



Academics' experiences and perceptions of 'research' and 'teaching': developing the relationship between these activities to enhance student learning within different disciplines and institutions

Final Report
October 2008

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Executive summary

Background

Internationally the relationship between teaching and research is a key area of discussion and debate, the outcome of which is vital to shaping national and institutional policies for teaching, research and curriculum design and delivery. In particular, as governments and private funders focus on high-level research to 'improve' economic and social 'performance', the perception of universities and individual academics being effective at both teaching and research has been questioned (Lucas, 2006; McNay, 1990).

This research project takes place at a time when these debates are high on the national policy agenda. What is interesting to explore, however, is the potential impact on institutional organisation, culture and values that are being enacted within university departments across the country. Given the complex and contradictory policy situation, what is influencing the discourse, ideas and practices of individual academics working in universities? To some extent, this question can partly be answered by exploring the research done to date on the relationship between research and teaching. This study is strongly shaped by recent research in three areas:

- a) academics' conceptions of 'teaching' and 'research' and their 'disciplinary' subject matter – and how these shape the degree to which they experience teaching and research as separate or linked activities or roles
- b) the contested issue of the extent to which academics' experiences and perceptions of teaching, research and their relationships are shaped by their disciplines
- c) how the nature of teaching-research relations for academics are shaped by departmental and institutional cultures and practices.

Much of the research to date, which explores academics conceptions and experiences of 'research' and 'teaching' and the possible links between the two, has focused primarily at the level of the individual. There has also been a reliance on the phenomenographic approach resulting in a methodological individualism (Trowler & Wareham, 2007), which neglects the socially situated nature of academic work and experiences (Deem & Lucas, 2007). The development of categories of conceptions of research and teaching offers valuable insights, but can present a static and partial representation of academics perceptions and experiences. As Robertson and Bond (2007) argue, this approach has decontextualised the experiences of individuals. Conceptions (or ideas) do not happen in a vacuum, they are socially constructed.

Following Robertson and Bond (2007), this study seeks to analyse individual academic experiences in a more holistic framework, which they call an "experiential field analysis". However, the focus in their work is primarily on the epistemological underpinnings, which shape academics' disciplinary allegiances and the significance of the research-teaching-learning-knowledge

continuum. The emphasis in this study is to explore the socially situated nature of academic experience rooted within the organisational cultures of institutions, departments and disciplinary fields. Dimensions of organisational culture and values (de Zilwa, 2007) and dimensions of the teaching-research nexus (Trowler & Wareham, 2007) are utilised to explore the empirical data from the case study institutions.

Aims

The study was concerned to explore the experiences and perceptions of academics by locating them within specific institutional/departmental and disciplinary cultures and exploring how this may impact on their experiences and perceptions of 'research', 'teaching' and the relationships between them.

The key aims of the study can be summarised as:

- to explore the experiences and perceptions of 'research' and 'teaching' of academics in Environmental Sciences, Sociology and English and their understanding of the link between the two activities
- to identify ways in which the disciplinary/sub-disciplinary and departmental location of academics may influence their experiences and perceptions of 'research' and 'teaching' and of the relationship between them
- to understand better the ways in which their perceptions of the link informs their teaching practice and curriculum development and their beliefs about how this may enhance student learning.

The main aim of the project was to further the debates that attempt to understand the significance of institutions/departments and disciplines (and sub-disciplinary areas) within academics' experiences and perceptions of 'research' and 'teaching' and the relationship between them. Developing a more holistic conceptualisation of 'an experiential field' involved not only exploring ideas about knowledge (epistemology) and cultures/organisation of disciplines and sub-disciplines, but also taking a wider sociological focus and exploring the cultures/organisation of institutions and departments.

Research design

The project was a multi-level comparative case study of three institutions and three departments/academics units within each location (Environmental Sciences, English and Sociology). Institutions were chosen to represent different types of universities with a variety of missions. The three cases included one research-intensive university (Longbridge University), one university with a teaching focus but clear research strengths/aspirations (Blueshore University) and one university with a strong teaching focus (Lakeside University). Pseudonyms are given for each of the institutions.

The data collection for the project consisted of:

- a close content analysis of institutional and subject area/departmental documents, including research and teaching strategies of the institutions
- interviews conducted with appropriate senior management figures at each institution such as the pro-vice-chancellor and heads of department at each of the selected departments
- interviews conducted with a stratified sample of selected individual staff in Environmental Sciences, Sociology and English. A stratified sample of academic staff at different status levels and different stages of their career were chosen where possible to include professors/readers, senior lecturers/principal lecturers and lecturers. This ensured a sample that would allow comparisons of perspectives and experiences to be made.

A process of 'abductive reasoning' (Coffey & Atkinson, 1996) was used to analyse the interviews and explore the contrasting experiences and perceptions of academics and how this links with their experiences of 'research', 'teaching' and the relationship between them. Conceptual dimensions from previous studies were used to explore the data based on the work of de Zilwa (2007) on organisational cultures and the research and teaching nexus (Trowler & Wareham, 2007). Ethical procedures to ensure informed consent, confidentiality and data protection were followed.

Institutional and departmental case studies

Blueshore

The institutional focus on research competitiveness seems to be highly influential within the departments at Blueshore University. There is an obvious concern with teaching in all of the departments. However, there is a clear emphasis on research development and a concern in some, particularly Environmental Sciences, that research is being prioritised over teaching. This view, however, represents that of members of staff in the departments who have clear teaching and learning priorities. The educational vision of the institution is rather broad and does not seem to be represented by one particular vision of teaching and learning. There have clearly been developments in relation to linking research and teaching, however, as evidenced from staff comments, to scope the practices within departments of students engaging in research. Further, given the institutional emphasis on being competitive in research, there are clear policies and practices within all the departments to help raise the research profile, as evidenced from staff accounts presented above.

The organisations and cultures within each of the departments are varied with a very high degree of cohesion and collaborative working within the English department, particularly in relation to teaching and curriculum development. In Sociology, a fairly high cohesion was evidenced but perhaps less collaborative working. While in Environmental Sciences, there seemed to be

evidence of a low cohesion and distinct divisions between sub-cultures in the department. This also had implications for the roles taken by staff, with a greater division of staff engaged in teaching and staff engaged in research within Environmental Sciences, whereas in Sociology and English, most, if not all, staff were equally engaged in research and teaching.

With regard to the relationship between research and teaching, there were also distinct differences. In Environmental Sciences, there was an emphasis on students engaging in research and active learning within different courses. In Sociology, there was an emphasis on students engaging in research projects alongside staff and in projects that were a 'genuine' engagement in real-world research, as well as staff bringing in research examples from their own work into the content of courses. In English, there was a much more radical overhaul of the curriculum to demonstrate a developmental model of students gaining the skills and understanding of research from year one to year three and engaging in research through planned stages.

Longbridge

At Longbridge University, there is a clear focus on the importance in leading the field in research, so research success is of paramount importance to the institution, and this has significant influence on the organisation and priorities of the departments. Environmental Sciences does very well as regards research success and also brings in a high level of research income. In Sociology and English, all staff are research active and they were successful in the 2001 RAE, but there is perhaps more pressure on these two departments to bring in additional research funding. There is also a developing policy on education, partly informed by the debates on linking research and teaching, which aims to have all staff engaged in teaching as well as research in order to ensure a 'distinctive' student experience at Longbridge.

With regard to departmental organisation cultures and values, there is a distinct variation at Longbridge. Environmental Sciences appears to demonstrate a high degree of cohesion and a highly formalised and integrated research and teaching linking strategy, which informs the development of the whole curriculum. There is evidence of a high collaborative and collectivist culture in relation to teaching practice and the development of the curriculum. In Sociology, by contrast, there seems to be a very individualised approach to teaching and according to the perceptions of the staff interviewed, a lack of collaborative effort in relation to teaching either formally or informally. Within the English department, there seems to be a high degree of informal collaborative working in relation to the development of teaching, but a relatively internal orientation and lack of correspondence with institutional goals.

All staff interviewed are research active and all discussed the link between their research and teaching to some degree. In Sociology, this seemed to be primarily in relation to research interests informing teaching content, staff using illustrative examples from their own research and students engaging in

research projects in the latter part of the programme. In English, there is a model of 'interactive' learning between staff and students, although teaching methods remain somewhat traditional. In Environmental Sciences, there is a clearly focused and specified curriculum that enables students to develop understanding a skill for engaging in research from year one to the final year. The research specialisms of staff clearly underpin the whole curriculum.

Lakeside

At Lakeside, there is clearly a strong focus on teaching and ensuring the teaching excellence of all departments in the University. The institution is also keen to recognise and value a diverse variety of forms of research and scholarship. This includes an emphasis on pedagogical research, which can underpin teaching developments, and this type of research is strongly encouraged. There are a small number of departments at Lakeside who had moderate success in the 2001 RAE, which brought some research funding to the institution but otherwise funding for research is relatively modest. With regard to engaging in research, therefore, there is a strong incentive for staff to conduct pedagogical research, which can directly influence the teaching practices within the institution. According to the perceptions of staff, particularly in Environmental Sciences and Sociology, engagement in disciplinary research is only encouraged where it is supported by external research funding. The main focus, therefore, is on pedagogical research underpinning teaching rather than disciplinary research, although there is a recognition that there is a substantial amount of disciplinary research being conducted, which is partly supported by the teaching budget.

There is a significant amount of restructuring occurring in the organisation of departments within the University, and this has resulted in a substantial change to the predominant cultures and values in the Environmental Sciences, Sociology and English departments. There is a perceived loss of a research culture in each department, although this appears to be less so in English. Staff in Environmental Sciences and Sociology are mournful of these changes in their department and struggle to maintain their disciplinary research work by using personal time and developing collaborations external to the institution. With regard to teaching, there is strong collaborative culture both formally and informally with staff working together to develop the curriculum and in team-teaching on different courses. There is generally a high degree of cohesion across all departments in relation to developing forms of active learning and interactive teaching methods and a continuing dialogue of conversations about how best to develop the curriculum. Staff in each department are divided on their enthusiasm for pedagogical research with some engaged to a high degree and others less keen. The recent restructuring has shaken up forms of teaching practice and in particular had led to more interdisciplinary-based courses, which some staff are very enthusiastic about.

With regard to linking research and teaching, all staff are enthusiastic about active learning and interactive teaching and engaging in forms of enquiry-based learning. However, like staff in other institutions, they are not always

keen to use such labels. In all three departments, there are examples of students engaging in conducting research, and this is seen to be important by most, if not all of the staff interviewed. There is clear engagement with teaching and learning debates, and a number of staff are engaged in pedagogical research, which they are able to utilise to inform teaching developments. However, some staff are worried about the lack of opportunity for engagement in disciplinary research and the effect this might have on their ability to bring their research experience to teaching. There is also an issue of the level of autonomy that staff have to choose and design the courses that they run.

Summary conclusions

The key themes identified from the study are explored in relation to: the institutional contexts; departmental organisational cultures; disciplinary and sub-disciplinary cultures; the research-teaching-learning-knowledge continuum; and issues of language, rhetoric and resistance. There were few explicit policies for linking research and teaching found at any of the institutions despite positive views on this by senior managers. However, the institutional context was highly significant in shaping departmental priorities and activities. Research and teaching links seemed strongest in those departments which had a cohesive and collaborative culture, strong academic affiliation, a positive change orientation and flexibility and a positive synergy between department and institutional goals. This was best represented by the Environmental Sciences department at Longbridge, English at Blueshore and also, to some extent, English at Lakeside.

Differences were shown between disciplines as regards what it means to research to construct knowledge, and there are different cultures and practices, which may shape the potential relationships between teaching and research across different disciplines. However, the case studies in this study have shown that a strongly positive and enhancing relationship can exist (and is for the most part expressly desired by academics and senior managers alike) at all types of institutions and across all disciplines, while taking many different forms.

Further recommendations

Recommendations are given to a number of stakeholders, including: course teams and departments; institutions; and the Higher Education Academy including the Subject Centres. In particular, this study highlights the important role played by course teams and departments and the need for ensuring continued discussions around the articulation of common aims and goals in relation to ensuring positive links between research and teaching and possibilities for ensuring greater cohesion and collaborative effort within departments. Subject Centres and other national bodies can also play a role in ensuring that institutions are provided with resources and support that can

help to generate innovative ideas for teaching and learning that includes successful integration of research and teaching.

The research and policy contexts

Internationally the relationship between teaching and research is a key area of discussion and debate, the outcome of which is vital to shaping national and institutional policies for teaching, research and curriculum design and delivery. In particular, as governments and private funders focus on high-level research to 'improve' economic and social 'performance', the perception of universities and individual academics being effective at both teaching and research has been questioned (Lucas, 2006; McNay, 1990). In the UK, the 2003 White Paper on *The Future of Higher Education* introduced the idea of creating 'teaching only universities'; however, no explicit policy has yet resulted from that, although it is possible to argue that the Higher Education Funding Council for England's (HEFCE) research funding policy through the Research Assessment Exercise (RAE) has served to effectively reintroduce a binary divide in higher education through the granting and retracting of research funds to institutions (Lucas, 2006). The RAE operates throughout the whole of the UK higher education system in Scotland, Wales and Northern Ireland, and across all systems there is clear differentiation between institutions and enormous disparities in the amount of research funding to different universities (Lucas, 2006).

However, more recently there has been greater recognition given to the linking of research and teaching within national policy making bodies and HEFCE, for example, introduced the Research Informed Teaching Fund (RITF) in 2005. This fund was to enable the development of teaching informed by research and would be distributed to institutions in inverse proportion to the amount of direct QR research funding from the HEFCE. National discussions and debates on the relationship between research and teaching continue to be high on the policy agenda. For example, the Quality Assurance Agency (QAA) Scotland, from 2006, has made the research and teaching linkage a key theme in their enhancement strategy. In England, a significant number of the Centres for Excellence in Teaching and Learning (CETLs) have as their central aim the development of research and enquiry-based forms of teaching and learning. These CETLs can be found in Sheffield, Surrey, Reading, Manchester, Gloucestershire and a jointly based one at Warwick and Oxford Brookes University. The National Subject Centres are also explicit in their support of teaching and research linkages. The English Subject Centre, for example, maintains that the relationship between research and teaching is one taken "very seriously", particularly in relation to staff engagement in research. They argue that "... you cannot actually prise apart research and teaching ... scholarly activity, and creative, critical or analytical writing are the oxygen which subject specialists breathe". For all of the disciplines in this study – English, Sociology and Environmental Sciences – the relevant Subject Centres are engaged in debates about the relationship between research and teaching.

This research project, therefore, takes place at a time when these debates are high on the national policy agenda. What is interesting to explore, however, is the potential impact on institutional organisation, culture and values that are

being enacted within university departments. Given the complex and contradictory policy situation, what is influencing the discourse, ideas and practices of individual academics working in universities? To some extent, this question can partly be answered by exploring the research done to date on the relationship between research and teaching.

There is a substantial amount of research work done on the relationship between teaching and research; much early work focused at the level of the individual academic and asked whether the 'best' or 'effective teachers' are also 'effective' researchers and vice versa, attempting to answer such questions using largely statistical methodologies. Perhaps the best known of these studies is the work of Hattie and Marsh (1996, 2004). This early work questioned the accepted wisdom of the link between research and teaching, and the possible 'mythology' around linking research and teaching continues to be discussed (Hughes, 2005).

Partly heading Ernest Boyer's (1990, xii) call that "the time has come to move beyond the tired old teaching versus research debate", more recent research has focused on the contexts in which staff and students work or learn, using a wider range of research methodologies. A recent review of the research evidence concluded "the issues are layered and complex ... 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).

This study derives from these more recent research studies. In particular it recognises that the terms 'teaching' and 'research' are themselves problematic (Brew, 2001, 2006; Healey, 2005) and that academics' and students' experiences of them and their relationships are shaped by disciplinary allegiances and institutional and departmental cultures. These ideas and issues are explored here in the context of a study of academics in three disciplines – English, Sociology and Environmental Sciences – in three contrasting higher education institutions. This study is strongly shaped by recent research in three areas:

- a) academics' conceptions of 'teaching' and 'research' and their 'disciplinary' subject matter – and how these shape the degree to which they experience teaching and research as separate or linked activities or roles
- b) the contested issue of the extent to which academics' experiences and perceptions of teaching, research and their relationships are shaped by their disciplines
- c) how the nature of teaching-research relations for academics are shaped by departmental and institutional cultures and practices.

Academics' experiences and perceptions of research and teaching: previous studies

One key strand of recent research continues the focus on the individual academic, but uses largely phenomenographic analysis to investigate how academics conceptualise 'teaching', 'research' and their subject or discipline. This research suggests that the relationships between teaching and research are (in part) shaped by the differences in ways that academics experience 'teaching' and 'research.'

Early research in this area focused on how academics perceived teaching and broadly identified five contrasting conceptions ranging from a 'teacher-focused strategy with intention of transmitting information to students', to a 'student-focused strategy aimed at students changing their conceptions' of knowledge (Trigwell *et al.*, 1994) (Figure 1). In later work Trigwell *et al.* (2004) examined academics' experiences of research and suggested that their interviewees experienced research in one of four ways: from seeing research as a series of independent parts, to seeing individual research studies and research itself as part of a wider whole aiming to change the field of study (Figure 1). Linked research examined academics' experiences of their subject and revealed five key variations from those who saw their subject as 'individual facts or techniques' to those who experienced it as 'a coherent whole organised by supporting theories' (Figure 1). They went on to argue that the relationship between teaching and research is mediated by the way academics experience the understanding of their subject matter. They show that academics who experience their subject matter in atomistic and less integrated ways experience their teaching in more information transmission and teacher-focused ways, while those with a more integrated and holistic experience of understanding their subject experience their teaching in more conceptual change and student-focused ways.

Figure 1: Academics conceptions of teaching and their experiences of research and disciplinary subject matter

Academics' conceptions of teaching

A = Teacher-focused strategy with intention of transmitting information to students

B = Teacher-focused strategy with intention that students acquire concepts of discipline

C = Teacher/student interaction strategy with the intention that students acquire the concepts of the discipline

D = Student-focused strategy aimed at students developing their conceptions

E = Student-focused strategy aimed at students changing their conceptions

Source: Prosser & Trigwell (1999, 153-4)

Academics' experiences of research

A = Series of projects that are self-contained

B = Development of a series of integrated field of study based concepts, issues or procedures

C = Application or development of theory within the boundaries of the field of study
 D = Development and change of understanding of a field
 Source: Trigwell *et al.* (2004, 5)

Academics' experiences of subject matter

A = Individual facts or techniques
 B = Individual concepts or topics
 C = Series of concepts or topics that are linked and integrated
 D = Series of concepts, issues or procedures, which are integral to the formation of the whole
 E = A coherent whole organised by supporting theories
 Source: Trigwell *et al.* (2004, 4-5); Prosser *et al.* (2005, 141-3)

A separate study by Brew (2003) found four different conceptions of research that vary in the extent to which research is aimed towards products and outcomes as against processes and understanding and the extent to which the researcher is present or absent in the conception (Figure 2).

Figure 2: Academics' conceptions of research

Research is oriented towards:	Research aims to:	The researcher is present to, or the focus of, awareness	The researcher is absent from, or incidental to, awareness
↓	↓		
External Internal processes	Produce an Understand	Trading view Journey view	Domino view Layer view

Source: Brew (2003, 6)

At a recent international conference Trowler and Wareham (2007) linked Brew's work to that of Prosser and Trigwell, and suggested that there is a possible relationship between the trading view of research and information transmission approach to teaching and the journey view of research and the conceptual change approach to teaching.

There has been a significant amount of research looking at university teaching, but as Trowler and Wareham (2007) note, with the exceptions of Brew's (2003) study, there has been comparatively little work done that attempt to better understand the way academics perceive and experience research. An early study by Neumann (1993) looked at the perceptions of senior academic administrators in relation to research and scholarship. Three key aspects of research were identified; the creation of new knowledge,

pursuing a sustained enquiry and the publication of results and views. A review of the literature, which looks at academics' perspectives of research and on being a researcher was recently conducted (Akerlind, 2008), which concluded that the studies differed less in relation to their methodological approach than in the focus of their study. She argues:

In effect there is an implicit variation in the nature of the research questions between the different studies, with some authors investigating academics' views of research primarily in terms of different *outcomes* or products of research, others focusing on different views of the research *process*, others on different views of the purposes or intentions underlying research and others focusing on different views of the *objects of study* in research. However, most of these studies have positioned themselves as simply looking at different views of 'research'. (Akerlind, 2008, 22)

In her own research, she identifies four "qualitatively different ways of being a university researcher", which are "different ways of experiencing" related to each other through an "expanding hierarchy of inclusive awareness" (Akerlind, 2008, 24). The categories are:

1. fulfilling academic requirements, with research experienced as an academic duty
2. establishing oneself in the field, with research experiences as personal achievement
3. developing oneself personally, with research experienced as a route to personal understanding
4. enabling broader change, with research experienced as an impetus for change to benefit a larger community.

The categories that have been developed on research and teaching are useful as a means of better understanding the different ways in which academics perceive and/or experience research and teaching. However, the focus on individuals' conceptions or perceptions can serve to hide the socially constructed nature of these perceptions and experiences and the possibly fluid nature of individual perspectives. It is important, therefore, to look at the socially based construction of individual academic experience within institutions and departments. Before doing this, however, the research on disciplinary variations in relation to academic perceptions and experiences of research and teaching also needs to be addressed.

Academics' experiences and perceptions of research and teaching: disciplinary variations

This study of academics in three disciplines – English, Sociology and Environmental Sciences – grows out of the emerging research on how teaching and research may, or may not, be shaped by disciplinary conceptions and practices of 'teaching' and 'research'. As disciplines are normally organised in departments and institutions, some of this research

links to the related emerging focus on departmental and institutional variations (Jenkins *et al.*, 2007) (see next section).

The importance of the discipline as a possible factor relates to the wider literature on the role of the discipline in both research and teaching (Becher, 1989; Kreber, forthcoming). Healey (2005, 67) has argued that: “in constructing links between teaching and research the discipline is an important mediator ... This is because the conduct of research and the teaching approaches tend to differ between disciplines.” Colbeck (1998) in her study argues, that disciplinary differences with regard to being ‘hard’ or ‘soft’ (Becher, 1989) and with high or low paradigm consensus are significant in relation to how this impacts on the link between research and teaching. The natural sciences in particular are usually characterised as being ‘hard’ and with high paradigm consensus, meaning that the knowledge structures within those disciplines are more collectively agreed and less open to contestation and debate than the soft social sciences and humanities, which are characterised by low paradigm consensus. This view is supported in the research of Robertson and Bond (2001, 2003). Based on detailed interviews with academics in a range of disciplines, they make the following argument:

We suggest that it is our participants’ epistemological and ontological beliefs that shape their understandings of the research/teaching/learning experiential field and hence of the research/teaching relation. In particular, beliefs about the nature of *knowledge* – what it is, how we create it, how we share it – determine the spatial relationship of research to teaching ... In high paradigm consensus or ‘hard’ disciplines ... knowledge is generally understood to be cumulative, hierarchical, and concerned with universals, quantification and discovery ... The prevailing disciplinary epistemology ... means that research and (undergraduate) teaching occur on different ‘planes’ in a hierarchical relation one to another and that teaching is conceptualised primarily in terms of *transmission* of research-informed knowledge *down to* the recipient. By contrast, in low paradigm consensus or ‘soft’ disciplines, scholars use new lenses to explore territory mapped by others and knowledge is concerned with particulars, qualities and understanding. The disciplinary community (teachers and students together) participate in the (de)construction of knowledge. The emphasis is on shared *participation* and *engagement*, even at undergraduate level. (Robertson & Bond, 2003, 13)

Robertson and Bond (2007) present different categories of academics experiences of the research/teaching relationship. These categories are:

- Category A – weak relationship
- Category B – transmission relation
- Category C – hybrid relation
- Category D – symbiotic relation
- Category E – integrated relation.

They further argue that these categories can be found more prominently in particular disciplines, with the science disciplines found towards the A and B categories, humanities at the categories D and E end, and social sciences and some of the humanities straddling the categories of B, C and D. This fits also with the analysis of the high/low paradigm consensus referred to in the quotation above, with sciences perceived as high paradigm, humanities low paradigm consensus and social sciences somewhere in between. The critical issue for Robertson and Bond (2007) is with the conception of knowledge and the inter-relationship of academics' experiences of "research, teaching, learning (and) knowledge" (Robertson & Bond, 2007, 551). The examination of the 'experiential field' is concerned with exploring holistically the variation of academics' experiences in relation to these aspects within different disciplines, and they argue that variations are found in relation to disciplines and the categories listed above. However, the categories should be read as a continuum and not fixed. Similarly, the characterisation of high and low paradigm consensus of disciplines is perhaps overly simplified given the complexities of different sub-disciplines (Becher, 1989).

By contrast others see the key variation in academics' conceptions of research and teaching relationships as being *across* disciplines and being primarily shaped by how knowledge (or subject matter) is conceptualised (Brew, 2003; Prosser *et al.*, 2004). They argue that there is variation *within* disciplines in relation to how knowledge is conceptualised, and, as a result, there is also variation in the conceptions of research, teaching and learning. Furthermore, there is a question of how easily academics can align themselves with one particular discipline (Brew, 2008), and this is certainly true of academics working in more professional areas or working across boundaries of particular disciplines. The perceived strength of disciplinary cultures and traditions, however, should not be underestimated, despite the flexibility afforded by more *interdisciplinary* or *transdisciplinary* reconfigurations of university departments.

These issues are made more complex and arguably more important through the development of interdisciplinary and multi-disciplinary research and degree frameworks and through the impact of research funders and professional bodies on teaching and research. Thus in the case of Built Environment, a study of academics in four UK institutions showed how demands from professional bodies for accreditation tended to result in a broad curriculum rather than one shaped by staff research interests. While the importance of applied consultancy work shaped what 'counted' as research, "Staff also saw that certain aspects of consultancy activities made it more difficult to organisationally link those centrally involved in consultancy into department teaching (or research) – for consultancy demands tight deadlines, focused activity and at times the results are confidential" (Durning and Jenkins, 2005, 419). This indicates the importance not only of further research on the significance of possible disciplinary variations, but also of exploring how structural issues, in particular departmental and institutional factors, may shape teaching-research relations.

Academics' experiences and perceptions of research and teaching: departmental and institutional variations

Recent research has also given increased attention to the role of the institution and the department. An early proponent of this approach was Burton Clark (1993) who saw the role of the institution as being formative, with the key enactments being at the department level. However, given the worldwide and UK specific forces for institutional differentiation, the institution may be an increasing factor. The role of institutions and departments in shaping teaching-research relations has been researched in a limited number of studies (Colbeck, 1998; Jenkins, 2004; Durning & Jenkins, 2005). These have indicated the importance of both departmental and institutional levels of analysis, and, in the UK at least, that the pressures of research funding, in particular the Research Assessment Exercise (RAE), are resulting in increased pressures on staff pursuing linked roles as teacher and researcher and increased fractures on effective teaching-research links. However, it is also possible that the RAE may have contributed to increased curricula-research links in research-intensive institutions, while the non-research-intensive UK institutions, who are benefiting from national funding through the Research Informed Teaching Fund, may now be seeking, and potentially succeeding, in bringing teaching and research closer together.

In Colbeck's (1998) study in the US, a number of key issues were identified as important in determining the possibilities of a 'seamless blend' of integrating research and teaching roles within the university departments she studied. These included: the purpose of the teaching effort; university evaluation and reward policies; and faculty involvement in decision-making about teaching assignments. She also indicated the importance of paradigm consensus and found differences between disciplines in relation to high/low paradigm consensus and the impacts on the integration of research and teaching. Similarly, Durning and Jenkins' (2004) study identified different ideas and practices within departments in relation to linking research and teaching such as: bringing the content/research areas of staff into the curriculum; developing students' understanding of the process of research; and developing students' abilities to do research. They further identified different organisational issues that were pertinent such as: time available to staff; the division of research and teaching roles within departments; and the planning of course design.

These perspectives and questions clearly shape the focus of this research on issues of departmental and institutional organisation and cultures in three contrasting UK institutions. They build on previous work by the research team (Deem & Lucas, 2007; Healey *et al.*, in submission; Jenkins & Healey, 2005, 2007; Lucas, 2006, 2007). Deem and Lucas (2007) studied the research and teaching cultures in five university Education departments in Scotland and England. There was distinct variation in the cultures in each department, and one of the most significant features of this was the extent to which there was an individualised/segregated versus a collaborative/inclusive culture in relation to both research and teaching. This was highly significant in relation to academics' experiences of research and teaching and the ways in which they perceived these roles to be integrated. The exploration of departmental

teaching and research cultures is also important for this study, and similar issues will be explored in departments of English, Sociology and Environmental Sciences.

Academics' experiences and perceptions of research and teaching: a conceptual framework

Much of the research to date that explores academics' conceptions and experiences of 'research' and 'teaching' and the possible links between the two has focused primarily at the level of the individual. There has also been a reliance on the phenomenographic approach resulting in a methodological individualism (Trowler & Wareham, 2007), which neglects the socially situated nature of academic work and experiences (Deem & Lucas, 2007). The development of categories of conceptions of research and teaching offers valuable insights, but can present a static and partial representation of academics' perceptions and experiences. As Robertson (2007) argues, this approach has decontextualised the experiences of individuals. Conceptions (or ideas) do not happen in a vacuum, they are socially situated.

Following Robertson (2007), this study seeks to analyse individual academic experiences in a more holistic framework, which she calls an "experiential field analysis". However, the focus in her work is primarily on the epistemological underpinnings that shape academics' disciplinary allegiances and the significance of the research-teaching-learning-knowledge continuum. The emphasis in this study, however, is to primarily explore the socially situated nature of academic experience rooted within the organisational cultures of institutions, departments and disciplinary fields. The organisational cultures and values of university departments have been explored by de Zilwa (2007), and the dimensions of organisational cultures and values developed in this research have been adopted in this study. The dimensions include:

1. the degree of cohesion between different sub-cultures within the academic unit
2. the degree of affiliation academics have with the academic unit
3. temporal orientation of the academic unit – whether its primary orientation is to the past, present or future
4. spatial orientation of the academic unit – whether its primary orientation is internal or external
5. change orientation of the academic unit – whether change is viewed as an opportunity for growth and development or whether it is viewed negatively as a threat to the status quo and actively resisted
6. the flexibility and degree of risk taken by academic units
7. the degree of synergy between an academic unit's goals and values and the university executive manager's goals and values.

These dimensions are used in an adapted form to explore the specific departmental cultures of the case-study institutions, the experiences and perceptions of academics working within them and the implications these

might have for the potential of exploring the idea of the relationship between research and teaching perceived by academics within university departments.

It is also useful to clarify some of the key conceptual models that attempt to classify the integration of research and teaching since, as stated earlier, there are multiple ways and possibilities for conceptualising the integration of research and teaching. Trowler and Wareham (2007) identified seven dimensions of the 'teaching-research nexus' and explored what these might mean in context, as well as considering the potential benefits and disadvantages of each model:

1. learners do research
2. teachers do research
3. teachers and learners research together
4. research embedded in the curriculum (research influences the *what* and the *how* of curriculum design)
5. research culture influences teaching and learning
6. the nexus, the university and its environment
7. teaching and learning influences research.

Trowler and Wareham (2007) identify both the potential benefits of the above dimensions of linking research and teaching and the possible dysfunctions that could be associated with each situation. These dimensions presented by Trowler and Wareham (2007) will be utilised to explore how they can represent what is happening within university departments. The extent to which these are related to the different dimensions of organisational cultures identified by de Zilwa (2007) will also be explored.

Research design and methodology

Aims of the project

The study was concerned to explore the experiences and perceptions of academics by locating them within specific institutional/departmental and disciplinary cultures and exploring how this may impact on their experiences and perceptions of 'research', 'teaching' and the relationships between them. The study was conducted at three different universities in the UK with contrasting missions in relation to research and teaching. The methodology was primarily qualitative and involved a content analysis of institutional, subject area/department documents and in-depth interviews with academics from three different disciplinary areas: Environmental Sciences, Sociology and English.

The key aims of the study can be summarised as:

- to explore the experiences and perceptions of 'research' and 'teaching' of academics in Environmental Sciences, Sociology and English and their understanding of the link between the two activities
- to identify ways in which the institutional and departmental, as well as disciplinary/sub-disciplinary location of academics may influence their experiences and perceptions of 'research' and 'teaching' and of the relationship between them
- to understand better the ways in which their perceptions of the link informs their teaching practice and curriculum development and their beliefs about how this may enhance student learning.

The main aim of the project was to further the debates that attempt to understand the significance of institutions/departments and disciplines (and sub-disciplinary areas) within academics' experiences and perceptions of 'research' and 'teaching' and of the relationship between them. Developing a more holistic conceptualisation of 'an experiential field' involved not only exploring ideas about knowledge (epistemology) and cultures/organisation of disciplines and sub-disciplines, but also taking a wider sociological focus and exploring the organisational cultures of institutions and departments.

Research design and methods

The project was a multi-level comparative case study of three institutions and three departments/academics units within each location (Environmental Sciences, English and Sociology). Institutions were chosen to represent different types of universities with a variety of missions. The three cases included one research-intensive university (Longbridge University), one university with a teaching focus but clear research strengths/aspirations (Blueshore University) and one university with a strong teaching focus (Lakeside University). The three institutions were given pseudonyms in order to protect confidentiality. The use of a comparative case study as the research approach is intended to provide a detailed in-depth analysis of the comparative case phenomenon, and it is not intended to provide generalisations (Flyvberg, 2006).

The study focused on three contrasting subject areas: Environmental Sciences, Sociology and English. These disciplines were chosen because they provide a sample from the sciences, social sciences and humanities and provide examples of high paradigm consensus versus low paradigm consensus knowledge, which has been shown to be influential in linking research and teaching in previous studies (Colbeck, 1998; Robertson & Bond, 2003). A key question within the interviews was also the important influence of sub-cultures (Becher, 1989) within disciplines, whereby strict disciplinary divisions could be broken down as it may be found that different sub-cultures across disciplines may share similarities regarding experiences of knowledge production and conceptions of 'research' and 'teaching'. As Colbeck (1998) maintains, the issue of 'high' and 'low' paradigm consensus is significant in thinking about teaching and research relationships as "low paradigm consensus fields integrate classroom-oriented teaching with research more than faculty in high paradigm consensus fields" (Colbeck, 1998, 658). For this reason, therefore, we also wanted to choose disciplines from the sciences, social sciences and humanities that might exhibit 'high' and 'low' paradigm consensus across disciplines but perhaps also within disciplines.

Both the choice of institution and choice of discipline were made for pragmatic purposes in order to find institutions that had comparable disciplinary departments.

The data collection for the project consisted of:

- a close content analysis of institutional and subject area/departmental documents, including research and teaching strategies of the institutions
- interviews conducted with appropriate senior management figures at each institution such as the pro-vice-chancellor and heads of department at each of the selected departments
- interviews conducted with a stratified sample of selected individual staff in Environmental Sciences, Sociology and English. A stratified sample of academic staff at different status levels and different stages of their

career were chosen where possible to include professors/readers, senior lecturers/principal lecturers and lecturers. This ensured a sample that would allow comparisons of perspectives and experiences to be made. A list of all respondents from each institution is given in the case study institution sections.

All of the interviews conducted were in-depth semi-structured interviews. The interview questions/prompts for academic staff, heads of department and PVCs are shown in Appendix 1, Appendix 2 and Appendix 3. Each interviews schedule was split into different sections, which cover appropriate questions for different individuals. The questions utilised were adapted from interview schedules used by members of the research team in previous studies. The in-depth interviews examined individual academics' perceptions of 'teaching' and 'research', and their relationships with particular respect to their discipline/sub-disciplinary area as well as their institution and departmental location.

At each of the institutions a senior manager was interviewed. At Lakeside, the PVC who was interviewed was responsible for teaching and learning as well as research. At Longbridge, both the PVC for Research and the PVC for Education were interviewed, while at Blueshore the Dean of Teaching and Learning and the PVCs for Research and for Teaching and Learning were interviewed. All heads of department were interviewed. At Lakeside, there was one Head of Department who was responsible for two of the chosen departments. In total there were 14 individuals interviewed at Blueshore University, 15 at Longbridge University and 16 at Lakeside University. A table listing all interviewees is shown in the detailed sections of each of the case study institutions. All staff in each of the departments were contacted and invited for interview, and all who consented to take part were interviewed. The interviewees, therefore, were a self-selected sample, and this may have implications for the study since those willing to put themselves forward may have particular perspectives on the issues discussed.

A grounded theory approach (Strauss & Corbin, 1998) was used to analyse the interviews and explore the contrasting experiences and perceptions of academics and how this links with their experiences of 'research', 'teaching' and the relationship between them. This approach, however, was not used unproblematically given the critiques made of grounded theory (Piantanida *et al.*, 2004; Thomas & James, 2007). The approach taken here is more 'interpretive' (Piantanida *et al.*, 2004) aiming to gain an understanding of the complex experiences of respondents. Furthermore, the analysis began with particular dimensions of organisation cultures (de Zilwa, 2007) and conceptual models of the research and teaching nexus (Trowler & Wareham, 2007) that could be applied to the data, making it closer to 'abductive' reasoning, which is described by Coffey and Atkinson (1996) thus:

We identify a particular phenomenon ... We then try to account for that phenomenon by relating it to broader concepts. We do so by inspecting our own experience, our stock of knowledge of similar, comparable phenomenon and the equivalent stock of knowledge that can be included

from our disciplines (including theories and frameworks) ... (Coffey & Atkinson, 1996, 156)

These conceptual dimensions were utilised as a means of interrogating the data, but the data were also used to further question and develop these ideas within an iterative process.

Ethical issues and procedures

The project followed the ethical guidelines set out by the British Educational Research Association (BERA) and also complied with the requirements of the Graduate School of Education at the University of Bristol. Ethical issues are extremely complex, however, and a significant amount of vigilance and sensitivity by researchers is required throughout the whole research process – what Bond (2007) refers to as “ethical mindfulness”. With regard to procedures, however, informed consent was gathered from all interviewees, and they completed a form and signed it at the time of the interview. Access to the institutions was granted by firstly, asking permission from the PVC for Teaching and Learning at each institution and then the Head of each department. In order to protect the confidentiality of all interviewees, pseudonyms of institutions and individuals are used throughout. Any specific information that might compromise the confidentiality of institutions and/or individuals was removed, and where necessary some details have been changed.

Case study institution 1: Blueshore University

Blueshore University is a post-1992 university, which has not only a reputation for teaching excellence, but also a very strong drive to be competitive in research and to be perceived as a strong research institution. The literature that promotes Blueshore University is very explicit about the research aspirations for the institution, and this is further supported by the views expressed in institutional policy documents and from senior management. The aim is for Blueshore University to be an excellent teaching and research institution, and this would be achieved by continuing to improve research activity across the whole institution and by increasing the numbers of research-active staff within departments, among other initiatives. Alongside the drive for research competitiveness, however, remains a clear commitment to ensuring a good quality educational experience for the students at Blueshore University. This is being achieved by taking an institution-wide perspective on the educational experience of students and ensuring all departments and all support services function in an integrated way to maintain educational standards. Individual departments/schools also have to demonstrate how their teaching and learning practices fulfil the expectations of the institution in relation to educational standards:

(The approach) is saying in fact that everything we do is about student learning. Any decision in planning any activity, all the activities we're engaged in, all of us, are for the purposes of making the students' experience most successful, productive, useful, in terms of their own development and learning. So it includes lots of the issues we raise in the learning and teaching strategy, but also goes on to kind of include things like ... the nature of access to services and facilities ... and design of rooms and design of social learning space. Anything which actually impinges on the students' experience of Blueshore is incorporated in this approach. (Professor Dyer, Senior Manager, Blueshore)

The university is also very clear in its documentation of the importance of the relationship between research and teaching. This relationship is expressed in three main ways: ensuring that staff are research active and at the leading edge of research in their discipline; ensuring that course content is directly influenced by the research of staff in departments; and ensuring that the research capability of students is developed and forms of enquiry (-based learning) are encouraged. These ideas are strongly supported by one senior manager at Blueshore University, Professor Dyer, although he is clearly more supportive of the idea that students should be researching:

... the model I like is the student researcher model, you know, the students are researchers ... as a way of learning. (Professor Dyer, Senior Manager, Blueshore)

And um ... we talked about research teaching links in the learning and teaching strategy. And I tried to get something about students' first-hand experience of the excitement of something, excitement on research. You know through both their engagement with researchers and their

engagement with research. So yeah they should be turned on by the person that comes in and talks about the fantastic things they're doing. 'Cos that way you're saying this is a great thing to be doing, look what you can do with this. But they might be saying that's exclusive to us because we're over here doing all these wonderful things ... and then to get them excited by the fact they can research, they can develop the skills to actually get to the point these people are at. And it isn't ... it's not some mystical thing, some mystical foreign land they find by accident, they can actually start to plot their way there. (Professor Dyer, Senior Manager, Blueshore)

Professor Dyer does have concerns that where there is an overly strong emphasis on research (over teaching) research can be perceived as the domain of a privileged 'elite' within an 'ivory tower'. He does feel that Blueshore University has taken its excellent teaching reputation for granted and gone too far in promoting research with a prolonged policy of "RAE or bust" with staff encouraged to spend all their time on "RAE-able returns ... at the expense of time spent with students, time spent on teaching and learning."

But we don't celebrate (teaching) and sell it and promote it, it's taken as read. We do sell and promote the professors and the readerships and the research programmes and research income. (Professor Dyer, Senior Manager, Blueshore)

He argues that there needs to be a balance between the two activities and that: "we've got to keep both those things alive and strong and complimentary to each other."

Professor White is extremely positive about the integration of research and teaching and is particularly keen that staff should be engaged in both activities, arguing for the benefits to student learning of staff who are engaged and excited by research.

A full list of all interviewees at Blueshore University is given in Table 1.

Table 1: List of interviewees at Blueshore University

Blueshore University	Interviewees (14)
<i>PVC Research</i>	<i>Professor White</i>
<i>PVC Teaching and Learning</i>	<i>Professor Little</i>
<i>Dean of Teaching and Learning</i>	<i>Professor Dyer</i>
<i>Environmental Sciences</i>	<i>Dr Kyle</i>
	<i>Dr Matthew</i>
	<i>Dr Chatwin</i>
<i>Sociology</i>	<i>Professor Pickford (HoD)</i>

	<i>Dr Skip</i>
English	<i>Professor Bishop (HoD)</i>
	<i>Dr Davey</i>
	<i>Professor Gardner</i>
	<i>Dr Langley</i>
	<i>Dr Newman</i>
	<i>Dr Neville</i>

Environmental sciences at Blueshore University

Environmental Sciences at Blueshore is a division that is part of a much larger department, but has a relatively small number of staff. Only three members of staff were able to be interviewed, Dr Kyle, who is Head of the Environmental Sciences division, and two other members of academic staff. According to the accounts of these members of staff, it would seem that in relation to de Zilwa's (2007) dimensions of organisational culture and values there is a low degree of cohesion between sub-cultures within this academic unit, a present orientation and a mixed synergy of goals between the academic unit and the institutional goals.

Dr Kyle and Dr Matthews currently invest their time into teaching and learning and involvement in pedagogic research and development. Both have administrative loads but are primarily involved in teaching and teaching development with very little involvement in disciplinary research. Dr Matthew describes himself as a "ghost person" in other people's research projects, doing small amounts of work in the background. He argues, that when he came to Blueshore University he "didn't have a lot of experience of putting together research proposals" and had heavy teaching loads and so has moved more into "pedagogic research rather than traditional research". However, both would argue that there is a relative undervaluing of teaching and pedagogic research within the department, with a focus more on the importance of disciplinary research. They argue that, to some extent, there is a polarisation between those members of staff who focus more on research and those, like themselves who are more teaching oriented, creating sub-cultures of groups with little cohesion. However, they acknowledge that there are members of staff who can be placed between both camps. Workloads of staff within the department are organised such that those members of staff who have research grants and have other research commitments are expected to contribute less as regards teaching. Other members of staff like Dr Kyle and Dr Matthews have high teaching loads. Dr Matthews argues that they are under no pressure to do disciplinary research as the department expects only 80% of staff to be research-active in relation to being submitted into the RAE.

With regard to a synergy with the goals of the institution, however, teaching-oriented staff like Dr Kyle and Dr Matthews are at odds with the research

What I'd like to see as I indicated earlier, is a rather greater amount of opportunity within each teaching course or module and so forth for students to be engaged in real research as opposed to the instrumental task of writing essays ... And I think that will require a rather more process-oriented approach to assessment, or a more obvious combination of a process and outcome-oriented approach to assessment than we presently use ... (Professor Pickford, HoD Sociology, Blueshore)

It is not clear, however, the extent to which this is aspirational change or change that can realistically be planned. Professor Pickford is cognisant of the current costs involved in the kinds of placements that students are given and the administrative load of this, and he recognises that what they are currently able to do is heavily reliant on certain levels of project funding. He is pragmatic, also, in arguing that this kind of development needs to be introduced with regard to what is appropriate and that perhaps this can be "sort of modus operandi in particular modules rather than in every module". Students, he claims, are very positive about the current opportunities, but these are as yet open to only a minority of students.

Given the interdisciplinary nature of the department, within which the Sociology division is situated, another significant change in curriculum is an orientation towards more interdisciplinary courses with staff from different divisions teaching around particular themes and topics. The aim within the department is for all staff to have a similar teaching profile in relation to how much they teach, without resorting to mathematical equations. There is an aim, moreover, to allow staff to teach a specialism that directly relates to their research area. Although, Dr Skip ascertains that staff are ranked as either "research active or half research active or not research active" with a teaching load given "in accordance with that". She argues that there has been a strong focus on research in preparation for the RAE and "institutional support for doing things that will count towards the RAE ... and very explicitly so". It would appear from the comments of Professor Pickford above that although the pedagogical benefits of engaging students in doing research are very apparent, there is also a direct focus on how this might significantly move forward staff research work within the department.

Despite a fairly high teaching load, however, Dr Skip seems relatively happy that her position in the Sociology division affords her time to do research and allows her to teach in areas that she also researches. She is very keen on forms of active learning and of ensuring that even large lecture classes are interactive. She believes that higher education should have a "transformative" effect on students. There does seem to be a belief, therefore, in innovation in teaching and learning and particularly in developing a model of students engaging in research projects directly with staff. There does not seem to be a sense of the polarisation of staff as evidenced in the Environmental Sciences department.

English at Blueshore University

Dr Matthew argues that although teaching and learning development are not always “joined up” within the department, there are initiatives. One of these, which came from the University, was to uncover where there was development of student “research activity” within departments. Both Dr Kyle and Dr Matthew describe examples of engaging students in doing research-like tasks within their teaching modules, including preparing scientific reports, conference-style posters and research proposals. As Dr Matthew explains, the opportunity exists for students who “take the right modules” to “embark on research at a sort of elementary level and then graduate it”. However, Dr Matthew is emphatic that he would not describe this as ‘enquiry-based learning’ and indeed, Dr Kyle is critical of anything that he classes as “eduspeak”. Despite, their interest in the development of teaching and learning within higher education, they are extremely averse to anything that they perceive to be purely educational jargon. Dr Matthew sees this development as “learning through doing not instruction”, which would perhaps fit more easily with ideas of ‘active learning’. The scepticism of Dr Kyle and Dr Matthew over notions of ‘enquiry-based’ or ‘research-based’ teaching seem to focus on the idea that those members of staff most involved in research are less likely to be teaching and where they are teaching, are less likely to be using innovative teaching and learning methods. From their perspective, therefore, the relationship between research and teaching with regard to the fulfilment of both those roles is a suspect one.

Sociology at Blueshore University

Sociology at Blueshore University is rather difficult to characterise as, like Environmental Sciences, it has recently changed to become a smaller division of a larger department. The Head, Professor Pickford oversees the whole department. Only two members of staff were interviewed in this department, Professor Pickford and Dr Skip. Sociology has a very small number of staff. In relation to de Zilwa’s seven dimensions of organisational culture and values, it could be argued that this Sociology department, from the evidence gathered, has a high affiliation of academics with the division, a present and future orientation, a change orientation and positive synergy between the goals of the division and the institutional goals. Professor Pickford is enthusiastic about developing the research culture within the division/department and so in this regard is working in tandem with the aspirations of the institution. He is also extremely enthusiastic about a number of projects that involve students being active in experiential and research-based learning. He is keen to develop what he sees as the more “fluid or integrated American models” of building research teams “that can make use of the skills of undergraduates, as well as both taught postgraduates and research students”. He sees this development as positive in that “apart from the benefits to ... at least to some students ... it’s a highly cost-effective way to do preliminary research”.

Professor Pickford, therefore, is keen to develop the process of students engaging in research as far as possible, while recognising that this will necessitate a much larger scope of change within the course curriculum and forms of assessment:

What I'd like to see as I indicated earlier, is a rather greater amount of opportunity within each teaching course or module and so forth for students to be engaged in real research as opposed to the instrumental task of writing essays ... And I think that will require a rather more process-oriented approach to assessment, or a more obvious combination of a process and outcome-oriented approach to assessment than we presently use ... (Professor Pickford, HoD Sociology, Blueshore)

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The English department at Blueshore University is relatively small with less than 20 members of staff. It is a department that has undergone a lot of change in recent years with a number of long standing members of staff leaving the department and a significant number of new members of staff joining the department in the last one to five years. Many, though not all, of the new members of staff have come from the pre-1992 university sector, are fairly junior academics and for some it is their first permanent position. They all bring with them a commitment to research and usually with fairly established or promising research profiles, which they hope to continue and develop. These new members of staff join the institution at a time when a research profile and an emphasis on research is considered very important and so there is a weight of expectation on them. In relation to de Zilwa's (2007) dimensions of organisational cultures and values, this department has a good synergy between the goals of the academic unit and the goals of the University. With regard to research, they have been fairly successful, particularly in the RAE, and there is a decisive commitment to research by members of staff within the department. The University is also very supportive of the department in relation to funding and encouraging research. Equally, in relation to teaching, there is a high commitment of staff to the development of innovative and progressive teaching and learning within the department. From the accounts of the staff interviewed, there would seem to be a high degree of cohesion between sub-cultures in the department and a high degree of affiliation between academics and the department. Much of the teaching done within the department is team taught and staff work together to help develop the new curriculum programme, which has been running now for three years. This new curriculum programme demonstrates the department as being future-orientated as there would seem to be a constant process of change and development. There is also evidence of a positive attitude to flexibility and risk:

But if you know as a kind of lecturer ... there will be a space in the curriculum where you know your ongoing research is also being aired ... you know it gives you a kind of feeling of possibility, opportunity that you can develop your own individual ideas, you know with students as well, alongside ... and of course you can evolve those courses across several years yourself, and as your research develops ... or you can ... you know once you've finished one particular project you can change the whole course. I mean the system that we run all of that kind of third year through ... is very much that you know, [you can] slot things in and out of the programme, more or less on a yearly basis if they want to, if their research does go in a different direction. (Professor Bishop, HoD English, Blueshore)

The three-year programme is designed to enable students to progress through the first, second and third year in a way that cumulatively builds on their knowledge and skills of engaging with English and the practices of English as a discipline. The programme is also structured, as the quote above suggests, for staff to teach specialisms in the third year, which relate directly to their research, and there is scope for these modules to change as and

when their research changes. There is also evidence of risk-taking as the programme encourages innovative approaches to teaching, learning and assessment. For example, traditional examinations and essays have been replaced in some modules by a portfolio of different assessment tasks.

Accounts given by the six members of staff interviewed (see Table 1) are not without critique of the department and of institutional organisation, but they do seem to be extremely positive in relation to the educational and research vision of the department and of their place within it. There is an approach to teaching, which seems to be universally shared, that can best be described as 'active learning' and 'interactive teaching'. This seems to mirror the research ethos, which is one of engagement and dialogue with literary texts and with each other, colleagues internally and externally and students. Most of the staff would not use terms such as 'research-based teaching' or 'enquiry-based learning', but they do recognise these terms as descriptions of what they do. They would go further, however, and argue that research and teaching are, as Dr Newman argues, "mutually inclusive categories, they're never separate". The question becomes, therefore, going beyond the notion that research and teaching should somehow be mechanically drawn together or latched onto each other, as Professor Garner explains:

I'd start again from the position that research and teaching are not separable or separate. They're separable but they're not separate activities, or shouldn't be. So I'd resist the notion that you somehow attach research to teaching because they are connected in the first place in a proper view of knowledge. That's the first thing. So the idea that you have research-based teaching. Well, I mean [in] higher education, it should never be otherwise. It should always be research based in the sense that it should be based upon the most recent and best knowledge that one can reasonably have and a critical and creative reflection, and that should be extended to the students to do it in their own terms. So I would look for a continuum which in crude terms might be expressed in a hyphenated form 'teaching-learning-research' – teaching hyphen learning hyphen research – as ways of knowing or knowledge transformation. (Professor Garner, English, Blueshore)

This approach is reflected in the comments of other staff interviewed within the department and may be due, in part, to the reports of discussion and interaction between staff in relation to exchanging ideas about teaching and learning. This is further supported by the collaborative nature of team-teaching on many of the modules and a general ethos of engagement in teaching as an important and valued activity. Indeed, more than this, it is perceived as the mutual engagement of learning for staff and students. As Dr Newman describes: "... learning and teaching ... those terms are mutually interdependent, they happen at the same time".

Summary findings for Blueshore University

The institutional focus on research competitiveness seems to be highly influential within the departments at Blueshore University. There is an obvious concern with teaching in all of the departments. However, there is a clear emphasis on research development and a concern in some, particularly Environmental Sciences, that research is being prioritised over teaching. This view, however, represents that of members of staff in the departments who have clear teaching and learning priorities. The educational vision of the institution is rather broad and does not seem to be represented by one particular vision of teaching and learning. There have clearly been developments in relation to linking research and teaching, however, as evidenced from staff comments, to scope the practices within departments of students engaging in research. Further, given the institutional emphasis on being competitive in research, there are clear policies and practices within all the departments to help raise the research profile, as evidenced from staff accounts presented above.

The organisations and cultures within each of the departments are varied, with a very high degree of cohesion and collaborative working within the English department, particularly in relation to teaching and curriculum development. In Sociology, a fairly high cohesion was evidenced but perhaps less collaborative working. While in Environmental Sciences, there seemed to be evidence of low cohesion and distinct divisions between sub-cultures in the department. This also had implications for the roles taken by staff with a greater division of staff engaged in teaching and staff engaged in research within Environmental Sciences, whereas in Sociology and English, most, if not all, staff were equally engaged in research and teaching.

As regards the relationship between research and teaching, therefore, there were also distinct differences. In Environmental Sciences, there was an emphasis on students engaging in research and active learning within different courses. In Sociology, there was an emphasis on students engaging in research projects alongside staff and in projects, which were a 'genuine' engagement in real world research as well as staff bringing in research examples from their own work into the content of courses. In English, there was a much more radical overhaul of the curriculum to demonstrate a developmental model of students gaining the skills and understanding of research from year one to year three and engaging in research through planned stages.

Case study institution 2: Longbridge University

Longbridge University is a pre-1992 research-intensive institution. There is a strong emphasis at Longbridge on the research excellence of the University. Comments from the PVC were clear in the importance of the University gaining the higher ground in relation to research. This is presented as being the impetus not just to gain research funding and engage in research, but to position the University as a 'key player' that is able to set (and not just follow) the research agenda. The University, he argues, should be in a position to not just do the research, but set agendas for research at a national and international level:

So actually having a platform here where we are seeding the concepts of next steps in research areas that hitherto you know may not be yet identified but potential future big initiatives is something that we're putting more resource into for people to facilitate ... not just meetings but also research endeavour, so that those would be the seedcorn of the next thing, and one or two of those should blossom into major things in which we have a lead and we set the agenda. Because I think increasingly it's about being in the position to set an agenda. You know if one's not at the table doing that, you are the recipient of outcomes from others. And straight away you're sort of on the back foot, you're into response mode and you don't have the knowledge. So intelligence ahead of time and being on the front foot in terms of anticipation I think is quite important. (Professor Green, PVC, Longbridge)

There was, however, also a strong sense of the importance of a distinctive educational mission. Another PVC talked about the distinctive student experience and how this could be encapsulated:

I think what's become much more high profile in the year is the need to really think about the student experience and articulate what's distinctive about the Longbridge student experience. And that's a challenge to make sure we can encapsulate that and really deliver something that differentiates us from other universities. So that's a big challenge. (Professor Lilac, PVC, Longbridge)

At Longbridge, a concern was also being voiced that in all departments everyone should be teaching and that there should, therefore, be no division of teachers and researchers. Although what 'teaching' means can of course be highly varied:

I mean if you go to Princeton it's a requirement that everybody, you might be a Nobel Prize winner, but everybody teaches. And I think here that's the view. I mean you can define teaching in different ways but I mean they have an engagement. And I think that's very important otherwise people start playing to rules that ... in a sense unpacking things to their own advantage, which then sets a different institutional agenda quite quickly. And I think it links to ... it's not my area, but it seems to me I think it links to student attractiveness ... in applications ...

and that's in all the strategic documents in the University, so I think it's important. (Professor Green, PVC, Longbridge)

This is as yet a developing idea at Longbridge University, but it fits with the guiding mission and principles of the institution of having staff who are excellent researchers and teachers and that research should clearly underpin teaching in all departments. In the teaching and learning strategies of the institution, this is clearly expressed in three main ways: that students should benefit from the enthusiasm and excitement of staff who are researching at the cutting edge of their discipline; that curriculum content is informed by staff research areas; and that students are enabled to learn about doing and evaluating research within their discipline.

At Longbridge University, therefore, there is clearly a strong emphasis on the importance of leading the field in all areas of research and ensuring that the University is 'distinctive' and 'world class'. There is also a clear emphasis in gaining a high level of research funding. However, there is also a concern that this research work should be strongly aligned to the teaching work in order to ensure a similarly distinctive experience for the students at Longbridge.

A full list of interviewees at Longbridge University is given in Table 2.

Table 2: List of interviewees at Longbridge University

Longbridge University	Interviewees (15)
<i>PVC Research</i>	<i>Professor Green</i>
<i>PVC Teaching and Learning</i>	<i>Professor Lilac</i>
<i>Environmental Sciences</i>	<i>Professor Scott (HoD)</i>
	<i>Dr Longman</i>
	<i>Dr Hill</i>
<i>Sociology</i>	<i>Professor Wadham (HoD)</i>
	<i>Dr Kelly</i>
	<i>Dr Drew</i>
	<i>Dr Tanner</i>
	<i>Professor Britton</i>
<i>English</i>	<i>Professor Swinton (HoD)</i>
	<i>Dr Rafferty</i>
	<i>Dr Pritchard</i>
	<i>Dr Moloney</i>
	<i>Dr Moore</i>

Environmental Sciences at Longbridge University

The Environmental Sciences department at Longbridge is a moderately large and successful research department with around 70% of its income from research and a high rating in the 2001 RAE. Research is considered an important priority for the department; however, in order for the department to be successful, argues the HoD, Professor Scott: “we want good teachers as well”. From the accounts of the three members of staff interviewed in this department (see Table 2), the department’s success is built on the research eminence as well as the involvement of all staff in good quality teaching and learning. With regard to synergy with institutional and departmental goals, therefore, this department would seem to fit well. In relation to de Zilwa’s (2007) dimensions of organisational culture and values, this department appears to have a high degree of cohesion between sub-cultures and high degree of affiliation between academics and the department. It would seem to exhibit a future orientation and change orientation, and it demonstrates a high degree of flexibility in organisation.

Similar to the English department at Blueshore University, this Environmental Sciences department has redefined the entire curriculum of the undergraduate degree programme to reflect and benefit from the research specialisms of academic staff and as a developmental programme that inducts students into engaging in research from year one to the final year. According to the HoD, Professor Scott, students “are doing research from the word go”, engaging in “a research project in year one”. This engagement in research projects continues through the programme and particularly in their final year involves independent study on their own research projects. The programme is designed to develop their knowledge and skills to enable their participation in research projects.

The development of this new curriculum has been underpinned by substantial discussion and organisation. Regular formal (e.g. teaching away days) and informal discussion has informed the development. There is a clear focus on a ‘learning model’ of research engagement for students as well as curriculum content being informed by staff research interests. There is evidence, therefore, of significant engagement with pedagogical issues and of planning across the whole programme. However, there is still room for change, according to the HoD, Professor Scott, with a need to increase the amount of small group teaching and “activity-based learning”. He argues that there is still too much lecture-based teaching, at least in the first year of the programme. Dr Longman argues, similarly, that “in year one, teaching is predominantly lecture-based”, moving towards “more fieldwork, more group work, more project work” and “a dissertation” in years two and three. In relation to pedagogical aims, therefore, generally it would seem that there is a significant cohesion within the department with a collaborative change orientation.

With regard to capitalising on the research specialisms and expertise of academic staff, there is also a clear focus on ensuring that the relationship between research and teaching is developed to best support the research work of staff as well as ensuring an effective research-based curriculum for

students. After year one of the programme, the curriculum reflects directly the research specialisms of the three research groups within the department. Only those subjects are taught, and it is made clear to potential students that only those subject areas will be available. As Dr Longman states:

But the converse is that there are big swathes of our very broad subject that we consciously do not teach. We make this clear to students when they come in. We may teach them at an introductory level, and if students want to investigate them they can often do so for their dissertations where there's no limit on topic. (Dr Longman, Environmental Sciences, Longbridge)

Further organisational decisions are taken to promote the continued development of supporting time for staff research as well as maintaining the pedagogical model offered in the undergraduate programme. These include maintaining fairly low staff-student ratios and having courses that are team-taught, therefore teaching on them is 'interchangeable'. This is important for ensuring that a programme of study leave can be guaranteed for academic staff that does not interrupt the teaching programme. As Dr Hill argues, "as study leave comes in, study leave goes out, we can use that creatively to refresh the teaching that we do". The intertwining of research with teaching, therefore, seems to be critical to the success of this department. The maintenance of low staff-student ratios, however, may be a luxury that few university departments can afford. Success in external research grant income is also clearly a significant means of achieving this; again, this would perhaps be a difficult goal for many university departments.

Sociology at Longbridge University

The Sociology department at Longbridge is a fairly small academic unit with less than 20 members of academic staff. It has been successful in research with a good rating achieved for the 2001 RAE. There were five members of staff interviewed in this department, including the HoD. In relation to de Zilwa's (2007) dimensions, this department would appear to have a low degree of cohesion between sub-cultures, a mixed temporal orientation with some emphasis on the past and traditional ways of doing things. There was some evidence of a change orientation from the HoD, but this was not necessarily reflected in accounts from other members of staff. There was a strong perception of a synergy between the department and the institutional goals, but this was most clearly articulated in relation to research. As Professor Britton argues, "the rewards for universities ... at least like Longbridge ... are for excellence in research, the rewards for departments are for excellence in research". So, he maintains, "it is not a matter of the priorities that individuals have or departments have, they don't have much choice ... unless they are a different kind of institution and one that isn't competing in the same game".

This strong research focus is echoed by other members of staff in the department. The HoD, Professor Wadham, also argues that managing the

tension between staff involvement in research and teaching can be quite difficult. More formalised study leave is being introduced to help to balance staff requests for more research time.

As regards teaching, there would appear to be a fairly strong traditional element of utilising mainly lectures and seminars. Apart from a focus on key aspects of teaching and learning such as marking and feedback, there would appear to be little mention of employing any new or innovative methods, except by Dr Drew who is trialling the use of more interactive, group-based teaching and forms of e-learning. Dr Drew feels, however, that such change is not necessarily welcomed in the department. Furthermore, three members of staff mention the lack of discussion around teaching and learning within the department. Teaching would appear to be fairly individualised with, as Dr Kelly argues, “people who have been in the department a long time ‘owning’ their units”. Dr Tanner is quite surprised at how he has never had “intellectual engagement about how we are teaching or conversations about how you teach ... in any structured way with my colleagues”.

With regard to thinking more directly about the relationship between research and teaching, there is clearly a concern to engage students and to enable students to develop as ‘informed citizens’. There is a recognition of the excitement that can result in using research examples and bringing the real world into the classroom. As Professor Wadham explains, “not just to tell them it’s about what’s out there, but to kind of bring in illustrations from different aspects of life”. Dr Kelly similarly used examples and illustrations from her research in her teaching, but feels that her research is utilised very minimally in her teaching and that she would like the connections to be greater.

However, there is clearly a certain amount of scepticism around bureaucratisation of academic life and particularly the impacts of bodies such as the Teaching Quality Agency (now Quality Assurance Agency) on academic work. Professor Britton expresses the view that such bodies have been “quite damaging” and “consumed a lot of time around teaching”. The pressures for doing research that will gain success in the RAE coupled with a feeling of imposition rather than empowerment would seem to have created tensions and divisions within this department, like that of the Environmental Studies department at Blueshore, which are difficult to bring together.

English at Longbridge University

The English department at Longbridge is a relatively moderate-sized department for a research-intensive institution and was successful in the 2001 RAE. At the time of the study, the department was going through a period of change, both structural and cultural, which appeared to be externally imposed. According to the Head of Department, Professor Swinton, there was a “prioritisation of research”, which necessitated, among other things, more emphasis on getting externally funded research projects and encouraging colleagues to work more collaboratively in teams or centres, which would help enable grant applications. He argues that working in this way is “rather alien

to many people within English". He perceives this to be a big "cultural change", which means "people now have a responsibility to their department, rather than simply to their own work". From the accounts of the other four interviewees, there seems less concern with this issue than might be imagined given the kind of potential sea change described by Professor Swinton. With regard to de Zilwa's (2007) dimensions of organisational culture and values, it would appear that this English department has a high degree of cohesion and a high degree of affiliation of academics to the department. It seems to have a past orientation, with a lot of emphasis in accounts of 'tradition' and 'traditional' ways of doing things, and an orientation to change did not appear to be evident. There would appear to be little cognisance or regard for institutional goals.

There is a perception that there is a fairly individualised culture within the department. Indeed, Dr Rafferty argues that individuals have their own priorities regarding teaching and learning and that these are not department based. Professor Swinton maintains that "most of our working is to do with working alone". However, alongside this individualised notion is also the idea that interaction and discussion is important, indeed may be seen as imperative to the lifeblood of English academia. The significance of interaction is perceived between staff and also between staff and students. As Professor Swinton states, "mostly my work is to do with understanding texts, and engaging in debates about those texts with other critics". Dr Rafferty also maintains in relation to research and teaching that "if I wasn't teaching, I wouldn't be researching because only in talking about literature to other people does it have any reality". Dr Maloney further states:

English ... not just here ... but as a subject nationally ... it requires collaboration insofar as it requires testing your mind, testing your writing against other readers ... and that's why you hope you have a sort of positive, supportive group of colleagues. (Dr Maloney, English, Longbridge)

In relation to the organising of teaching duties, there is one person responsible in the department who takes care of this. Many of the introductory first-year courses are team-taught, and there is generally a strong impression from the accounts of interviewees that there is an extremely positive culture of co-operative teaching and also of discussing and sharing ideas informally about teaching and research. Dr Pritchard maintains that when some members of staff are off on research leave, other staff "are fairly reasonable, stepping forward and filling the holes that they're able to". Moreover, Dr Maloney is quite effusive in her praise for colleagues being supportive, stating that there is a "shared sense ... of what it is like to struggle with a project and people are always willing to listen and try things out with you and ask you questions". Equally with teaching, she states that people are happy to share and discuss their experiences. There would appear to be a very positive informality within this English department, but it is clear that there is resistance to attempts to formalise or change procedures. Indeed, there is not a universal sense of positive goodwill, as Dr Rafferty does not feel a sense of belonging within the department and is strongly critical of the moves to a more

research-focused orientation, such as developing research groups and ensuring more successful grant applications.

The English department at Longbridge is extremely different to that at Blueshore, there is a much more traditional focus as regards the history of the discipline compared to the innovation and links to cultural studies at Blueshore. This is reflected in the teaching methods as Longbridge is traditional in the lecture, seminar and tutorial format, whereas at Blueshore they are keen on more innovative methods of teaching, learning and assessment. However, they do share a common belief in the synergy and intertwining of research and teaching. Both agree that English is about interaction and conversation, and as Dr Rafferty maintains: "English is unusual in that first-year students can say something as interesting as an authority in the field". Like other departments, however, they are quick to jettison educational language of research-based teaching and learning or enquiry-based learning preferring a more pragmatic, local interpretation of how to do things.

Summary findings for Longbridge University

At Longbridge University, there is a clear focus on the importance of leading the field in research, so research success is of paramount importance to the institution, and this has significant influence on the organisation and priorities of the departments.

Environmental Sciences does very well as regards research success and also brings in a high level of research income. In Sociology and English, all staff are research active and they were successful in the 2001 RAE, but there is perhaps more pressure on these two departments to bring in additional research funding. There is also a developing policy on education, partly informed by the debates on linking research and teaching, which aims to have all staff engaged in teaching as well as research in order to ensure a 'distinctive' student experience at Longbridge.

With regard to departmental organisation cultures and values, there is a distinct variation at Longbridge. Environmental Sciences appears to demonstrate a high degree of cohesion and a highly formalised and integrated research and teaching linking strategy, which informs the development of the whole curriculum. There is evidence of a high collaborative and collectivist culture in relation to teaching practice and the development of the curriculum. In Sociology, by contrast, there seems to be a very individualised approach to teaching and, according to the perceptions of the staff interviewed, a lack of collaborative effort in relation to teaching either formally or informally. Within the English department, there seems to be a high degree of informal collaborative working in relation to the development of teaching, but a relatively internal orientation and lack of match with institutional goals.

All staff interviewed are research active, and all discussed the link between their research and teaching to some degree. In Sociology, this seemed to be

primarily in relation to research interests informing teaching content, staff using illustrative examples from their own research and students engaging in research projects in the latter part of the programme. In English, there is a model of 'interactive' learning between staff and students, although teaching methods remain somewhat traditional. In Environmental Sciences, there is a clearly focused and specified curriculum that enables students to develop understanding and skills for engaging in research from year one to the final year. The research specialisms of staff clearly underpin the whole curriculum.

Case study institution 3: Lakeside University

Lakeside University is a post-1992, primarily teaching-focused institution. The majority of the University budget comes from teaching with relatively little from research funds. As the PVC, Professor Brooker, maintains, there is a “relatively low level of what I would term RAE activity compared with ... the Russell Group”. However, there is a strong belief in innovative teaching and learning and the idea that successful scholarship underpins most of the excellent teaching work that takes place within the institution. Much of this scholarly activity, Professor Brooker argues, is supported by the teaching budget:

We have hard evidence to demonstrate that a lot of the research that takes place in the University and the scholarly activity is actually underpinned through the teaching budget. It's subsidised through the teaching budget. In a university of this kind it has to be, and we get [under £1 million] of funding for research per year. There's far more research activity going on in the institution than would be paid for by that funding from the Funding Council. So research is going on. (Professor Brooker, PVC, Lakeside)

Unlike at Blueshore, the PVC at Lakeside believes that it is not possible to “ratchet up the [RAE] activity a great deal, given the amount of funding that we've got”. The focus, therefore, is in creating departments that are researching and encouraging the development of more scholarly work elsewhere. There is also a clearer focus on knowledge transfer as well as more inclusive ideas of scholarly activity. So there is a clear valuing of wider definitions of research and scholarship than simply what is deemed appropriate for the RAE exercise. At Lakeside, there were some departments that were successful in the 2001 RAE, and the policy of the University is that there should be no top-slicing of these funds and that they should be redistributed proportionally back to departments that earned the RAE gradings.

We have in this institution several units of assessment that have been funded through the RAE. A [small number of departments] received a grade 4 in the last RAE. So they get direct QR funding from the Funding Council. There are other areas that got developmental funding through the RAE ... we don't actually top-slice any of that funding, so it goes directly to the unit of assessment that generated it. What usually happens with that is it's used to directly offset staff salaries. So there is an absolute and direct correlation between the research funding that's coming in and the research activity that's being undertaken. (Professor Brooker, PVC, Lakeside)

As Professor Brooker also maintains, however, there is further research and scholarly work going on that is subsidised through the teaching budget. It is believed, moreover, that this work is also important in underpinning the innovative teaching work of the University. This scholarly work can be both disciplinary based and also pedagogical research. The emphasis, however, is

on how this can improve and inform teaching and learning within the institution and thus improve the student experience. The teaching and learning policy of the institution explicitly endorses approaches to teaching and learning such as problem-based or enquiry-based or active learning. Like other institutions, Lakeside has received additional HEFCE funding to support research-informed teaching within the institution, and this has also been utilised to support pedagogical innovation. What should result from this, insists Professor Brooker, is “an upward spiral in the quality of the students’ experience emerging from it all ... everything from assessment right the way through to how you deliver a lecture or don’t”.

A full list of interviewees at Lakeside University is given in Table 3.

Table 3: List of interviewees at Lakeside University

Lakeside University	Interviewees (16)
PVC	<i>Professor Brooker</i>
Environmental Sciences	<i>Professor Brown (HoD)</i>
	<i>Dr Ellis</i>
	<i>Dr Hemming</i>
	<i>Dr Littlejohn</i>
	<i>Dr Prior</i>
	<i>Dr Sidwell</i>
	<i>Dr Ingram</i>
Sociology	<i>Ms Collins</i>
	<i>Dr McColl</i>
	<i>Dr Radford</i>
English	<i>Dr Rose (HoD)</i>
	<i>Dr Rutherford</i>
	<i>Dr Harris</i>
	<i>Dr Flanagan</i>
	<i>Dr Cain</i>

Environmental Sciences at Lakeside University

The Environmental Sciences department at Lakeside is part of a recently restructured multi-disciplinary department, which includes divisions from the social sciences. Professor Brown is the HoD of the newly structured department, which covers both Environmental Sciences and Sociology. The restructuring has not been entirely straightforward, as Professor Brown explains, as the “merger of departments to create larger departments sits uneasily with institutional heritage”. However, this reorganisation has had significant influences on the development of courses and curriculum, with a much greater integration across different disciplines. The aim, explains

Professor Brown, is to “integrate staff and integrate the curriculum” with “groupings of staff aligned with course development but keeping synergies”. As regards applying de Zilwa’s (2007) seven dimensions of organisational culture and values, therefore, it is not easy to define the ‘academic unit’ as there does seem to be a lot of integration across disciplines. However, there does seem to be a fairly high degree of cohesion between sub-cultures, although there are marked differences in research orientation. There is a fairly high degree of affiliation between academics and the department, although not universally. Similarly, there is a recognised synergy between the goals of the department and the goals of the institution, although this is questioned by some members of staff. There would seem to be a future orientation and change orientation, particularly in relation to the development of teaching within the department and currently, given the restructuring, a high degree of flexibility.

The importance of teaching within the department is very apparent, reflecting the goals of the institution. As Professor Brown remarks, “teaching is core business”, and it is important to have a “portfolio of (courses) that is competitively attractive”. The financial implications are apparent, but beyond this the interviewee accounts are filled with reflections on teaching, discussions of innovative teaching and examples of pedagogic research that directly impact on teaching. This is also reflected in the amount of team-based and collaborative teaching that exists in Environmental Sciences, as well as the amount of discussion and sharing of teaching practices and ideas. These discussions take place informally and formally through development groups that meet frequently during the year.

There is a very strong support from all members of staff in Environmental Sciences on practical-based, active learning or enquiry-based learning, and most can readily give definitions and examples of what they mean by these terms, presumably because of a familiarity with pedagogic literature as well as the direct engagement of these terms at departmental and university level. However, like staff at other universities, there is still some scepticism about the use of such terms and a sense that it is simply just giving another name to practices that have long been in evidence. Dr Ellis, for example, claims that it is “applying new language to an old teaching construct”, although he was surprised to find “a lot of people weren’t doing this before”. The engagement of students in active or enquiry-based learning is described by staff in significant detail, and the process of ensuring that students are constantly engaged and encouraged to be involved in the research process is described across a whole range of modules from year one to year three. As Dr Ellis describes:

Every opportunity that I have where I can engage, involve students in research that we are doing, I take that opportunity to. Because I think ... it illustrates to them a number of things, illustrates first off that the staff that they’re engaging with are involved in research. It optimises the staff team’s engagement in terms of generating mutual enthusiasms. It also ... and this is the most important ... makes them realise at a more intimate level that they can have an involvement in trying to resolve real

issues, rather than issues being created synthetically for the purpose of teaching. (Dr Ellis, Environmental Sciences, Lakeside)

As Professor Brown explains, “knowledge is contested and contestable” and so this approach “enables students to achieve for themselves”. Students are exposed to the messy, constructed nature of knowledge, and beyond this they are encouraged and supported to engage in that process themselves. Staff find interesting ways to engage students in this process, whether that be collecting data on field trips or collecting data from people or places in the local environment.

With regard to engagement in research, however, there seems to have been some change, particularly after the restructuring, which means that staff do not feel supported in the research that they do, indeed they may be actively discouraged from doing it, unless it is pedagogic research. For some staff, research is something that they do at weekends or as a ‘hobby’ that is not financially supported. Indeed, Dr Ellis argues that, “one is constantly made to feel guilty if one isn’t teaching all the time”. Other members of staff, like Dr Cain, manage to keep their research going by continuing collaborations with researchers from other institutions or through funding from contract research or consultancy work. The HoD, Professor Brown, concurs that much of his job is about “managing disappointment” of staff who have research aspirations within their discipline. Professor Brown characterises his role as a “dealer in hope”. A workload model is in operation, and unless a member of staff has guaranteed research funding to finance their research time then this is not calculated into their workload. This raises problems for staff who want to continue in their research and be considered research-active. The research culture of the department appears to have been eroded, as Dr Hemming states, “because of restructuring [the research culture] is no more ... since that happened ... there hasn’t been much of a research cluster, which is a bit of a shame.”

Some members of staff, however, are engaged in pedagogic research and are extremely enthusiastic about the positive impact that this may have on their teaching. This also fits well with the goals of the institution and is valued and supported, primarily through additional funds available to the University such as the Research Informed Teaching Fund. The concept then of “advanced scholarship”, says Professor Brown, where “you are involved in advancing your discipline through teaching or professional practice ... has to be seen as valid and valued”. This is a theme running through the work of staff at Lakeside and one that many support.

Sociology at Lakeside University

The Sociology department at Lakeside now has the same Head of Department as Environmental Sciences since the reorganisation of departments. There are many similarities, therefore, with the accounts given by the staff in Environmental Sciences. As Ms Collins maintains, the focus is very much on teaching within the department, and there is a strong emphasis

on pedagogical research as there is within the institution generally. Ms Collins feels that the emphasis on pedagogical research, primarily focusing on the student experience is too narrow, although she does recognise the importance of it. Dr McColl also agrees that he would like that research were “not all about pedagogy”. Like some of the staff in Environmental Sciences, therefore, there is a sense of the disappointment talked about by Professor Brown from the staff who feel that they are no longer encouraged or supported to engage in disciplinary research. Ms Collins maintains that there is a “research culture going on here”, although it may not be “huge” because a lot of staff are “bogged down with teaching”. Dr McColl argues that it is “disheartening” because there is no ‘support for developing bids’ and generally a “negative attitude from management”.

The staff in this department also maintain that there is a lot of teaching to do. Dr McColl argues that he is teaching over his allocated teaching hours. In addition, they are often teaching courses that have been “inherited” from someone else and that they do not feel confident about teaching. Ms Collins says that “if there is a gap in the teaching area then someone has to fill it”, and under such circumstances she perceives herself as only a “mediator from the textbooks to the student”, which “makes me feel really vulnerable”. There is also a recognition that teaching outside one’s area can open up new areas of knowledge. However, very much like Environmental Sciences, on the whole, staff in Sociology speak very positively and effusively about their teaching. There is a similarly collaborative team-based approach to teaching, and formal and informal discussions about teaching are common and frequent.

The staff also talk very much about the advantages of active learning or enquiry-based learning. Although, like staff in other departments, they may not choose to adopt these titles, arguing in some cases, as Ms Collins does, that it implies an association with “this kind of bureaucratic agenda”. However, there are plenty of examples and enthusiasm for getting students involved in projects and engaging them in learning. As Dr Radford argues, “in a sense, it is education, drawing out (the best from students), I think, not putting in (information)”. Dr Radford engages students in some community-based research projects, which have had a very positive response: the students said “it made them work harder because it mattered and it was worth doing well”.

With regard to de Zilwa’s (2007) dimensions of organisational culture and values, this department would appear quite high as regards cohesion and affiliation within the academic unit. However, it would seem to have a present (or past) temporal orientation and no particular orientation to change. There would seem to be a lack of synergy between the goals of academic staff and the institution, primarily in relation to the lack of support for research activities. This obviously stems from the lack of RAE funding to either the Environmental Sciences or Sociology department and the institutional policy, therefore, that only funded research can be supported.

English at Lakeside University

The English division at Lakeside is part of a much larger, interdisciplinary department. The number of staff is fairly small. There is agreement from staff that the University's mission is a clear one, focused on teaching and primarily pedagogic research. The significance of teaching and being student centred is expressed clearly by the HoD, Dr Rose, who states, we need to "keep it relevant for prospective students and students who are currently here" and "we have to work hard to market ourselves because recruitment and retention of students is our key". For this reason, she argues, "resources have to be much more in line with student numbers across departments". This has led to some restructuring of the departments to ensure that courses offered are appropriate for attracting students and maintaining high uptake. Although such restructuring does have consequences as, she argues, "if you're going to create new programmes it also means phasing others out that aren't recruiting well, and that's always painful".

However, with regard to research, the English department has had some success in previous RAEs, and there is evidence from the accounts of staff of a significant research culture within the department, although, according to Dr Harris, the research culture has "collapsed". This, he argues, is partly because the programme of sabbaticals that had existed has been eroded. Dr Rose confirms that a "rolling programme" of sabbaticals could no longer be supported. There continues to be support for staff doing research, and there is, she argues, "a basic entitlement for research and scholarly activity". However, "you can't just go off and do your own thing", as research leave has to be planned in relation to outcomes and preferably supported by some kind of external funding:

... I mean I don't think research is whimsical, but unless somebody comes to me and says 'I have a contract' or 'I have this' you know the promise of this or express interest in that ... or 'I have some funding', be it from AHRC, Arts Council, whatever, then you know it's harder. (Dr Rose, HoD English, Lakeside)

There is, however, a concern expressed by the HoD and staff in the department to maintain the research culture and develop this, which, Dr Rose argues, necessitates a "balance of duties" for staff regarding research and teaching and also practical elements of building up an interactive research culture:

We have research seminars. Again because of the whole drive to get a really thoroughly embedded research culture, ongoing research seminars ... I went to one last night ... open lecture series ... you know all of that's ongoing ... there's a budget for it as well. We have ... postgraduate students contribute to those research seminars as well. I mean I think mostly it's ongoing but with more of a question mark over it perhaps in some ways. And the other thing I think is just to make sure that the research and the teaching is joined up, you know. Because it's far more satisfying to use that day a week on your research if you're also

going to be able to use it on your teaching, cos it's efficient. So you know as well as enabling ... (Dr Rose, HoD English, Lakeside)

There are elements, therefore, in the English department of a continuing burgeoning research culture; however, as Dr Rose suggests, there is also a "question mark" over the feasibility of maintaining it. Despite the pressures of constructing courses around students demand, there is a desire to allow staff to construct their own courses and to align this where possible with their research work. Dr Rose maintains that "if resources allow [staff] can teach courses on subjects [they] are researching". Dr Harris concurs that there is "autonomy" in constructing courses. Similarly, Dr Cain argues that he has not been "dragooned as it were, into teaching other people's courses" but has been able to join courses and help adapt them or "invented them". As reported, in Environmental Sciences, there is also a strong culture of formal and informal discussions of teaching and staff working together to support each other in their teaching.

All of the staff in the English division perceive themselves as research active, and this has been developed over a number of years with mutual support from colleagues. Dr Cain talks about mentoring and supporting staff to engage in research and publish their ideas. He talks enthusiastically about the possibilities of publishing all the "work that doesn't show" in relation to preparation for teaching, important work that can be made "into an article or an essay or even a book". This, he argues, is directly impacted on by discussion and exchange of ideas with students. Indeed, he dedicated a book he wrote to the students who "over the years have read George Orwell with me". Staff talk enthusiastically about the engagement of staff and students in joint "enquiry". Dr Harris describes teaching as "dialogic", and as Dr Flanagan argues:

I mean that's why one of the things about this department I think is really strong is that we're all actively doing research and there's an ethos here that that gives us a sense of ourselves and the work that we do which is always engaged in that spirit of enquiry. And so what we want the students to do ... I think I'm probably speaking for everybody here ... is to engage in that same spirit of enquiry. And to do that you have to be active in it. (Dr Flanagan, English, Lakeside)

Students are encouraged to engage in self directed projects within modules and the dissertation is maintained as an important part of developing autonomy and independence of the final-year students. However, the significance of a broader definition on learning is important in conceptualising the perception of what can be gained in such self-directed learning:

And that that's one way of doing a degree in English, or I suppose any subject, is that you're just going to be told what you need to know. And what's much more exciting is the fact that there's much more to know, but it needs to come from your own experience and you find your way through that. And so I suppose that's a very broad definition of research

but I think it's a different way of thinking about learning, which is much more exciting than just sitting there and being told what other people think all the time. I mean that's important obviously because you need to know how people have been thinking for long periods of time. You need to know what research has been done. But if you find something that's interesting to you, you might want to go out and find out more about what other people think. (Dr Flanagan, English, Lakeside)

The process of supporting students through research and enquiry is also endorsed by the HoD, Dr Rose, who argues, that the best way "is to talk to students [about research and show] that it relates to them". However, like the responses from staff in many of the case study departments, there is a reluctance to endorse formal pedagogical ideas such as active learning or enquiry-based learning. As she argues, "colleagues don't want to be too prescriptive" and certainly within English "don't want to be too formulaic". There is a twin concern by staff, therefore, as has been evidenced in other departments, that these pedagogical ideas of active learning or enquiry-based learning are what has "always been done", and so are nothing new, but there is a danger of these being co-opted for managerialist ends:

Not just the teaching and learning but of research as well and all of those activities within universities ... on the one hand you know you sort of ... it's fruitful I guess to engage with that debate in terms of those dialogues etc, but at the same time you don't want it to be completely hijacked by sort of notions of effectiveness and ... you know it's all about you know predicted outcomes and that sort of language. (Dr Rose, HoD English, Lakeside)

With regard to de Zilwa's (2007) seven dimensions of organisational culture and values, therefore, the English division would seem to have a high degree of cohesion and affiliation within the academic unit. There is a future orientation and change orientation in relation to developing and restructuring programmes and courses as well as developing further research activities. In relation to teaching, there would seem to be a greater level of autonomy and control for staff over what they are teaching. However, in relation to research, although a more significant research culture and support for research does exist, there is still some "disappointment" that there is not more.

Summary findings for Lakeside University

At Lakeside, there is clearly a strong focus on teaching and ensuring the teaching excellence of all departments in the University. The institution is also keen to recognise and value a diverse variety of forms of research and scholarship. This includes an emphasis on pedagogical research that can underpin teaching developments, and this type of research is strongly encouraged. There are a small number of departments at Lakeside that had moderate success in the 2001 RAE bringing some research funding to the institution, but otherwise funding for research is relatively modest. As regards engaging in research, therefore, there is a strong incentive for staff to conduct

pedagogical research that can directly influence the teaching practices within the institution. According to the perceptions of staff, particularly in Environmental Sciences and Sociology, engagement in disciplinary research is only encouraged where it is supported by external research funding. The main focus, therefore, is on pedagogical research underpinning teaching rather than disciplinary research, although there is a recognition that a substantial amount of disciplinary research is being conducted, which is partly supported by the teaching budget.

There is a significant amount of restructuring occurring in the organisation of departments within the University, and this has resulted in a substantial change to the predominant cultures and values in the Environmental Sciences, Sociology and English departments. There is a perceived loss of a research culture in each department, although this appears to be less so in English. Staff in Environmental Sciences and Sociology are mournful of these changes in their department and struggle to maintain their disciplinary research work by using personal time and developing collaborations external to the institution. With regard to teaching, there is strong collaborative culture both formally and informally with staff working together to develop the curriculum and in team-teaching on different courses. There is generally a high degree of cohesion across all departments in relation to developing forms of active learning and interactive teaching methods and a continuing dialogue of conversations about how best to develop the curriculum. Staff in each department are divided on their enthusiasm for pedagogical research with some engaged to a high degree and others less keen. The recent restructuring has shaken up forms of teaching practice and in particular had led to more interdisciplinary-based courses, which some staff are very enthusiastic about.

As regards linking research and teaching, all staff are enthusiastic about active learning, interactive teaching and engaging in forms of enquiry-based learning. However, like staff in other institutions, they are not always keen to use such labels. In all three departments, there are examples of students engaging in conducting research, and this is seen to be important by most, if not all, of the staff interviewed. There is clear engagement with teaching and learning debates, and a number of staff are engaged in pedagogical research, which they are able to utilise to inform teaching developments. However, some staff are worried about the lack of opportunity for engagement in disciplinary research and the effect this might have on their ability to bring their research experience to teaching. There is also an issue of the level of autonomy that staff have to choose and design the courses that they run.

Summary conclusions

This section will provide a discussion of the main conclusions from the case study analysis in relation to the aims of the study. The key themes identified are: the institutional contexts; departmental teaching and research cultures; disciplinary and sub-disciplinary cultures; the research-teaching-learning-knowledge continuum; and issues of language, rhetoric and resistance.

Institutional contexts

There were clear differences at each of the three institutions with regard to policies and priorities. There was substantial variation regarding resources and levels of funding for teaching and research. Institutional concerns followed a broad remit and go way beyond the concern for linking research and teaching. However, it is clear that institutional policies on 'research' and 'teaching' have significant influence on the organisational cultures and values of the departments. The significance of research funding for the research capabilities of institutions was very clear, and there is a large variation in the amount of research funding from HEFCE to each of the case study institutions. The means by which that funding is redistributed within the institution was also highly varied, which has significant impact on the research capabilities of individual departments (Lucas, 2006). The emphasis on pursuing research excellence and competitiveness in the RAE and beyond was clear for Longbridge and to a lesser extent Blueshore. A more extended definition of research and scholarship was evident at Lakeside. This allows for more academics to be perceived to be engaged in research that is not solely linked to demands for the RAE and therefore allows a greater scope for exploring what is meant by research and teaching inter-relationships. The importance of pedagogical research was highlighted at both Blueshore and Lakeside, but was much more evident in the activities of staff at Lakeside, while it was little discussed at Longbridge.

All of the senior managers talked about how their institution was different to others and indeed, both in relation to research and educational mission, they discussed plans and policies for ensuring the 'distinctiveness' of their university and of ensuring a 'distinctive' experience for the student that could allow them a market advantage. At Longbridge, this signalled the ability of students to study in a research-intensive environment. At Blueshore and Lakeside, more emphasis was placed on the quality of teaching and learning itself.

At all three institutions, explicit policy on linking research and teaching seemed rather ad hoc. All senior managers paid homage to the advantages of students engaging in research and the benefits of 'enquiry-based learning' and of ensuring that teaching and the curriculum were informed by research. Institutional literature also emphasised the links between research and teaching. However, there was little explicit policy that linked coherently across the teaching and learning policies of the institution. As Krause (2007) concluded in her review of Australian university websites, there was plenty of

evidence of aspirational ideas of linking research and teaching, but very little as regards concrete policies or operational objectives. For example, at Blueshore and Longbridge in particular, there was a concern to ensure that staff should be both researching and teaching. However, there were no explicit policies to minimise the negative impacts on staff priorities between research and teaching that were evident at least in some departments.

Departmental organisational cultures

The immense variation of departmental teaching and research cultures was explored in depth within the case study institution sections. The differences in relation to cohesive and collaborative cultures versus divisive and individualistic cultures within departments were marked, supporting earlier research work (Deem & Lucas, 2007). Departments varied also in relation to de Zilwa's (2007) dimensions of organisational culture and values, particularly, academic affiliation, change orientation and flexibility, and also regarding the synergy between department and institutional goals. Different individuals, of course, gave varied accounts of departmental cultures, but a broad picture for each department did emerge from these differing perceptions.

Research and teaching links seemed strongest in those departments that had a cohesive and collaborative culture, strong academic affiliation, a positive change orientation and flexibility, and a positive synergy between department and institutional goals. This was best represented by Environmental Sciences at Longbridge, English at Blueshore and also, to some extent, English at Lakeside. These three departments are marked in their relative research success, which perhaps places them in a more secure footing in relation to institutional goals. The dual motivations of maintaining research success and a strong belief in the advantages of research-based teaching and learning encouraged Environmental Sciences at Longbridge and English at Blueshore to completely reshape the whole curriculum programme to support staff research and student exposure to research as a developmental process through year one to the final year.

In other departments, the extent of collaborative working around teaching, whether that be team-based teaching and/or formal/informal meetings and discussions around teaching, was highly influential in relation to developing innovative teaching and learning methods generally. Where there was a less cohesive more individualist culture, this was more ad hoc. In some circumstances, staff were overloaded and felt they had little autonomy over what and how they taught, which had a negative impact on using innovative methods. The extent of staff participation in decisions over teaching, therefore, was highly significant (Colbeck, 1998). The extent of cohesion within the department and collaborative working was necessary for the kind of broad-scale curriculum changes, which occurred within Environmental Sciences at Longbridge and English at Blueshore. However, where collaboration existed, whether formally or informally, there was more likely to be a greater degree of staff involvement in innovative teaching and learning.

Disciplinary and sub-disciplinary cultures

The issue of disciplinary location was clearly significant for the staff working in these departments. However, there was evidence, particularly at Lakeside and Blueshore based on department mergers, of much more interdisciplinary activity in relation to research and teaching. The departmental location of particular disciplines was important. For example, the traditional English department at Longbridge with traditions of 'close readings' of texts is very different to the more culturally situated English department at Blueshore. These different locations would afford very different experiences for students with regard to engaging in 'research'.

The choice of departments was made in order to compare disciplines with high knowledge consensus versus low knowledge consensus as this had been shown to be significant in previous research (Colbeck, 1998; Robertson & Bond, 2003). However, most of these disciplinary departments were located towards the low knowledge consensus end of the spectrum and so were perhaps less varied and therefore less likely to demonstrate differences. However, it could be argued, that the distinction between 'soft' and 'hard' disciplines, which correspondingly have either 'high' or 'low' paradigm consensus, is over simplified. There is equal scope for contestation and debate across all disciplines and particularly within sub-disciplinary cultures. The issues of content versus process, however, remains with some disciplines, perhaps in the natural sciences and medicine as well as many professional disciplines governed by professional bodies, which have less freedom to determine curriculum and by necessity need to teach across a broader range of subjects with less scope for tailoring courses and programmes. The curriculum innovations in Environmental Sciences at Longbridge and English at Blueshore were partly allowed by the ability to reorganise and shape the courses being taught in line with staff research interests, which Brew (2006) refers to as research-aligned teaching.

There are also clear differences across the disciplines in relation to how to define research and what forms of practices this entails (Robertson, 2003). For Environmental Sciences this might mean going abroad to do fieldwork, for social sciences, going to interview people on a housing estate and for English, applying a new idea to a piece of text. There are differences between disciplines, therefore, as regards what it means to research, to construct knowledge, and different cultures and practices that may shape the potential relationships between teaching and research. However, the case studies in this study have shown that a strongly positive and enhancing relationship can exist (and is for the most part expressly desired by academics and senior managers alike) at all types of institutions and across all disciplines, while taking many different forms.

The research-teaching-learning-knowledge continuum

The point was made in the introduction to this report that there is no one way of linking research and teaching, but there are many possibilities (Jenkins, 2004). This is conceptualised in Trowler and Wareham's (2007) dimensions of the research-teaching nexus. Much of the research evidence shows that in understanding these issues it is perhaps more fruitful to discuss a research-teaching-learning-knowledge continuum (Robertson, 2007). The evidence for this is supported in this research study. This implies more of a continuum of staff and student engagement in enquiry and the encouragement of 'forschendes Lernen' – a Humboldtian idea translated by Elton (2005) and meaning 'learning in a research mode' – applied to both staff and students. This continuum, therefore, cuts across both staff and student experiences with staff and students potentially benefiting:

Yes, I feel so, I feel ... the more you can ... the more you can make it seem real and new to them then the more exciting it will appear to them. I think there's something very sterile ... and this is something I really feel passionate about ... I think the notion of having research universities and teaching only universities where the staff have no time for research is a recipe for disaster. You'd have to be a very, very special type of individual to be able to enthuse year upon year upon year about a subject in which you have no involvement ... other than teaching. How do you keep updated on it? How do you keep motivated on it unless you're involved in pursuing knowledge frontiers yourself? And I think engaging students in that pushing of knowledge frontiers is the most effective way that you can to enthuse them, to make them feel more than just cogs in an education process. It's something I feel quite strongly about (laughs). (Dr Ellis, Environmental Sciences, Lakeside).

The possibilities for the links to be made across this continuum, however, are strongly influenced by the institutional and departmental priorities, policies, organisation, culture and values.

Language, rhetoric and resistance

There is much that can be said about the educational language used within higher education. There is a plethora of different teaching and learning approaches used that may relate to linking teaching and research. Individuals talk about research-based teaching and learning, enquiry-based teaching and learning, active learning, experiential learning and problem-based learning. The relationship between these different ideas has been little explored in the educational literature. As a result they are often used interchangeably and sometimes in a state of confusion by academics.

There was often significant hostility by a significant number of academic staff towards what was perceived as 'eduspeak' or educational jargon, even by those heavily involved in teaching and learning development when referring to these terms. The critique was primarily threefold: firstly, that it referred to

practices that already existed as if this was now something new; secondly, that this terminology was perceived by many to be linked to a bureaucratic ideological agenda that aimed for uniformity of outcomes and experience and interfered with the 'authentic', more 'personal' dimension to the teaching and learning relationship; and thirdly, that it was linked to a managerialist agenda that was perceived to be taking control away from academics such that autonomy over teaching practices were being eroded.

It is important, therefore, to recognise the forms of academic agency involved in constructing the research-teaching-learning knowledge continuum and the need for collective ownership of this process, which may also work to defy categorisation and labelling, and, further, as a means of signalling innovation.

Recommendations

In this research project it has been shown that if we want to understand academics' experiences and perceptions of research and teaching and the links between them, we need to view them from the perspective of institutional and departmental contexts, policies and cultures. The examples from these case study institutions have shown quite clearly that there is a huge variety of ways in which teaching and research activities are experienced by academics working across different institutions and different departments. The role of institutional policies and departmental organisational cultures is key to shaping that experience.

Recommendations to departments and course teams

All course teams and departments can benefit from discussions about their conceptions of the effective relations between teaching and research, and in particular about those they consider to be effective and appropriate to their disciplinary and institutional contexts. Such discussions can embrace the 'ideal' conceptions that are held, the extent to which they are revealed in practice, and how they could be made more effective for both staff and students.

Such discussions need to include a frank analysis of cultures and practices, in particular the extent to which staff feel there is congruence *within* the course team or department of their conceptions and realisation of teaching and research relations. This is not to state that there should be one such conception, but that some shared understanding and collaborative effort is vital, as is valuing of different individuals' contributions, to that realisation of teaching and research links.

Clearly such discussions can take a variety of forms, but they may benefit from the support of external researchers, and from the increasing number of publications in this area, including the discipline-based case studies and review essays from the Higher Education Academy Subject Centres. We hope that in particular staff in English, Sociology and Environmental Sciences and related disciplines can use this report and related research publications to review their own understandings, policies and practices.

Although our research only focused on the experiences and perceptions of academics, such discussions can profitably also involve exploring *student* experiences and perceptions of disciplinary research and their experience of research in their courses (e.g. Healey *et al.*, in submission; Jenkins *et al.*, 1998; Lindsay *et al.*, 2002; Neumann, 1994; Robertson & Blacker, 2005).

Recommendations to institutions

Institutions should consider how best to articulate and deliver a view on the relationship between teaching and research that is appropriate to their institutional, departmental and disciplinary or course programme contexts.

Institutions should encourage course teams and departments to hold such discussions on the relationships between teaching and discipline-based research and consider how the periodic review process of courses and research can support that process.

Institutions should encourage structured discussions at institutional and departmental level by those with leadership roles for teaching *and for research*. Such discussions should include the 'ideal' conceptions of teaching-research relations that are held, the extent to which they are revealed in practice and how they could be made more effective through institutional and departmental planning, policies and structures.

Institutions should consider how current staff development policies, including the initial programmes for teaching and learning *and for research*, can support staff to understand better and enact effective teaching-research relations in their disciplinary and institutional contexts.

Recommendations to the Higher Education Academy including the Subject Centres

The Academy should support institutional and department level leaders in developing and delivering a conception of teaching-research relations that is appropriate to their institutional contexts. Such might be achieved through site visits, fora that involve institutional leaders, as well as through targeted publications and conference presentations.

The Academy should use the interregnum before final details on the RAE post-2008 are decided to press UK national organisations and funders to ensure that national policies for teaching and for research support effective teaching-research links throughout the sector. Such policies and funding should recognise and support institutional and disciplinary variations in delivering effective teaching-research links.

The Academy initiatives should not be restricted to policies with respect to teaching. This research has demonstrated the negative impacts of national and institutional policies that tend to separate teaching and research and, in particular, how research policies are at present largely divorced from consideration of their impacts on teaching. In this context the developing relationships between the Academy and the Research Councils may provide a useful context to progress the potential benefits from research in the disciplines on teaching and course delivery.

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Appendix 1

Higher Education Academy Project 2006-07

Semi-structured interview schedule for pro-vice-chancellors

Background

Exploring teaching and research experience and career trajectories

1. Previous jobs/universities
2. Previous experience of and involvement in teaching?
 - a. What courses do you teach/have you taught?
 - b. What kind of teaching methods do you use and why?
 - c. Do you have any particular ideas about good teaching and learning?
3. Previous experience of and involvement in research?
 - a. What academic (sub-)discipline would you describe yourself as belonging to?
 - b. What does research mean to you?
 - c. Can you describe what your research is about and what sorts of activities you are engaged in?
 - d. Would you call any of those activities 'scholarship'?
 - e. What is it about research that gives you satisfaction (or not)?
4. Previous experience of and involvement in administrative/management roles?
 - a. What are the key administrative/management roles that you have held?
 - b. What do you most enjoy (not) about holding such positions?
 - c. What are the major challenges for management/administration within modern universities?

Current position as PVC

Exploring current job and responsibilities

5. How long have you been in the role of pro-vice-chancellor?
6. What do you see as the key responsibilities in your role as pro-vice-chancellor? Is there anything the job involves that you were not expecting? Major challenges of the role?
7. Have you introduced any new initiatives since becoming pro-vice-chancellor? Please explain.

8. What do you feel are the key priorities for the University in the near future? What about in relation to research?

Teaching and learning strategy of the institution

9. Can you explain the University strategy for teaching and learning?
10. What are the key priorities for teaching and learning in the institution? How have these been developed?
11. Are there any guiding ideas or philosophies of teaching and learning at this institution?

Link between research and teaching at institutional level

12. What does the notion of linking research and teaching mean to you?
13. What do you understand by 'enquiry-based learning' or 'research-based learning'?
14. Would you see these ideas as relevant to the teaching and learning strategy of this University? Can you give examples?
15. Research-Informed Teaching Fund – what influence has this had? What plans are being made to utilise these funds?
16. What do you see as potential benefits and/or problems with research-informed teaching and other 'types' of research-based teaching and learning? For staff and for students?

Appendix 2

Higher Education Academy Project 2006-07

Semi-structured interview schedule for heads of department

Background

Exploring teaching and research experience and career trajectories

17. Previous jobs/universities

18. Previous experience of and involvement in teaching?

- a. What courses do you teach?
- b. What kind of teaching methods do you use and why?
- c. Do you have any particular ideas about good teaching and learning?

19. Previous experience of and involvement in research?

- a. What academic (sub-)discipline would you describe yourself as belonging to?
- b. What does research mean to you?
- c. Can you describe what your research is about and what sorts of activities you are engaged in?
- d. Would you call any of those activities 'scholarship'?
- e. What is it about research that gives you satisfaction (or not)?

Current position as head of department

Exploring current job and responsibilities

20. How long have you been in the role of HoD?

21. What do you see as the key responsibilities in your role as HoD? Is there anything the job involves that you were not expecting? Major challenges of the role?

22. Have you introduced any new departmental initiatives since becoming HoD?

23. What do you feel are the key priorities for your department in the near future?

Link between research and teaching within your department

Exploring the department 'teaching culture'

24. What do you feel are the teaching and learning priorities for the department? Are there any guiding ideas or philosophies for teaching and learning?
25. Does English/Sociology/Environmental Sciences as a discipline demand a particular approach to teaching and learning?
26. How would you describe the 'teaching culture' of the department? (individual/collective)
27. How are curricula constructed?
28. How are teaching duties distributed and decided?

Exploring the department 'research culture'

29. Does English/Sociology/Environmental Sciences as a discipline require a particular approach to research/create a specific form of research culture?
30. Does your department have a 'research culture'? (Prompts: How would you characterise this? or If not, how would you describe the culture of your department?)
31. What supports and maintains this research culture?
32. What are the research priorities for this department?
33. What kinds of research activities go on in your department? Seminars, newsletters etc.
34. In what ways does the department support the research activities of staff (Prompts: e.g. research mentors, research workshops)?

Link between research and teaching at departmental level

35. What does the notion of linking research and teaching mean to you?
36. What do you understand by 'enquiry-based learning' or 'research-based learning'?
37. Would you see these ideas as relevant to the teaching and learning strategy of this department? Can you give examples?
38. Do these ideas have any direct influence on the development of curricula? Please give examples?
39. Do these ideas have any direct influence on student involvement in engaging in research within your department? Please give examples?

Link between individual research and teaching responsibilities

Exploring ideas and examples of the extent to which research and teaching roles support each other and/or remain separate activities

40. Does your research link in with your teaching? Can you give examples?
41. Does your teaching influence your research? Can you give examples?
42. How do you conceptualise the link between research and teaching? Do you think the link is important? Why?

Final thoughts on linking research and teaching

43. Research-Informed Teaching Fund – what influence has this had?
44. What do you see as potential benefits and/or problems with research-informed teaching and other ‘types’ of research-based teaching and learning?
45. What do you think might be specific issues relating to the discipline of English/Sociology/Environmental Sciences? Any final thought on any of the issues raised?

Appendix 3

Higher Education Academy Project 2006-07

Semi-structured interview schedule for academic staff

Background

Exploring teaching and research experience and career trajectories

46. Previous jobs/universities
47. Previous experience of and involvement in teaching?
 - a. What courses do you teach?
 - b. What kind of teaching methods do you use and why?
 - c. Do you have any particular ideas about teaching and learning?
48. Previous experience of and involvement in research?
 - a. What academic (sub-)discipline would you describe yourself as belonging to?
 - b. What does research mean to you?
 - c. Can you describe what your research is about and what sorts of activities you are engaged in?
 - d. Would you call any of those activities 'scholarship'?
 - e. What is it about research that gives you satisfaction (or not)?

Link between research and teaching within your department

Exploring the department 'teaching culture'

49. What do you feel are the teaching and learning priorities for the department? Are there any guiding ideas for teaching and learning?
50. Does Environmental Sciences/Sociology/English as a discipline demand a particular approach to teaching and learning?
51. How would you describe the 'teaching culture' of the department? (individual/collective)
52. How are curricula constructed?
53. How are teaching duties distributed and decided?

Exploring the department 'research culture'

54. Does Environmental Sciences/Sociology/English as a discipline require a particular approach to research/create a specific form of research culture?

55. Does your department have a 'research culture'? (Prompts: How would you characterise this? or If not, how would you describe the culture of your department?)
56. What supports and maintains this research culture?
57. What are the research priorities for this department?
58. What kinds of research activities go on in your department? Seminars, newsletters etc.
59. In what ways does the department support the research activities of staff (Prompts: e.g. research mentors, research workshops)?

Link between individual research and teaching responsibilities

Exploring ideas and examples of the extent to which research and teaching roles support each other and/or remain separate activities

60. What does the notion of linking research and teaching mean to you?
61. What do you understand by 'enquiry-based learning' or 'research-based learning'?
62. Would you see these ideas as relevant to the teaching and learning strategy of this department? Can you give examples?
63. Do these ideas have any direct influence on the development of curricula? Please give examples?
64. Do these ideas have any direct influence on student involvement in engaging in research within your department? Please give examples?
65. Does your research link in with your teaching? Can you give examples?
66. Does your teaching influence your research? Can you give examples?
67. How do you conceptualise the link between research and teaching? Do you think the link is important? Why?

Final thoughts on linking research and teaching

68. Research-Informed teaching Fund – what influence has this had?
69. What do you see as potential benefits and/or problems with research-informed teaching and other 'types' of research-based teaching and learning?
70. What do you think might be specific issues relating to the discipline of Environmental Sciences/Sociology/English? Any final thought on any of the issues raised?