the nexus where the conception of research is a 'trading' one (Brew) or where teaching is seen as oriented to professional practice in the creative industries (Drew). But again, these are not just about individual academics' orientations: such orientations are ephiphenomena of wider educational ideological positions. In this case these two category 4 orientations are indicative of a progressivist ideological stance more generally. Thus for example in a university or department where a traditionalist educational ideology is prevalent, there will be no difficulty with the 'teachers do research' dimension of the "nexus" (dimension 1 in Table 1) or even dimension 4: research embedded in the curriculum. But managers and change agents there would experience considerable difficulty in trying to introduce other dimensions of the nexus such as the more radical versions of dimension 3 in Table 1 or the more industry-oriented version of dimension 6. This would be especially difficult if there were a simultaneous attempt to introduce understandings of teaching and research which are compatible with those dimensions of the nexus.

So, finally, in terms of institutional policy, in a university seeking to enhance "the nexus" managers and policymakers would do well to ask the question: 'what are the predominant ideological orientations to research and to teaching and learning in this university context and how would they have to be changed in order to enhance the 'teaching–research nexus'? This question goes beyond individual academics' 'orientations' to research and teaching (the boundary of interest of phenomenography), moving into the cultures found within the institution concerned. These cultures will vary according to departmental and other academic and social groupings. In addition, the multiple cultural configuration (Alvesson, 2002) of one institution (say an ex-polytechnic or community college) will be quite different from that of another (say an elite university) and this will be very significant indeed for the ideological configuration found there and hence for "the nexus" itself. The prospects for change and the most appropriate dimensions of the nexus that might be the focus for change efforts in these two contexts will be quite different. In some contexts some dimensions will be amenable to change, in other contexts those will be rigid and very difficult to shift.

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