

Promoting Research in Teaching and Learning in Higher Education: two case studies of multi-disciplinary pedagogic research

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Abstract

The focus of this paper is based on our recent work in building capacity for research in teaching and learning and the management of change in higher education institutions. The paper describes and evaluates two institution-wide programmes designed to increase pedagogic research output. It begins by describing the major features of these programmes, summarises the outcomes and critically assesses their impact within each institution as well as in the higher education sector more broadly. Both programmes have been successful in creating an active pedagogic research culture within their respective institutions and have the potential to do so in a variety of institutional contexts. The paper is designed to assist conference participants who wish to develop a capacity for research on teaching and learning in their own institutions. It aims to:

- identify appropriate strategies to promote research in teaching and learning in higher education institutions
- develop a clearer understanding of the ways in which pedagogic research can be facilitated and encouraged
- enhance the UK's capacity for research-based practice in teaching and learning.

Introduction

Before describing the case studies, it is necessary to understand the institutional and national contexts within which the two approaches to building research capacity in teaching and learning occurred. Firstly let us consider the institutional context. Both the programmes we describe are in institutions which have, historically, had teaching focused missions and are 'new' universities (1992 and 2000). In both cases only a small proportion of the university's total income has been derived from research grants. Generally speaking, where there have been research active staff they have been focused on subject-based research, however, there are differences in the proportion of research active staff in the two universities. Both institutions have education departments but with a school rather than higher education focus. However, in one of the case studies there are a small number of highly regarded professorial staff with an interest in higher education policy and practice. Before the programmes were initiated promotion and reward structures were based mainly on either administrative responsibility or achievements in discipline-based research.

Turning now to the wider national context, Brown (2000: 66) has identified the following features of university research activities: disciplinary research is perceived to have the highest status, although undergraduate teaching is the main business of most HEI's; effort and resources are diverted into maximising RAE scores; teaching is separated from research and scholarship leading to a diversion of resources away from teaching.

McNay (1998:196) has shown how the funding rewards the RAE offered led, at the level of the individual, the department and the institution to “a gradual separation structurally, of research from teaching.” Heap (1999) has argued that institutions and departments have ‘freed up’ time for active researchers by allocating extra teaching duties to non-research active staff. This increase in research activity is most pronounced at the top end of the RAE scale as the extra money received by the highly rated departments means that they need to spend less time on other income generating activities such as teaching (Heap, 1999). In contrast, until the recent ESRC/TLRP there has been little or no funding specifically to support research on learning and teaching, although some of the national funding bodies have funded innovations in teaching and learning. The financial incentives to engage in research in learning and teaching have therefore been almost non-existent.

We describe below two institutions which developed separately and independently, similar approaches to building research capacity in learning and teaching within the context described above. In both cases, the initiatives are led by the Educational Development services within the institutions.

Two Case Studies to Promote Capacity for Research-Based Practice in Teaching and Learning.

In order to promote research capacity relating to teaching and learning the first priority was to develop a teaching and learning research orientated consciousness among staff. Initially this was accomplished via socialisation in certificated courses on teaching and learning which require a minimum level of pedagogic research for successful completion. Through these courses, staff are encouraged to think of their professional practice as requiring investigation and evaluation using relevant theoretical frameworks with which to reflect on and analyse their teaching. In one of the two institutions, opportunities also exist for more experienced staff to engage in masters level programmes in which they must demonstrate (inter alia) high level critical reflection on the interrelationship between theory and practice and the ability to take and implement decisions based on analysis and investigation (O’Reilly, 1996). For many staff in these institutions their first published pedagogic research has been a paper originally submitted as part of the coursework of a certificate or masters programme.

Both institutions have addressed the lack of recognition and reward for teaching excellence by establishing career routes which reward staff who are pedagogically research active. In one case they are fixed term secondments to the Educational Development Centre and in the other they are promotions to Reader in Educational Development within a subject. Both require the staff member to take on a role for supporting teaching and learning generally and encouraging the investigation of teaching and learning issues within their departments. In one case this operates from the central unit out to the subject group, in the other it provides the subject group with support from the Centre.

Another common feature of both strategies for supporting pedagogic research capacity is the provision of a funding mechanism for small scale 'seed grant' funding for projects to promote investigation of innovations and/or evaluation of teaching and learning practice. The opportunity is provided for staff to develop their final report into a paper of publishable standard and includes getting feedback on the projects at public seminars/workshops as well as from central Educational Development services. Acceptable papers are then published internally for dissemination across the institution, thus modelling good teaching and pedagogic research practice (D'Andrea, 2000 and 1996; EDS, 2000, 1998, 1997, 1996). In one of the institutions there is also the opportunity to use FDTL funding to research a model of problem-based learning.

In order to ensure that the pedagogic research culture becomes embedded, additional assistance is provided at both institutions in the form of support networks. The format of these networks differ in a number of ways, however common mechanisms for supporting the research include: workshops on how to get published and how to upgrade investigations into a published paper, one-to-one support, email/newsletter notification of opportunities for publications and presentation at conferences, linking people across the institution with similar pedagogic research interests, teaching and learning research clusters designed to provide peer review of work in progress, and seminars for initial presentation of research results to test out ideas.

Internal publication schemes are in place in both institutions as well. Two major types of publications are used to disseminate the results of the funded pedagogic research and any other relevant pedagogic research being conducted within the institutions. The first is a compendium of the teaching and learning project reports on funded innovations (annual or biennial: D'Andrea, 2000 and 1996; EDS, 2000, 1998, 1997, 1996) and the other is an occasional papers series which focuses on recent issues in higher education (O'Reilly, 2000). Papers are internally refereed and where appropriate given a designated ISBN.

One implication of having staff in many departments across the institution engaged in pedagogic research is that there needs to be a mechanism whereby their publications can be recognised for the Research Assessment Exercise (RAE). We discuss below some of the difficulties inherent in the current RAE which militate against the achievement of full recognition of pedagogic research, nevertheless in the case studies being reported here attempts were made to ensure that staff who were isolated within their subject departments and undertaking research into learning and teaching could count towards the RAE by being recorded under the education unit of assessment. Funding received from the RAE was then redistributed to each of the staff who contributed to the submission.

Educational Development Centres (EDCs) can be regarded as having primarily a service function, but a conscious decision was taken in the two institutions being reported here to ensure that the staff within the educational development centres are themselves involved in research projects and are 'research active'. This models the practice which the EDCs work to encourage among staff across the institution. The EDC staff form a core of active researchers in pedagogy who can also partner staff in teaching departments in investigative projects resulting in co-authored publications (Gosling and Jiwani, 1997).

Another approach to building research capacity is the appointment of Visiting Professors and Fellows whose responsibility is to lead the pedagogic research agenda through advice and guidance to staff and deliver a professorial lecture in the area of scholarship of teaching and learning. They also assist in the development of proposals for external funding and by being associated with applications for research grants. Bringing their experience, reputation and expertise from more research intensive universities lends weight and credibility to the application process for institutions that lack the track record in applying for large scale grants.

A theme running through all these strategies is the way in which they link to the institutional culture and mission and enable staff to investigate and evaluate the professional practice in which they are already engaged. They also build on the strengths and reputation of the institution. This can be illustrated through the topics researched at the universities in these cases. For example some of the topics researched have included: widening participation, language skills of students, lifelong learning, asynchronous and distributed learning, group work, independent learning, student retention to name a few (D'Andrea, 2000 and 1996; EDS, 2000, 1998, 1997, 1996). Building research capacity in teaching and learning in HEI's requires understanding the dominant academic culture, the mission of the institution and the ethos of the teaching departments within them. If these understandings are then used as the basis for developing investigative pedagogic research projects, the research will be perceived as having immediate value and utility to both individual staff members and to the institution as a whole. These are important drivers for taking pedagogic research forward.

Further Discussion on Capacity Building

The case studies we have described above provide a model for increasing research capacity in teaching and learning in higher education, however it is important to recognise that they both represent a significant commitment by the institutions within which they are situated. In both instances the two universities have had Educational Development Centres for seven years. It was within these Centres that the strategies for creating the capacity for research in teaching and learning were developed, taken forward, monitored and evaluated. The investment by the institutions included funding for the EDCs and a budget for the various programmes we have described. Nonetheless it is also important to note that the funds for the internal teaching and learning grant programmes were rarely more than a couple of thousand pounds. Most were a type of seed grant to assist staff in preparing for applying for 'real' money from outside grant sources.

The second single most significant investment was the personnel employed in the EDCs. In both cases, the Heads of these EDCs were former lecturers who had a clearly defined disciplinary background, having obtained PhDs in their respective fields and a discipline specific publication record. In one case a senior member of the department with a good publication record had responsibility for advancing research in teaching and learning.

Knowledge and understanding of the academic research culture, and learning and teaching in HE, is essential to having a credible leadership role in the development of the pedagogic research capacity.

An additional factor which must be recognised as important in building the research capacity is the need to overcome resistance to the creation of what is perceived as yet another demand on staff. The current climate of continuing change in higher education has resulted in increasing pressures and a constant conflict of competing demands for staff time. Some of these include external demands from the QAA for subject review, the requirements of the publication regime for the RAE, the increasing numbers of students and the decreasing resource per student. Internal pressures are often evident in the perception by department heads/ higher ranking colleagues that pedagogic research is of little value to the research agenda – particularly in relation to the RAE. The rules of the RAE and the failure of panels to give full recognition to pedagogic research within the areas of assessment (Yorke, 1999) has also meant that departmental heads sometimes steer their staff away from researching pedagogic practice.

Combating these resistances is difficult but not impossible. It is important to understand the academic culture has a tendency to maintain and value the status quo which means that change tends to happen at the margins. University culture also values debate and discussion of ideas. Creating change in this context is best done by providing the opportunity to discuss the value of pedagogic research to the institution, the subject and the students. Establishing open forums to discuss the outcomes of pedagogic research and finding ways that it can be publicised and receive recognition are a few of the tactics which can be taken in coping with the resistance. It is therefore important to identify and make connections between staff with pedagogic interests.

In many cases staff who are ready to take this kind of research forward are isolated in departments where they are the only member of staff interested in pedagogic research. If they are brought together with others who have similar interests they then can create a critical mass within the institution who can influence others to consider becoming involved themselves. Even when the numbers of staff involved in pedagogic research remain a minority, if they are key staff who have the respect of colleagues their example can be powerful and influential. Additionally, where departmental-based groups have formed, with an interest in developing research on learning and teaching, they can be as successful as central offices in creating a capacity for research on teaching and learning. A recent Audit Report on one of the institutions being reported here commended the university for “the creation of an environment in which good practice is developed and disseminated actively through the network of cross-faculty representation and exchange.” (QAAHE, 2000).

Elsewhere, for example, at Manchester, a research group focussed on pedagogy has been formed to bring together staff from two universities (Manchester and UMIST). At UCL, in collaboration with SRHE research seminars have attracted participants from across London. At Sheffield Hallam an Institute for Learning and Teaching has been successful in sponsoring research by seconding staff to engage in investigative projects.

In some universities, the approach has been to have a research group, led by a Professoriate with a focus on higher education. However such groups do not generally see themselves as having a cross-institutional responsibility for building research capacity related to learning and teaching. They tend to operate like any other discipline-based research department pursuing their own research, publications and standing in the RAE. The distinctive feature of the approach described here is the way in which it attempts to build capacity across all departments within an institution.

How can pedagogic research be developed within UK higher education institutions?

The culture and values of UK HEI's varies enormously. Although the two institutions described here are very different in some respects they also have features in common. The extent to which the lessons learned from these case studies can be generalised is a matter for debate. Nevertheless we would like to suggest that the following features are likely to assist in building pedagogic research capacity.

- 1) Certificated awards with a strong requirement to investigate practice in teaching and learning and the opportunity to receive tutoring.
- 2) Promotion routes which give recognition to those who successfully undertake pedagogic research.
- 3) Funding mechanisms, either internal or external, which can provide pump-priming for small scale investigative projects.
- 4) Establishment of support networks to overcome staff isolation and to build the knowledge and skills of new research active staff to enable them to apply for grants and achieve publications in teaching and learning
- 5) Internal peer-reviewed publications to enable work-in-progress to be published.
- 6) External expertise via appointment of Visiting Professors and Fellows.
- 7) Link the RAE with pedagogic research (The current RAE proposals will in our view perpetuate the difficulties identified above).
- 8) Build on institutional mission and demonstrate value of the pedagogic research at individual, department and university levels.
- 9) A unit with a cross-institutional role.

It cannot be overstated that one of the key factors in the success of building a capacity in research in teaching and learning is the creation of institutional infrastructures to address the task systematically. Whether the role is undertaken by a central unit or located within a faculty, the important requirement is that there should be academic staff with an understanding of the research culture with resources and responsibility to work across the whole institution to achieve this objective (D'Andrea & Gardiner, 1998).

What can be learned about the relationship between research and teaching from pedagogic research? Can pedagogic research provide a bridge between traditional disciplinary research and teaching?

Although many universities claim a strong link between discipline-based research and teaching the relationship between them is far from clear, and the research evidence in support of a positive relationship between research and teaching is at best mixed.

In a recent review of the literature Jenkins (2000:24) concluded 'the international statistical research evidence questions a close functional relationship between staff research and teaching quality'. However, Jenkins goes on to argue that the possibility of research influencing teaching is significantly increased where 'effective linkages are purposefully created'.

Linkages can be achieved by proposed are when course design which creates ways to build on staff research, and the methods of teaching and learning employed include involving students in investigation and enquiry based activities. Brew (2000:299) has argued along these lines, ' If researchers recognise the ways in which their activities parallel those of students and take steps to involve students in research like activities, research can inform practice in facilitating learning'. Barnett (2000:163) also argues that lecturers need 'to foster student experiences that mirror their experience as researchers.'

The link between research and teaching being suggested by Barnett and Brew is between the methods of researching and the methods of teaching. The possibility of the content of research influencing teaching is less clear and will vary from one discipline to another. In one US study Colbeck (1998) found that the link between research by English scholars and their teaching was much stronger than between the work of researchers in Physics and their teaching. It is for this reason that pressure on staff to concentrate on maximising their RAE scores tends to be a diversion from teaching rather than something which contributes to the quality of their teaching.

Of course having an up-to-date grasp of the most recent developments in the field, both in terms of recent theories and developments in the methodology of the subject, is of critical importance to being a good teacher in higher education. For this reason students appreciate the value of being taught by staff who are engaged in research (Neumann, 1994 and Jenkins et al, 1998) providing this does not mean that staff are absent and unavailable to students. But it does not follow that the only way to have the requisite 'leading edge' knowledge is by significant engagement in discipline based research. Indeed there is evidence to suggest that well-funded, high-level, original research is more likely to detract from attention to teaching than less-well funded lower level research (Colbeck, 1998). The recent Report to HEFCE on the impact of the RAE has suggested that there is "recognition that there are some good scholars and university-level teachers who are not (and need not be) good researchers, and it may suffice that their teaching is informed by current research; moreover, not all researchers are good teachers" (HEFCE, 2000:18) The same report confirms the trend towards the separation of teaching and research functions particularly in highly-rated departments. This undermines the case of research intensive universities who claim that teaching is 'research-led'.

Boyer (1990) has mounted an influential challenge to the assumption that the only research of value is what he calls the 'scholarship of discovery' . Boyer identifies three other categories of scholarship

- the scholarship of integration, which involves making connections across the disciplines and placing specialities within a larger context
- the scholarship of service, including the practical application of knowledge
- the scholarship of teaching.

Pedagogic research can be any one of these. Some projects are designed to discover new knowledge about how students learn, what influences students' study patterns, why some learning styles are more successful than others. The scholarship of integration and application of knowledge can include using knowledge about students' learning to design successful learning packages, distance and open learning and text-books. But the most important category for the purpose of building a capacity for research on teaching and learning is the scholarship of teaching - engaging with the scholarly contributions of others, reflecting on one's own teaching practice and the learning of students and developing understanding of ways in which student learning can be improved. Methodologies for approaching the scholarship of teaching can range across the whole spectrum of research methods - from narratives and ethnography at one end through to the more positivist forms of empirical research at the other end of the spectrum.

The question we have to ask is whether engaging in the scholarship of teaching can be demonstrated to improve teaching. In so far as such research illuminates an aspect of teaching and learning it has greater potential to impact on teaching than discipline based research. But it is our view that there is a need for more evaluative studies to be undertaken before the taken-for-granted assumption that such research necessarily improves teaching quality. We return to this point below.

How can UK's capacity for research on teaching and learning be developed at national levels.

The case studies described above have been in operation for nearly a decade. Considerable changes in the national context have occurred since they were begun. Levers now exist at the national level that even five years ago were not known in the higher education sector. Many of these have come out of actions taken as a outcome of the Dearing Report (NCIHE, 1997), others have been initiatives from the research councils (ESRC) and the funding councils (HEFCE).

The ILT and the TLSN have been direct outcomes of the Dearing Report. The Teaching and Learning Support Network and the disciplinary subject centres have the potential to support research into teaching and learning. Within the ILT, the original organisational plan included the appointment of a Director of Research. It would be a useful step forward to proceed with this original intention. The ILT could sponsor conferences in which research was reported and provide rewards, for example by establishing prizes or Fellowships for successful pedagogic researchers similar to the National Teaching Fellows Scheme.

HEFCE 's requirements for Institutional Learning and Teaching Strategies (HEFCE, 1999) also provide a rich opportunity to carry out investigation and evaluation of practices identified within institutional strategies. The Funding Council might consider providing resources in the second round of institutional strategy funding specifically to fund research which evaluated the impact of actions taken as part of each HEI's strategy. The Teaching Quality Enhancement Fund could be used more strategically to encourage research of teaching and learning.

The ESRC could assist by funding an evaluation of the actions taken by a broad range of institutions to build research capacity in teaching and learning. We have described here two case studies, but we are aware of many other universities that have active programmes designed to foster and promote research in teaching and learning. These programmes need to be systematically evaluated in order that the lessons can be shared across the sector and the status of pedagogic research analysed. In particular, the link between research in teaching and learning with teaching quality needs to be investigated. Another related topic to be investigated should include the relationship between discipline-based research and teaching quality.

All of these actions could contribute to capacity building, but a significant increase in research in teaching and learning depends on both national and institutional actions. HEI's need to have centres which will enable them to take advantage of the levers available at national and local level. There need to be structures and processes driven by those who understand research cultures but who are also committed to improving teaching and learning. The recent establishment of centres to support learning and teaching in many universities which had previously not had such centres, is an opportunity – but they need to develop a research agenda and not be seen purely as service units. Such centres need access to adequate resources to be able to carry out significant research and move beyond small scale investigation of professional practice.

We also wish to propose the establishment of regional Centres for Research in Learning and Teaching (CRLT) whose role would be to co-ordinate research activities within their region relating to post-compulsory education (including lifelong learning), lead collaborative research through projects based in a consortium of institutions, be a focus for publication of results and dissemination of findings emerging from the research, and manage funding for research in learning and teaching. Through regional CRLT's there could be a major step-change in research activity in this field, providing it was clear that their role was to support and encourage collaborative activity across all the institutions in their region. A useful first action would be to examine potential models in the United States, such as the CRLT at University of Michigan. Clearly the funding available to the CRLT's would need to be adequate to the task being suggested here. The huge disparity which currently exists between the funding available for research into pre-16 education and post-compulsory education needs to be addressed as a matter of urgency.

Topics which the CRLT's might tackle early on include an investigation of the impact on student learning of the increasing use of ICT and the development of an adequate theory of learning within the rapidly changing context of flexible and open learning; the impact of different teaching and learning methods on 'lifelong learning'; an investigation of the influence of social factors such as class and ethnicity on student learning, retention and progression (in HE) and of processes designed to retain and improve the success rates of 'non-traditional students'. A systematic audit of existing pedagogic research in higher education would undoubtedly reveal other gaps and topics in need of further investigation and conceptualisation.

We would argue that such investigations, if they are given appropriate publicity and status would significantly raise the standing of pedagogic research. However, progress in this area will only be made more generally when there is a culture change in universities. The culture shift would need to give recognition to teaching and learning as appropriate fields for research for staff in all discipline areas and would provide career rewards for those successful in this field. Only when academic staff come to treat their teaching as critically as they do their own subject knowledge will there be a sea change of attitudes towards the value of the scholarship of teaching and increase in capacity for research in teaching and learning.

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